

JAPANESE MAPLES

J.D. VERTREES

THIRD EDITION
REVISED & EXPANDED BY PETER GREGORY

モミジとカエデ

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Planting maples so their leaves are viewed with sunlight filtering through them creates a backlighting effect that results in brilliant coloring. Photo by Peter Gregory

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Momiji and Kaede

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J. D. Vertrees



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To Roseann

Without her unselfish encouragement,
wisdom, and devotion,
none of this would have been possible.



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Acer palmatum in the native forests of Japan. Photo courtesy of Oregon State University Archives, Corvallis

Foreword



THE HISTORY of horticulture in Japan cannot be told without mentioning maples. For hundreds of years, the maple has penetrated into the hearts and gardens of the Japanese people from all walks of life. As far back as the seventh century they admired and appreciated its beauty in a romantic way as shown by a book of poems, *Man-Yoshu*, published in 614 A.D.

During the peaceful Edo era (1603–1867) the zeal and enthusiasm for cultivating this beautiful plant reached its height. People not only went out into the wild to enjoy it, holding maple-viewing parties, but also brought it into their places as a garden plant or as a bonsai. New varieties and new forms were especially sought after and poetic names given them as cultivars. A record shows that as many as 200 named cultivars existed in those days.

However, to our regret, many of them were lost or disappeared during the two world wars. As peace was restored both to the country and to the minds of the people, interest has revived and the popularity of the plant increased. Today our nurseries are trying to select new cultivars to compensate for what we have lost, although it seems that the number of cultivars is still far from reaching that of old days. Growers now propagate them on a larger scale, and with the increasing popularity overseas, also ship them to other countries.

A maple is a must in every Japanese garden, large or small—planted in the ground or potted as bonsai. Maples are cherished in gardens because of their brilliant crimson new spring growth, bright green leaves in summer, red or gold foliage in autumn, or the shapely appearance of branches in winter. A maple never fails to grasp the hearts of people when they recognize the ever-changing beauty. Thus, for hundreds

of years in Japan the maple has been the subject of poems, novels, dramas, paintings, and other art forms. It has played an important role in developing the culture of the country.

An old writing, *Chikinsbō Furoku*, published by Ibei Itō in 1733, illustrates 36 cultivars. Associated with the name of each cultivar is an old, famous poem. For instance, beside the precise drawing of the leaf of an old cultivar called ‘Shigitatsu sawa’ is a poem printed in artistic calligraphy:

Kokoronaki minimo
Aware wa shirarekeri
Shigitatsu sawa no
Akino yūgure

Shigitatsu sawa means “near a swamp where solitary snipes start out.” (Snipes, or woodcocks, flying up from a swamp.) In the poem, it is the name of a place called Shigitatsu sawa where snipes often stay. The gist of the poem is that even an insensitive person will deeply appreciate the charm of the scenery when standing by the maple cultivar ‘Shigitatsu sawa’ in the dusk of an autumn evening, as when standing by the swamp of that name at the close of the day.

I have known the author of this book for many years. He was so fascinated with the beauty of these plants that he devoted all his effort to intensive study of *Acer palmatum* and other maple species and their cultivars for more than 10 years. He also accumulated one of the most complete collections of cultivars to be grown in one place. Although all were grown in Japan, some of them have become extremely rare, and some no longer exist in Japan to my knowledge.

I recognize that not a few cultivars are in trade under mistaken names in countries where kanji characters are not used but are supposed to be intriguing poetic names in Japanese. Also, many synonyms seem to be confused. The author of this book is dedicated to clarifying the nomenclature and describing all the cultivars, based on careful examination of his extensive collection.

This is the first book to be published on the subject in the English language. It will certainly be found useful around the world by gardeners, nursery professionals, arboreta, and horticulturists.

HIDEO SUZUKI
 Kumagaya, Saitama, Japan
 1977

Preface to the Third Edition



WHEN J. D. Vertrees wrote *Japanese Maples*, he wanted to provide a comprehensive source of information on the culture, identification, and nomenclature of Japanese maple cultivars. He also intended to reduce confusion and bring stability to the naming of these cultivars. That his volume has become an invaluable reference book, the bible for maple growers and enthusiasts worldwide, is a measure of its success in achieving these objectives.

Since the publication of *Japanese Maples* in 1978, considerably more cultivars have become available, including many new introductions from North America, Australasia, Europe, and Japan. In addition, the northwestern United States has become the center of the Japanese maple-growing industry. The great influx of cultivars has created the stimulus to update the contents of *Japanese Maples*, the main purpose of the third revision. Updating involves adding information about the many worthwhile introductions now on the market, and bringing the botanical and nomenclatural information into line with current knowledge. At the same time, it presents the opportunity to correct any errors which have become evident, and to introduce one or two modifications which make the book easier for the reader's understanding and use as a reference.

The introductory chapters remain essentially unchanged, although in chapter 2, paragraphs on plant and cultivar names, the horticultural code (*International Code of Nomenclature for Cultivated Plants*), and the registration of new cultivars have been expanded and brought up-to-date. Clearly, the main revision occurs in the descriptions of *Acer palmatum* selections, with the inclusion of almost 100 additional cultivars which have proven their worth or become readily available since 1978. A total of some 320 *A. palmatum* cultivars are described, plus 60 cultivars of other Japanese maple

species. To avoid chapter 5 becoming unwieldy, cultivars from these other species, including those of *A. japonicum*, have been separated out into a new chapter 6. In addition, the cultivars have been placed in alphabetical order instead of being described under their separate groups. These two changes are designed to make reference to a particular cultivar easier for the reader. To avoid endless repetition in the scientific names of the cultivars, the names of *A. palmatum* cultivars are cited without a species name (e.g., ‘Red Pygmy’) while cultivars of other species are always cited with the appropriate species name (e.g., *A. japonicum* ‘Green Cascade’).

The appendices on the uses and characteristics of cultivars, and the meaning of Japanese words have been expanded, and a new appendix has been added giving brief descriptions on another 150 cultivars which have appeared, including some very exciting and promising new plants.

The index has been expanded to include all the Japanese maple cultivar names published in books, journals, and major catalogs of growers which it has been possible to trace. The list contains synonyms and alternative names, misspellings and misprints, and names of cultivars which are thought to be no longer in cultivation—so that *Japanese Maples* will continue to be the foremost reference book for this wonderfully versatile collection of ornamental plants.

In the descriptions, the meanings of Japanese names have been added where possible. One of my aims when I started the revision was to include the meaning of each cultivar name; however, this proved impractical in many cases. Numerous Japanese words have several meanings and the Japanese characters for a cultivar name do not necessarily indicate which meaning is intended. Furthermore, even the most comprehensive dictionaries do not cover every meaning. Add to this the tendency of many Japanese names to be based on a legend rather than the literal meanings of the word(s), such as ‘Shigitatsu sawa’ and ‘Tanabata’, or named after an obscure stream, hill, or place, and it soon becomes apparent that the meaning of many names cannot be determined accurately. Where the meaning is known, however, I have included it.

This revision could not have been accomplished without the cooperation, help, advice, and encouragement of numerous friends, colleagues, and correspondents. Conscientious attempts have been made to check the correctness of the cultivar names, origins, and descriptions acquired from my own knowledge and experience or from information and material received, to maintain the standards set by J. D. Vertrees. For example, whenever possible samples from two or more different sources were compared. Hence, any errors or weaknesses that may have crept in are mine and mine alone.

It is hoped that these additions and changes will help to foster and strengthen J. D. Vertrees’ principal aim of introducing stability in the naming of Japanese maple cultivars while, at the same time, preserving his ideas, research, and unique style of writing.

Acknowledgments

For their willingness to provide information and encouragement I would like to thank Brendan Gallagher, Plantiles Plant and Garden Centre, Chertsey, Surrey, England; Nello and Giordano Gilardelli, Fratelli Gilardelli Nursery, near Milan, Italy; Jan Kelley, Kelleygreen Nursery, Drain, Oregon; David Morrey, F. Morrey and Sons, Tarpory, Cheshire, England; Kerin Owen, Otter Nurseries, Ottery Saint Mary, Devon, England; and Alan Trott, Trott's Nursery and Garden, Ashburton, New Zealand.

I would also like to express appreciation to the following, who made available plant material for the descriptions of particular plants, and provided valuable information and encouragement: Allen Coombes, Sir Harold Hillier Gardens and Arboretum, Romsey, Hampshire, England; John Emery, Raraflora, Berry, New South Wales, Australia; Harold Greer, Greer Gardens, Eugene, Oregon; Harold Johnston, Johnnie's Pleasure Plants, Tallassee, Alabama; Jim Rumbald, Duncan and Davies Nursery, New Plymouth, New Zealand; Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania; and Don Teese, Yamina Rare Plants, Monbulk, Victoria, Australia.

In addition to help and encouragement, I am especially grateful to the following who gave me a warm welcome and generously allowed me to enjoy their plant collections and nurseries: Hugh Angus, Westonbirt Arboretum, Tetbury, Gloucestershire, England; Talon Buchholz, Buchholz and Buchholz Nursery, Gaston, Oregon; Judy and Frank Byles, F. W. Byles Company Nursery, Olympia, Washington; Nancy and Don Fiers, Mountain Maples Nursery, Laytonville, California; Primrose and Gordon Harris, Mallet Court Nursery, Taunton, Somerset, England; Dan Hinkley, Heronswood Nursery, Kingston, Washington; Howard Hughes, Montesano, Washington; Andre Iseli, Iseli Nursery, Boring, Oregon; Karan and Nick Junker, PMA Plant Specialties, Taunton, Somerset, England; Del Loucks, Del's Japanese Maple Nursery, Eugene, Oregon; Dick van der Maat, Nursery Laag, Boskoop, Netherlands; Baldassare Mineo, Siskiyou Rare Plant Nursery, Medford, Oregon; Tom Robuck and Larry Brooks, Mimaye Maple Nursery, Laytonville, California; Don Schmidt, Don Schmidt Nursery, Boring, Oregon; John and Matthew Skinner, Barthelemy and Company, Wimborne, Dorset, England; and Ned and Wendy Wells, Wells Medina Nursery, Medina, Washington.

The generosity and helpfulness of everyone I have contacted has been impressive, but none more so than Ellen and Cor van Gelderen plus Suzanne and Harry Olsen. My sincerest thanks go to Cor and Harry for their unstinting support, advice, and encouragement over the past two years, and to Ellen and Suzanne for their warm hospitality.

Many thanks to Nicky Whelan for managing to decipher my writing and typing

much of the manuscript, Gillian Truslove for tackling the mammoth task of proof-reading the final draft, Rosemary Foster for persuading me to undertake this fascinating project, and Maurice Foster for translating passages from the German edition. My thanks also to Neal Maillet, executive editor, for his patience and guidance, and to the staff of Timber Press. I am especially grateful to Linda Willms, editor, for her help and valuable advice, eliminating errors, and suggestions for simple improvements to make the text more readable and understandable. Finally, my appreciation of the warm welcome by Stewart and Sharon Wilson during my visit to J. D. Vertrees' world-famous nursery, Maplewood, now a private garden. They also graciously provided me with the opportunity and pleasure of meeting the sprightly Roseann Vertrees, whose kind permission to revise *Japanese Maples* made this exciting and worthwhile project possible.

Most of the original photographs in the earlier editions of *Japanese Maples* have been retained. New illustrations have been supplied mainly from the picture libraries of Cor van Gelderen and Harry Olsen and a few from my collection. The beautiful panoramic view of maples in the garden landscape is reproduced by kind permission of Andrea Jones, Garden Exposures Photo Library, Kew, London.

PETER GREGORY
Cirencester, Gloucestershire, England
2001

Preface to the Second Edition



FOR MORE than 300 years Japanese maples have been developed and selected for their beauty and variation of form and color. Japanese plant enthusiasts have contributed to the world a heritage of beauty from this group of plants which are indigenous to their country.

The native Japanese maple has the tendency to produce great variations within the species. By selection and cross-pollination more than 250 cultivars have been developed. Plants to fit every need in the garden landscape can be found, from the extremely dwarf forms with minute leaves to the bold upright types with large leaves. There are variations of foliage color in spring growth which are not found in other types of trees. Fall coloration among these cultivars becomes a second period of color explosion. There are variations of leaf shape from tiny, crinkled, straplike, and lacelike to the bold, broad, large leaves of 'Ōsakazuki.' As time has passed these beautiful ornamental plants have found their way around the world in horticulture. Discerning plant enthusiasts in many countries have recognized the beauty available in the use of these plants. They fit well with other genera as companion plants or make outstanding specimen plants.

A great many people associate the name "Japanese maple" principally with the dissected form known in horticulture as "red lace-leaved maple" but desire information about other forms. Further confusion exists because other *Acer* species growing in Japan are included with the *A. palmatum* in commerce. Nursery professionals, collectors, propagators, and maple enthusiasts have indicated a need for a guide to the determination of the numerous forms of these maples.

There are small books, now in print in Japan, which give good descriptions of

many of the cultivars presently grown. However, they are printed in Japanese and therefore are largely inaccessible to English-speaking horticulturists. In the English-speaking world, there have been occasional writings in horticultural publications and magazines, together with annotated lists and taxonomic arrangements. Early nursery catalogs have given descriptions of some of the major cultivars. There has not been, however, a comprehensive work on Japanese maples which provides the English-speaking world a reference tool by which these maples may be understood.

This book has therefore been prepared to provide such a comprehensive source of information on and description of this general group of plants. Typical color leaf identification prints of most cultivars are presented to aid in determination of the cultivars. The difference between some cultivars is so slight that verbal descriptions may not be clear. Therefore, this is in part a book intended for identification.

The second purpose of the book is to clarify and simplify the nomenclature of these plants. Over many decades these plants spread from Japan to all parts of the world. In the course of this dispersion, names have been confused, duplicated, lost, or new names substituted. The differences in languages, dialects, writing, spelling, and pronunciation, and the neglect of detail in many countries have created nomenclature difficulties and confusion.

I have spent many years collecting information, having documents translated, viewing cultivars in several countries, and collecting specimen plant material. In many cases, by growing plants of various names side by side, I have been able to demonstrate and clarify synonyms or misnomers. In other cases we have studied original descriptions in the literature or received propagating material from verified stock plants for comparisons. The generous assistance of arboreta, collectors, nurseries, propagators, and research stations from many countries has added greatly to the availability of plant material and information for these comparative studies.

My third purpose in writing this book has been to provide guidance to gardeners, landscapers, nursery owners, and others with an authoritative guide to propagation, cultivation, and horticultural characteristics of this extraordinarily useful group of plants.

This book is designed to meet the needs of four types of readers: the amateur gardener, the avid plant enthusiast, the commercial nursery professional, and the serious dendrologist. I hope that it will assist all readers in enjoying and understanding Japanese maples.

Acknowledgments

There will perhaps be some surprise that a comprehensive book on Japanese maples should come out of the little town of Roseburg, Oregon, in the United States. It is the

result of a desire to learn as much as possible about these maples and to grow in one location for comparative purposes as many cultivars as we could find.

During the early years the progress in getting information and plant material was extremely slow. There were the readily available 8 or 10 cultivars produced commercially throughout the United States. There were also a very few short and general-subject articles and references in the English language. The only books which dealt in any depth with the subject were written in kanji (mainly illustrated with black-and-white pictures) and were of little use to me since I could not read Japanese.

Gradually through correspondence and personal visits, we became acquainted with people who had segments of information on the subject. With the complete cooperation of an understanding wife, the collection of cultivars began to grow in numbers—slowly at first, but more rapidly in later years. We obtained plant material from cooperative people around the world. Also, the collection of information began to grow: old books, publications in Japanese and Chinese, descriptive material from other countries, paintings in rare publications, copies of old Japanese nursery catalogs, and a few rare Japanese horticultural publications. In addition, the files of helpful, friendly, and informative correspondence grew rapidly.

It is to all the people who have helped in so many ways that I wish to express my sincere appreciation. In listing those who have been so helpful I do so with the fear that I may inadvertently omit someone who should be remembered. If I commit this error, I beg to be forgiven; it is not intentional.

Hideo Suzuki has been of immeasurable assistance in the entire production of this book. He is an outstanding authority in horticulture, particularly in azaleas and rhododendrons of Japan. As a life member of the American Rhododendron Society, president of the Japanese Rhododendron Society, and a frequent writer of horticulture articles, his authoritative assistance has been valuable. Hideo searched out obscure cultivars in the many islands of Japan and supplied descriptions and history of rare types. He also obtained books (some very rare) for my nomenclature and descriptive work. His ability and willingness to translate great amounts of Japanese writings into English gave authenticity to many cultivar descriptions and nomenclature. The countless hours and his tireless efforts on my behalf are gratefully acknowledged. This volume would have been less authentic without his assistance.

D. M. van Gelderen has also contributed greatly to this book. His unselfish assistance in obtaining plant material and furnishing information has made the descriptions of cultivars and species much more complete. Dick and his wife, Hildi, devoted several days' time personally conducting us around the Netherlands, giving us an opportunity to see old plants of many cultivars which we do not see in the United States. The van Gelderens have an excellent nursery at Boskoop, Netherlands—Firma C. Esveld—where they specialize in rhododendrons, conifers, Japanese maples, and

other high-quality plant material. Dick supplied a large amount of information in several years of correspondence with me. This included information on descriptions, nomenclature, and history. His article in *Dendroflora* (1969) was one of the more descriptive articles to come from Europe in recent years. I am indeed indebted to the van Gelderens.

J. G. S. Harris of Wiveliscombe, England, contributed greatly to the interest in other species of *Acer* (besides *A. palmatum* and *A. japonicum*), particularly those from Japan. Gordon is a well-recognized authority on the genus, widely traveled, and an excellent writer of many articles on maples and their propagation. Following his visit to Maplewood Nursery, we had the pleasure of spending a few days at The Cottage, in Somerset, England. Many obscure Asiatic species have been grown and added to the Maplewood collection from seed supplied by him. His assistance rounded out my entire study of maples, and I am grateful to him.

I would also like to express my gratitude to Harold G. Hillier for the several hours he spent with us “talking maples.” Going with him through Hillier Gardens and Arboretum at Jermyns (Romsey, Hampshire) was most educational. This aided greatly in my search for clarification and verification of many cultivars, descriptions, and nomenclature.

Many individuals in arboreta have contributed greatly to this study. Plant material, information, and encouragement have all been unselfishly given over the years. At times, I well imagine I might have been of considerable bother to some of them. It would take many pages to list in detail all the assistance given me, and my gratitude is no less as I list them in a group: Academiae Scientiarum Hortus Botanicus Principalis (P. Lapin), Russia; Arnold Arboretum (Alfred J. Fordham, Richard E. Weaver Jr., Gary L. Koller, Stephen A. Spongberg, and Jack Alexander), Jamaica Plain, Massachusetts; Botanischer Garten and Botanisches Museum (Herr Kraft), Berlin-Dahlem, Germany; Knightshayes Garden Trust, The Cottage Garden (Michael Hickson), Tiverton, Devon, England; Loth Lorien (Dan E. Mayers), Wadhurst, Sussex, England; Morton Arboretum (Walter E. Eickhorst), Lisle, Illinois; New York Botanical Garden (Thomas Delendick), Bronx, New York; Proefstation voor de Boomkwekerij, Boskoop, Netherlands; Trompenburg Arboretum (J. R. P. Van Hoey Smith), Rotterdam, Netherlands; United States National Arboretum (Sylvester G. March and Judith Shirley), Washington, D.C.; University of Washington Arboretum (Joe Witt and Brian O. Mulligan), Seattle, Washington; Willowood Arboretum (Benjamin Blackburn), Gladstone, New Jersey; and Zuiderpark, The Hague, Netherlands.

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In every large undertaking there is one outstanding factor that makes the entire procedure possible. In my case, it is my wife, Roseann. Her contribution was of prime importance and consisted of grammatical reconstruction, editing, guidance, encouragement, patience, and countless hours of typing and retyping.

My eternal gratitude!

J. D. VERTREES
Roseburg, Oregon, United States
1987



'Red Pygmy', which has maroon-colored foliage in spring, presents an entirely different appearance in fall. Its delicate leaves, like those of all members of the *Acer palmatum* Linearilobum Group, give this cultivar a special appeal in the garden landscape. Photo courtesy of Oregon State University Archives, Corvallis

CHAPTER 1

Character and History



What Is a Japanese Maple?

The term “Japanese maple” has two meanings. One is applied by the nursery industry which has often grouped all the cultivars of several *Acer* species into the general term “Japanese maples.” Most often included are all the cultivars and forms of *Acer palmatum*. However, we sometimes also find listed the cultivars of *A. japonicum*, *A. pseudosieboldianum*, *A. shirasawanum*, and *A. sieboldianum*, and, in some cases, forms of *A. buergerianum*, *A. crataegifolium*, *A. mono*, *A. rufinerve*, and *A. truncatum*. Several of these species, such as *A. buergerianum* and *A. pseudosieboldianum*, are not endemic to Japan!

The second meaning of the term is for the serious dendrologist and indicates all 23 species of the genus *Acer* which are endemic to the islands of Japan and nearby territories. In some instances, writers group these plants with other Asiatic species. Central and eastern Asia include 106 of the 124 species recognized in the classification system by P. C. de Jong, as used in *Maples of the World* (1994) and adopted in *Maples for Gardens* (1999).

The horticultural group centers on several hundred cultivars of *Acer palmatum* plus those of *A. japonicum*. The cultivars and variations of these two species have been bred, selected, and propagated for more than 300 years by the Japanese. In their love of beauty and their infinite patience, they have been most discerning in their selection of these cultivars since at least the early 1600s. This, like many other aspects of their horticulture, forms a great part of their heritage and has been shared with horticulturists around the world. Since the late 1700s these cultivars have found their way into horticultural collections, arboreta, and the nursery industry.

In this book, however, I regard “Japanese maples” as the term for the cultivars of

Acer palmatum and *A. japonicum*. All others become “maples from Japan.” Many of these other species from Japan have interesting forms, horticultural cultivars, and varieties which are becoming popular in ornamental horticulture. These are magnificent forms, long neglected, which should be more widely used in the garden landscape.

The following taxonomic outline of series *Palmata* in section *Palmata* shows the close relationship between *Acer palmatum* and *A. japonicum* (the “Japanese maples” of horticulture) and certain other *Acer* species (the “maples from Japan”). Note that *A. circinatum*, the vine maple of the Pacific Northwest, is the only species in the series *Palmata* outside of Asia.

Family Aceraceae

Genus *Dipteronia*

Genus *Acer*

Subgenus *Acer*

Section *Palmata*

Series *Palmata*

A. ceriferum

A. circinatum—the only species in the series outside of Asia

A. duplicatoserratum

A. japonicum—includes many cultivars in horticulture

A. palmatum—includes many cultivars in horticulture

A. pauciflorum

A. pseudosieboldianum

A. pubipalmatum

A. robustum

A. shirasawanum—includes several cultivars in horticulture

A. sieboldianum—includes several cultivars in horticulture

Momiji and *Kaede*

These words are both used by the Japanese to indicate the maple species and cultivars. Academically, the word *kaede* is more correctly applied. However, in horticulture both *momiji* and *kaede* are used. There seems to be no distinct separation in the use, although most often *momiji* is applied to those maples, such as *Acer palmatum* and its cultivars, which have leaves with deeply separated lobes. Most other maples are termed *kaede*.

The word *kaede* stems from the ancient language term *kaerude* (*kaeru*, meaning “frog,” and *de*, meaning “hand”). The lobed leaves of maples brought to mind the webbed hands of a frog. As the centuries passed, *kaerude* was shortened to *kaede*.

The word *momiji* may literally be translated “baby’s hands,” but it is not correct in this case to apply the meaning directly. Instead, one may apply it as “Little baby extends its tiny hands which are like the leaves of *momiji* (maple).” On the other hand, in ancient times there was a verb *momizu*, meaning “becomes crimson-leaved.” In more modern times, *momizu* became *momiji*, which is in use today. (Courtesy of Hideo Suzuki)

The Character of Japanese Maples

I admit prejudice, but I feel this group of plants has one of the greatest ranges of use and beauty of any horticultural plants in use today. The diversity of size, color, form, shape, and utility is so great that, when Japanese maples are selected wisely, they will fit almost any need. We do not think of them as flowering shrubs. Even though maples have very interesting blossoms, some quite colorful, they are not a predominant characteristic. Many people do not even realize that they flower. Blossoms of many cultivars, such as *Acer japonicum* ‘Aconitifolium’, are quite striking, though not large and perhaps of interest only to the more discerning gardener.

However, the lack of bold blossoms is more than offset by the great variation of leaf color and shape which these plants can add to the color of the garden landscape. Spring foliage among the cultivars offers a wide choice in plant selection. In the larger forms, there are the bold greens with rust or tangerine tones in the new foliage. The brilliant reds, orange reds, and maroons of many upright palmatum forms will lend accent to plantings. Wide choices also are possible with the variegated white-pink-green leaves of such maples as ‘Asahi zuru’, ‘Kasen nishiki’, ‘Oridono nishiki’, and many others. Nothing could look more like flowering shrubs than the extraordinary shell pinks found in ‘Corallinum’, ‘Karasu gawa’, and ‘Matsugae’. The eye can never pass lightly over the flare of color presented by the brilliant flaming foliage of ‘Beni komachi’, ‘Chishio’, ‘Seigai’, or ‘Shin deshōjō’, to name only a few. These brilliant fire-reds, crimsons, and tangerine-reds are so intense at times as to be almost fluorescent. All these color combinations occur in the larger, more upright forms. The same choices occur in dwarf cultivars which lend themselves to small companion plantings or container growing.

Unusual types such as ‘Higasa yama’ have a “flower” quality as the new buds unfold. They open much like popcorn with irregular unfolding leaves colored in yellows and reds. ‘Tsuma gaki’ has new foliage which approaches a floral display. These stages last for several weeks, thus giving a long “flower” period. All the colored foliage retains its brilliance for at least one or two months, which is longer than the period for which most of our flowering shrubs will perform. The dissectums offer unusual brilliance and delicacy. Combinations of lacelike tracery of form, plus crimson, ma-

roon, green-red, or variegated white-pink-green tones blend in the most pleasing way with the delicate cascading of the plant form. These make breathtaking specimen plants. They are even more striking when planted in groups in the proper setting.

A second color display occurs each fall, which is surely an added bonus when compared to most flowering shrubs. This show of fall foliage color is absolutely spectacular. The bold green ‘Ōsakazuki’, for example, adds a strong green accent all season. Then in the fall it bursts forth with the most vivid crimson flame display imaginable. Even in early morning light or late evening dusk, the tones carry a fluorescent quality that demands attention. Equally vivid, but of a different crimson tonality, is the display of *Acer japonicum* ‘Aconitifolium’, the fern-leaf japonicum. I hesitate to list specific cultivars, fearing readers will limit their thinking to just these few, when the possibilities are almost limitless. The several cultivars in the Palmatum Group all present vivid yellow, orange, and orange red foliage. Most of the selections of *A. japonicum* are outstanding for fall color. The delicate golden fullmoon maple, *A. shirasawanum* ‘Aureum’, follows the spring display of chartreuse-yellow-green with a fall dis-



Falling leaves highlight a specimen Japanese maple in the fall. Photo by Peter Gregory

play of gold, crimson, and orange, blended at times with purple overtones. One must see to believe.

Fall colors are an inherent characteristic of the Japanese maples, but they can be suppressed or enhanced somewhat by conditions. Therefore, the landscaper who is aware of this malleability can aid in bringing about an excellent fall display. As late summer approaches and the late season growth is hardening off, it is best when possible to reduce the supply of moisture. Hardening for fall will intensify the coloration as the season advances and colder temperatures begin to occur. A plant which has a continued supply of water will retain the leaves in greenish condition well into the fall and may never color brilliantly. Eventually the leaves will just turn brown with the early winter temperatures and fall off. Slight stress, and I emphasize SLIGHT, will intensify the coloration of most Japanese maples. Too much stress (or neglect, as I mention elsewhere) and the leaves will rapidly turn brown and fall off. Discerning gardeners will find the best level of culture under their own conditions.

In addition to the two “flower” periods or seasons of striking coloration every year, these plants present such a wide range of size possibilities that there can be “a plant for every occasion.” Some cultivars and selections of the type, *Acer palmatum* subsp. *palmatum*, will form tall, upright-growing trees. We can expect these plants to form a small tree of up to 9 to 10 m (30–33 ft.). They will fit in the garden landscape in many ways: accent plants, shade for smaller understory plants, outline plantings along driveways and walks, interplanting with other similar size plants for naturalizing landscapes, or an outstanding specimen plant holding forth with its own importance.

Then there are the endless possibilities of the medium-sized selections. These include all those uses listed above, but in addition they can be interplanted with rhododendrons and other flowering shrubs to provide variety and color. The magnificent cascading group, which would include all the lace-leaved or dissectum cultivars, works well in mixed planting. There are numerous forms of lower-growing plants of great interest like ‘Katsura’, ‘Shishigashira’, ‘Tsuchigumo’, and the Linearilobum Group as represented by that outstanding form ‘Red Pygmy’. They naturally shape themselves into room-conserving plants and with additional shaping and pruning can be established in limited spaces. Again, it is worth pointing out that the beautiful fall colors in these plants will brighten the otherwise dull fall garden. Even the red forms of the lace-leaved and thread-leaved cultivars take on an entirely different appearance in the fall. Changing from their normal red, maroon, or greenish red tones of summer, they flame out in a glory of crimson or gold tones which dominate a planting in late fall and early winter.

Dwarfs constitute another group which offers endless possibilities for use. Tucked in among alpine plants they will develop a blend of texture which cannot be attained

with other genera. They make splendid companion plants with some of the smaller rhododendrons and other low-growing shrubs and perennials. They excel as accent plants in secluded nooks or bold sites in an informal landscape. A wide range of dwarf material is available. The delicate foliage of 'Koto ito komachi', the many forms of the Dwarf Group with tiny leaves, and the magnificent miniature growth and foliage of 'Goshiki kotohime' all illustrate choices for container growing as well as for small garden landscape plantings. The discussion of container growing here includes the range of size from large patio-sized containers down to small bonsai pots. By using the dwarf forms for bonsai, some of the problems of early training and establishment are overcome. However, I hasten to say that any forms of *Acer palmatum* and *A. japonicum* adapt quite well to bonsai formation. All the cultivars as well as the species and its varieties have been used for this purpose. Japanese maples respond so well to pruning and shaping that they are an excellent choice for bonsai.

In all descriptions of the range or size of plant, the extremes in size of leaves, the



Two cultivars of *Acer palmatum* planted for fall color blending: 'Kihachijō' and 'Nuresagi'.
Photo courtesy of Oregon State University Archives, Corvallis

color range available, and the texture and form of the plants, I hesitate to name in this writing any particular cultivar names. Doing so might cause a reader to choose something that is written and thereby overlook some outstanding cultivar unmentioned in this section. Suffice to say that there is such a great variation in leaf size, form, color, and texture, as well as plant size, shape, and vigor that one may find a plant or group of similar plants to fill almost any need in the garden landscape or containerized patio collection. Browsing through the cultivar descriptions (in chapters 5 and 6) will help readers find just the plants they are seeking.

Variegation

The Japanese people have long been attracted to plants with variegated foliage. The selection and breeding of such plants has been going on for centuries, and they still regard these plants with special fondness. The following story was told to me to illustrate the Japanese love of variegation. A variegated *Rhododendron degronianum* was exhibited in the 1970s at an ornamental plant fair. It was priced at 20,000,000 yen which, at the time, was equal to \$66,000. (I wonder if business was booming!)

Variegation ranges from the extremes of a total lack of chlorophyll to a very subtle marking on a few leaves. *Acer buergerianum* ‘Nusatori yama’ has no green, and the leaves first emerge with a pink tone, soon changing to a pure white. Not quite so lacking in chlorophyll, ‘Karasu gawa’ has predominately pink and white foliage, irregularly marked with small amounts of green. White and pink variegations also occur in a few of the dissectum cultivars. At the other extreme is ‘Iijima sunago’, which has foliage of strong red-green tones, minutely flecked with darker spots. ‘Kasen nishiki’ has very subtle minute white flecks almost overshadowed by the basic green leaf color. A search through the cultivar section of this book will uncover numerous variegated cultivars with their descriptions.

Technically, these variegated maples belong in a physiological group called *chimeras*. Reference to technical books on the subject (such as Hartmann et al. 1996) will give the reader a more thorough description of the genetic and cellular origin of these chimeras. The term indicates that on a single plant, a structure, in this case the leaf, may have two or more distinctly different types of tissue growing adjacent to each other. The white and pink variegations are totally devoid of chloroplasts in those cells and so lack the capacity to produce chlorophyll. The normal cells have chloroplasts producing chlorophyll and so are green in color. The mixture of these two types of cells within the leaf produces the pattern of variegation.

Some cultivars of Japanese maples derive their names and were selected because of the color variation which occurs only with the production of fall colors. I consider this a different source of “variegation” than that described above.

Quite often the young stems producing variegated foliage also have a streaking of color tones in the bark. Some, like ‘Oridono nishiki’, have pink stripes in the green bark, often rather subdued.

It is sometimes claimed that the plants “grow out” of their variegation. Perhaps as trees reach maturity, there is a tendency for the variegated character to become suppressed. I have taken wood from old plants of ‘Versicolor’, for example, which had “lost” the variegation. By taking young terminals from healthy side branches, the new grafts produced variegated young plants.

I have observed in the nursery, and in older plantings, that culture may have a large influence on the retention of variegation. Plants that are overfed and produce exceptionally long shoots of new growth may have the variegation suppressed in that wood. Markings may also be masked, or overcome, with excessive nitrogen feeding in the absence of sufficient phosphate and potash. This can be observed in container growing of young grafts. Conversely, trees grown in totally unfavorable conditions may produce wood so lacking in vigor that the tendency toward variegation is masked. I have received scions from such types of plants and grafted well-marked plants. Summer foliage of the parent plant showed almost a total lack of marking.

Occasionally a variegated cultivar of mine has produced a shoot which lacked all markings of the cultivar. I intentionally grafted from these shoots. The majority of the grafts resumed the characteristic variegation. The remainder developed typical *palmatum* foliage. In view of this, I usually try to mark the best variegated young growth on a cultivar during the foliage season. Then, when collecting scions for grafting during the dormant season, I am able to cut the best-marked wood. This does not apply to all cultivars but only those that produce strong unmarked shoots.

There are other causes of variation in leaf markings: certain viruses, excessive soil pH condition, or a lack of one of the minor elements necessary for total nutrition. Such variations are all so different in appearance from variegation that they are immediately apparent. If in doubt, plant disease experts can usually give a prompt determination.

Variegated cultivars can only be perpetuated true to form through vegetative propagation. The seed from variegated cultivars will not produce the true form of the parent tree. There are occasionally exceptions. I have planted large amounts of seed, for example, from ‘Shigitatsu sawa’. Most of the seed will produce the normal green *palmatum* seedlings. Occasionally, however, a seedling will show the characteristic yellow leaf with green veining of the parent. One must not distribute these as the cultivar ‘Shigitatsu sawa’ but only as “seedlings from ‘Shigitatsu sawa.’” This is true with seedlings from all other named cultivars of any type when the seedling is similar to the parent. Named cultivars must be propagated vegetatively to prevent dilution of the true cultivar.

In Regard to *Fu*

The variegated group of Japanese maple cultivars is increasing due to selection and crossbreeding. New and beautiful cultivars continue to arise from these efforts. The Japanese word for variegation is *fu*. A Japanese-English dictionary might list at least 20 interpretations for this word, and undoubtedly there are more. However, when applied to horticultural usage, the word refers to dots, mottles, specks, and marks on a leaf of different background. This then is *fu*.

To help the reader better understand the terms and names used in Japan to identify variegation, the following explanations are offered:

Fukurin fu (*fuku*, “cover,” and *rin*, “ring” or “circle”): Denotes the type of variegation which appears as a different color or tone along the outer margin of the leaf lobe. Used usually for a rather uniform marking.

Fukurin kuzure (*kuzure*, “irregular”): Indicates an irregular margin of variegation around the edge of the lobe.

Goma fu (*goma*, “sesame seed”): Indicates green blotching when it appears on pure white leaves (*ubu fu*) usually as quite small markings.

Haki homi fu (*haki homi*, “brushed in”): Describes the type of variegation which appears to be created by brushing in white or yellow color on the base tone of the leaf.

Hoshi fu (*hoshi*, “star” or “stars”): Denotes the delicate “star-dust” variegations which appear on the background of green. *Acer pictum* ‘Hoshi yadori’ derives its name from this term.

Ito fukurin fu (*ito*, “thread”): Contrasts with *shin fukurin fu* to describe a very narrow margin around the lobe. It may also be written as **hosofukurin fu** (*hosofu*, “slender”).

Kiri fu (*kiri*, “cut”): Describes leaves with half the leaf variegated to the center vein with the other half normal.

Shimo furi fu (*shimo*, “frost,” and *furi*, “scattered”): Synonymous with *sunago fu*. **Fukiwake** is a similar term but used very little.

Shin fukurin fu (*shin*, “deep”): Indicates a deep variegated marking around the edge of the lobe.

Sunago fu (*sunago*, “sand”): Indicates dots or tiny markings (smaller than *hoshi* variegation) which cover most or all the surface of the leaf, often indistinctly. ‘Iijima sunago’ and *Acer pictum* ‘Usugumo’ exemplify this form.



The leaves of 'Koshibori nishiki' exhibit the *sunago fu* (sand-dusted) form of variegation. Here extremely fine dots and flecks of yellow are scattered irregularly over the green leaf surface. Photo by Harry Olsen

Sunago fukurin (*sunago*, “sand”): Refers to a fine speckling or dotting in the margins only.

Tsuma fukurin fu (*tsuma*, “nail”): Describes a margin which is stronger near the point of the lobe—not an even margin of variegation all around the lobe. Leaves with white tips on the lobes are indicated by **tsuma jirô**, which indicates “white nail.” Of course, the counterpart, **tsuma beni**, indicates “red nail” as in the cultivar of that name. It has a light green leaf with the tip of the sharp lobe contrasting red.

Ubu fu (*ubu*, “naive” or “virgin”): Denotes instances where the variegation covers almost the entire leaf, or a pure white leaf, such as is found in the cultivar of *Acer buergerianum* ‘Nusatori yama’.

History of Japanese Cultivars

The Japanese have long been famous and admired for their intense and sensitive work in horticultural science. Their work with azaleas, bonsai, chrysanthemums, and maples has contributed much to the pleasure of the rest of the world. The native species *Acer palmatum* was found to adapt to the specialized types of horticulture which became a significant part of the Japanese heritage. From very early times the Japanese people revered, selected, propagated, and increased the number of forms.

Acer palmatum and its natural varieties are endemic almost wholly to Japan. A few geographical forms occur in Korea and parts of China. The species occurs in a wide range of soil conditions, on most islands of Japan, and in a variety of exposures. It is found from 100 to 1300 m (330–4290 ft.) above sea level. In its wide range it is like the North American native *A. circinatum*, the vine maple, which is indeed closely related to the Japanese maple.

Acer palmatum displays many variations in its native habitat, and these are designated subspecies, varieties, and forms. “New” types, developed in the confines of domestic horticulture, give rise to the term *cultivar* in its present-day sense, that is, “a cultivated variety.”

I have to conclude that this species has a strong genetic tendency to proliferate into many variations, mutations, and sports. In the very early days of horticulture, the Japanese collected the outstanding and beautiful forms of *Acer palmatum* from native stands. These consisted of seedling sports and variants. In addition, as bud mutations were discovered, they were propagated vegetatively and introduced into cultivation.

As the number of these plant materials increased, they were planted in close proximity and cross-pollination occurred. The various parents of unusual form, therefore, gave rise to additional hybrid variants. This process expanded, and the genetic potential for new and interesting seedlings and sports proliferated. Over a 300-year period of intensive culture, this process has yielded a great number of selections and cultivars.

During the Edo era (1603–1867) horticulture flourished and reached a high level of development in selection, breeding, culture, and specialization. Many cultivars of native Japanese trees and shrubs were brought into intensive development—notably azaleas and maples. Japanese maples reached a peak of popularity from the middle of the seventeenth century to the late eighteenth century. It became fashionable to select, cultivate, and nurture as many different types as possible. Collectors and gardeners searched for mutations and sports among the native stands as well as through gardens and large landscape plantings.

A standard garden book published in 1710 mentioned 36 named varieties of *Acer palmatum*. By 1733 an additional 28 names were listed. An *Acer* list of 1882 numbered 202 varieties or cultivars. This rapid increase is spectacular, and yet undoubtedly did not include all the named types due to the extent of cultivation, lack of communication, and the large number of gardeners pursuing the vogue. Combining lists from older literature, we can safely assume that there were more than 250 cultivars at the height of this period.

In the early 1900s, interest waned and some of the less spectacular cultivars were dropped from wide propagation. Even during this period, however, outstanding new cultivars were being named. As late as 1930, the Angyo Maple Nursery listed 219 named cultivars and types in propagation.

A sad period occurred in the 1940s. During the war years economic conditions caused many cultivars to be destroyed and lost to cultivation. Areas previously devoted to ornamental horticulture were used for food production. Old maples were cut to alleviate shortages of fuel and wood. One nurseryman tells of his ancestors having put together a very large collection of cultivars over the generations only to have many of them burned as firewood.

In the 1960s, interest in Japanese maples was rekindled. Once again observant selection and careful development of additional cultivars went forward. Increased propagation of some of the older cultivars allowed the wider distribution of many choice types to the rest of the world.

While the list of names referred to in this book totals many hundreds, the presence of synonyms, alternate names, misnomers, and misapplications reduces the valid number of cultivars. As interest spreads and observant fanciers work with this group of plants, we can expect more outstanding cultivars to be “discovered” and intro-

duced. The magnificent dissectum ‘Orangeola’ recently introduced exemplifies this point.

Old Literature on Japanese Maples

There were many other ancient Japanese writings on the maple group. These listed represent the more typical and useful compilations. One of the earliest known books dealing with descriptions of Japanese maples was published in 1695. Titled *Kadan Chikinshō*, it was written by San-nojō Hanado. It must have been a major work on horticulture as it extended to six volumes and covered the entire range of ornamental trees and shrubs.

In 1710 Ibei Itō, who is said to have been the son of San-nojō Hanado, although their family names are different, published *Zōho Chikinshō*. This revision of *Kadan Chikinshō* covered the range of ornamental trees and shrubs of Japan and comprised eight volumes. The fourth volume dealt with maples.

Kōeki Chikinshō was another revision by Ibei Itō done in 1719 as an eight-volume set with maples described in the third volume. In 1733 he put out *Chikinshō Furoku*. *Furoku* means “supplement.”

In 1882 the *Kaede Binran* (“Maple List”) was published by Seigorō Oka, Isaburō Itō, and Gosaburō Itō. Probably the latter two authors were descendants of Ibei Itō who wrote the earlier publications.

The last book I mention is *Kaede Rui Zuko* (“Maples with Illustrations”), which was a rather complete work of three volumes. This set described most of the maple cultivars existing at that time, many of which have since been lost to cultivation.

In 1898 the Yokohama Nursery Company issued a catalog of maples for export under the title *Maples of Japan*. Illustrations were included and created much early interest in the United States. Subsequent issues of the Yokohama Nursery catalogs included additional descriptions and illustrations.

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'Kamagata' is an example of the cultivars called "yatsubusa," the Japanese designation of dwarf.
Photo courtesy of Oregon State University Archives, Corvallis

CHAPTER 2

Taxonomy and Nomenclature



The Taxonomy of Maples

Plant taxonomy is concerned with the classification of plants. Modern classification systems are based on the reconstruction of the evolution of plants, which in turn reflects their relationship to each other. Presented here in tabulated form are the genetic and taxonomic relationships between the maple species dealt with in this book and other species closely related to them.

This book, written for the horticulturist and gardener, has not been designed as a definitive technical reference or key for identification by the serious dendrologist. The means of determining the relationships of maples continue to change as research progresses. In addition to examining plant chemistry (for example, determining the molecular structures of flavonoids, plant pigments that occur in leaves, flowers, and fruits), floral morphology, and wood anatomy, taxonomists are turning to the comparison of DNA from different species of plants for better determination of their relationships. It is hoped that newer taxonomic methods will be applied to *Acer*; too, to refine our understanding of the delimitation of species and the relationships of the sections and series of the genus. In the meantime, P. C. de Jong's classification is followed here.

The interrelationship of species within sections and series, though also interesting in its own right, has been important to me in propagation. Greater success in grafting and cross-hybridizing is usually achieved when using species within the same series. There are notable exceptions to this rule, but in most cases it is a useful guide in choosing a more common or easily obtained understock on which to graft a rare specimen. An obvious example is the use of *Acer palmatum* understock on which was

grafted an unusual form of *A. circinatum*, the vine maple. Although they are natives of two different continents, they are closely related to each other in the same series *Palmata*, and so are more likely to be compatible. It is equally possible to graft *A. palmatum* on *A. circinatum*, though I found such grafts to be less successful. It is worth pointing out that more than 85 percent of the maples described in this book belong to species in the series *Palmata*. These include natural forms and cultivars of *A. circinatum*, *A. japonicum*, *A. palmatum*, *A. shirasawanum*, and *A. sieboldianum*. As *A. palmatum* seedlings are the most readily available, this species can be, and often is, used as rootstock for the cultivars of the other species in the series *Palmata*.

In contrast, one would not normally choose *Acer platanoides* as an understock for a variegated form of *A. rufinerve*. They are from different sections of the genus, hence more distantly related and less likely to be compatible. The understock of another species from the section to which *A. rufinerve* belongs, namely, section *Macrantha*, the snakebark maples, would be more likely to be successful. A notable exception is *A. pentaphyllum* which I successfully grafted onto such unrelated understock as *A. davidii*, *A. pseudoplatanus*, *A. rubrum*, and *A. saccharinum*. *Acer pseudoplatanus* has, perversely, been successfully used elsewhere as understock for a number of maple species from other sections. These two species, *A. pentaphyllum* and *A. pseudoplatanus*, can be looked on as the exceptions that prove the rule!

In spite of these anomalies, the closer the relationship between two species, the more likely the compatibility and so the greater the chance of a successful union. The classification that follows may be useful in helping growers to choose which understock to use when grafting new maples. It is based on P. C. de Jong's biosystematic study, originally published in 1976, modified since, and used in *Maples of the World* (van Gelderen et al. 1994). Species in bold type are described in this book (see chapters 5 and 6). Other species are closely related and possible sources of rootstock.

Systematic Treatment of the Genus *Acer*

Section *Parviflora*

Series *Parviflora*

A. nipponicum Hara (1938)

Series *Distyla*

A. distylum Siebold & Zuccarini (1845)

Series *Caudata*

A. caudatum Wallich (1830)

A. spicatum Lamarck (1786)

Section *Palmata*

Series *Palmata*

A. ceriferum Rehder (1911)

A. circinatum Pursh (1814)

- A. duplicatoserratum* Hayata (1911)
A. japonicum Thunberg (1784)
A. palmatum Thunberg ex Murray (1784)
A. pauciflorum Fang (1932)
A. pseudosieboldianum (Pax) Komarov (1904)
A. pubipalmatum Fang (1932)
A. robustum Pax (1902)
A. shirasawanum Koidzumi (1911)
A. sieboldianum Miquel (1865)

Section *Macrantha*

- A. capillipes* Maximowicz (1867)
A. caudatifolium Hayata (1911)
A. crataegifolium Siebold & Zuccarini (1845)
A. davidii Franchet (1885)
A. micranthum Siebold & Zuccarini (1845)
A. morifolium Koidzumi (1914)
A. pectinatum Wallich ex Nicholson (1881)
A. pennsylvanicum Linnaeus (1753)
A. rubescens Hayata (1911)
A. rufinerve Siebold & Zuccarini (1845)
A. tegmentosum Maximowicz (1857)
A. tschonoskii Maximowicz (1886)

Section *Glabra*

Series *Arguta*

- A. acuminatum* Wallich ex D. Don (1825)
A. argutum Maximowicz (1867)
A. barbinerve Maximowicz (1867)
A. stachyophyllum Hiern (1875)

Section *Negundo*

Series *Cissifolia*

- A. cissifolium* (Siebold & Zuccarini) Koch (1864)
A. henryi Pax (1889)

Section *Indivisa*

- A. carpinifolium* Siebold & Zuccarini (1845)

Section *Pentaphylla*

Series *Trifida*

- A. buergerianum* Miquel (1865)

Section *Trifoliata*

Series *Grisea*

- A. griseum* (Franchet) Pax (1902)

A. maximowiczianum Miquel (1867)

A. triflorum Komarov (1901)

Section *Lithocarpa*

Series *Lithocarpa*

A. diabolicum Blume ex Koch (1864)

A. sinopurpurascens Cheng (1931)

A. sterculiaceum Wallich (1830)

Section *Platanoidea*

A. campestre Linnaeus (1753)

A. cappadocicum Gleditsch (1785)

A. longipes Franchet ex Rehder (1905)

A. miyabei Maximowicz (1888)

A. pictum Thunberg ex Murray (1784)

A. platanoides Linnaeus (1753)

A. tenellum Pax (1889)

A. truncatum Bunge (1833)

Section *Ginnala*

A. tataricum Linnaeus (1753)

Section *Rubra*

A. pycnanthum Koch (1864)

A. rubrum Linnaeus (1753)

A. saccharinum Linnaeus (1753)

Taxonomy of *Acer palmatum*

Of all the maple species, by far the most variable is *Acer palmatum*. This variability has caused considerable confusion in the past and resulted in numerous species being described, such as *A. amoenum*, *A. dissectum*, *A. formosanum*, *A. matsumurae*, *A. nambuana*, *A. ornatum*, *A. polymorphum*, *A. sanguineum*, and *A. septemlobum*, to name just a few! The confusion extended into the splitting of *A. palmatum* and several of the above taxa into numerous subspecies, varieties, and forms such as *A. palmatum* var. *heptalobum*, *A. palmatum* f. *atropurpureum*, and *A. palmatum* f. *linearilobum*.

Because taxonomists are attempting to show evolutionary relationships between the different taxa, as reflected in the variations between natural populations, it added to the confusion to name species and infraspecific forms from cultivated plants. For instance, *Acer dissectum*, *A. ornatum*, and *A. palmatum* var. *heptalobum* were based on Japanese garden plants.

Modern taxonomic techniques, including chemical analysis, have indicated all these plants, in spite of large visible morphological differences, have the same fun-

damental characters and can be placed under the one species, *Acer palmatum*. The numerous subspecies, varieties, and forms of the past have been simplified even further in P. C. de Jong's system, which recognizes only three subspecies—*A. palmatum* subsp. *amoenum*, *A. palmatum* subsp. *matsumurae*, and *A. palmatum* subsp. *palmatum*. These subspecies are identified on the basis of leaf size, number and depth of lobing, toothing, fruit size, chemical constituents, and geographic location.

Acer palmatum subsp. *palmatum* has small leaves 3–6 cm ($1\frac{1}{8}$ – $2\frac{3}{8}$ in.) long with five to seven lobes and coarsely toothed margins. The tiny fruits are about 1.5 cm ($\frac{5}{8}$ in.) long. This is the type from which the original species was described. *Acer palmatum* subsp. *amoenum* and *A. palmatum* subsp. *matsumurae* have much larger leaves—7–10 cm long ($2\frac{3}{4}$ –4 in.)—and fruits—2.5–3.5 cm ($1-1\frac{3}{8}$ in.). The mainly seven-lobed leaves of subsp. *amoenum* are moderately divided, up to two-thirds of the way to the leaf base, and the margins are regularly and finely toothed. The seven- to nine-lobed leaves of subsp. *matsumurae* are very deeply divided to near the leaf base and usually have coarsely toothed margins. These three subspecies are more fully explained in chapter 5.



The three basic leaf shapes of *Acer palmatum*: (clockwise from top) subsp. *palmatum*, subsp. *matsumurae*, subsp. *amoenum*. Photo courtesy of Oregon State University Archives, Corvallis

Nomenclature—Difficulties and Confusion

Nomenclature (from the Latin *nomen*, meaning “name” or “noun”) is the manmade system of naming plants. There has been much confusion in the naming of Japanese maple cultivars caused by name variations of older cultivars in Japan; alternative transliterations and translations; localized names in Europe and America; differing trade, selling, and registered names; and lack of any agreed guidelines for naming maples in the early years. Add to these causes the mistakes, misspellings, and changes which inevitably creep in during the 200 or more years that Japanese maples have been in cultivation, and it is not surprising that some cultivars have several names and some names have been used for several different cultivars. The result is that the naming of Japanese maple cultivars has been confusing and complicated, often inconsistent and sometimes quite wrong.

Prior to the mid-eighteenth century, there was no uniform guide or set of rules for naming “new” plants. Many Japanese plant names arose from common usage in a limited and perhaps isolated area. In Japan, linguistic dialects result in spelling and

pronunciation variations. For example, a particular plant name may be spelled or pronounced differently in the northern islands than in other parts of Japan.

Serious study of the old literature reveals, in some instances, that the same Japanese name has been applied to several different cultivars. Japanese and Chinese horticulturists of several centuries ago were located throughout a widespread territory, including many islands, and lacked adequate communication. Therefore, similar names could be applied to entirely different species or selections without the duplications being realized.

The name "Itaya" can be used as an illustration. 'Itaya' is the name of a popular *Acer japonicum* cultivar. The common name for *A. japonicum* is "itaya," which is also used for *A. truncatum*, as is "tokiwa." The horticultural name for *A. japonicum* is "itaya kaede," which is also the academic name for *A. pictum* (synonym *A. mono*), the latter having "tokiwa kaede" as its horticultural name. Another horticultural name for *A. japonicum* is "meigetsu kaede." The academic name for *A. japonicum* is "itaya meigetsu," as is "ha uchiwa kaede." But "itaya meigetsu" is the academic name of *A. sieboldianum* as well, and also a synonym of "hauchiwa kaede" which is *A. pictum*!

The system of transliterating Japanese characters to the Roman alphabet has been changed several times by the Japanese government. To promote literacy following World War II, it reduced the number of Japanese characters from tens of thousands to about two thousand. Hence, many Japanese cannot read a large number of characters used prior to that time.

A further difficulty occurs when changing certain Japanese sounds into English. Very few Japanese pronunciations have a direct English equivalent. For example, the sound "ch" (like a sneeze) may be spelled in a name as "chi," "shi," "tsu," and so forth. Thus 'Chikushi gata', 'Shikishigata', 'Shukushigata', and 'Tsukushi gata' were all valid names for the same plant, as were 'Chishio' and 'Shishio'. When used in names, the letters *g* and *k* were often interchanged. Some of the vowels are interpreted in different ways when Japanese write the English name equivalent. Thus one can find, "o," "oo," "oh," and "ooh." The cultivar 'Shōjō' has been spelled many ways in different countries.

Difficulties of translation from one language to another may produce more than one valid name for a given plant. Most Japanese maple names are written in kanji characters which were adapted from Chinese characters several centuries ago. In addition, minute differences in the structure of some Japanese characters contributed to the variation in naming when transliterated into English.

Further, there are different ways of transliterating the same kanji character into English. For example, 'Ōsakazuki' and 'Taihai' are read from the same characters, 'Daimyō nishiki' and 'Taimin nishiki' are valid interpretations of the same characters, and 'Aka shigitatsu sawa' and 'Beni shigitatsu sawa' are fitting renderings of the same characters. The kanji characters for "tsuma" and "uri" are so similar that 'Beni tsuma'

can easily be confused with ‘Beni uri’, though in fact the former is the name of a cultivar of *Acer palmatum* while the latter is the name of a cultivar of *A. rufinerve*.

The circuitous route some plants have traveled as they were dispersed around the world is another consideration. For instance, with a cultivar going from Japan to Europe, transliterating from Japanese into any of the European languages was difficult. Later, the plant found its way into English collections, receiving a further translation. When the cultivar was sent to a nursery in the United States, there was another possibility of a spelling change. Several maple names have been traced through these many sea changes.

Another problem arises from the unwillingness of some nurseries to cope with Japanese names, especially in the United States. There have been cases where cultivars from Europe or Japan were given popular names in the United States to promote sales or to save the trouble of learning to spell the correct name. ‘Ever Red’ in place of ‘Dissectum Nigrum’ and ‘Roscoe Red’ possibly in place of ‘Novum’ are thought to be examples of this practice.

The difficulties that can arise if we are not meticulous about names can be demonstrated by the following examples. ‘Okushimo’ is found in older taxonomic texts as *Acer palmatum* subsp. *genuinum* subvar. *crispum* and *A. palmatum* subvar. *eupalmatum* f. *crispum*. In the United States, this plant is called ‘Crispa’, presumably because it is assumed easier to write this name on a nursery label than ‘Okushimo’ (also occasionally written ‘Okushima’). The name ‘Crispa’ has been applied to four cultivars. Some nurseries designate the entirely different cultivar ‘Shishigashira’ as ‘Crispum’. A second example is ‘Higasa yama’ (also spelled ‘Hikasa yama’), which is sold in the United States under several names, depending on whether it originates on the East Coast or the West Coast. It can be found in collections and nurseries under the names ‘Aureo-variegatum’, ‘Cristatum Variegatum’, ‘Roseo-marginatum’, and ‘Roseo-variegatum’. Unfortunately, some of these popular names rightfully belong to other cultivars, leading to more confusion. The true *A. palmatum* subsp. *matsumurae* f. *roseo-marginatum* bears the Japanese name ‘Kagiri nishiki’. It is quite different from ‘Higasa yama’. A third example is ‘Shishigashira’, which has been found under at least five different names around the world: ‘Crispa’, ‘Crispum’, ‘Cristata’, ‘Minus’, and ‘Ribescifolium’.

Finally, we must consider penmanship, haste



‘Shishigashira’ has been cultivated for more than 120 years and has been known in the trade under five other names, leading to much confusion. Photo by Peter Gregory

in writing labels or (later) hitting the wrong key on a typewriter or computer. The letter *u* can become an *o*, or an *r* can become an *n*. These mistakes undoubtedly happen. Transposing letters also causes name differences which, when repeated often enough, results in the wrong name becoming established. One such example is the cultivar ‘Hōgyoku’, which is sometimes found under the (incorrect) name ‘Hōgyuko’.

All this may not be considered important to the readers who want a few maples in their garden landscapes. However, to nurseries and serious collectors it is vital. If someone requested a plant under the name ‘Crispa’ or ‘Roseo-marginatum’, I would not be sure just which of several cultivars is desired.

I have a strong personal preference for adhering to the Japanese nomenclature for the cultivars whenever possible and valid. Since this group of plants originated and has been developed in the main by discerning and devoted Japanese horticulturists and is an important part of their horticultural heritage, I consider such practice both courteous and appropriate. This is not to say that the new cultivars from Europe, the United States, or Australasia should not carry non-Japanese name. I am referring mainly to the older cultivars which originated in Japan and have suffered name changes in other countries. Throughout this text I have attempted to list all the nomenclature variances under each cultivar and therefore will not list them here.

The Naming of Plants

Since ancient times, plant names consisted of descriptive phrases. The era of plant hunters from the mid-1700s until the early 1900s brought in many, many thousands of species not previously seen. Naming these created chaos with the names in unwieldy phrases and in many languages. There was a need for an international set of rules to rectify this. The great Swedish naturalist Carl Linnaeus attempted to fill the gap with the publication of his binomial system of nomenclature in 1753. It, however, was not universally accepted until the International Botanical Congress (I.B.C.) was set up in 1862. The Linnaean system gives every species a unique name of paired words—the first word is the genus and the second the species within that genus.

In 1905, the I.B.C. decreed that plant names should be written in Latin, as it was the most widely used language in Europe. All educated Europeans could read, write, and converse in Latin at that time. However, the American Society of Taxonomists produced its own set of rules in 1947, which did not include the use of Latin. Agreement between the two organizations was not reached until 1959. The first *International Code of Botanical Nomenclature* (the *Botanical Code*) was published before this, in 1952, and has been revised by the I.B.C. every five to six years since. Nowadays, the “Latin” permitted in botanical names is often highly imaginative and would not necessarily be understood by a classic Latin scholar! Botanical names can be more accu-

rately described as Latinized or scientific names. Thanks to the *Botanical Code*, botanical names represent a more stable system of nomenclature, usable by people of all nationalities. It sets out the rules for the formation, publication, and use of all scientific plant names, except those for cultivars.

The Naming of Cultivars

Guidelines for the naming of plants in horticulture (that is, cultivars) are contained in the *International Code of Nomenclature for Cultivated Plants*, referred to from now on as the *Cultivated Code*. In the 45 years since the publication of the first edition in 1953, the rules have been adapted and developed to meet the needs of users—growers, collectors, and gardeners—and to promote uniformity, consistency, and stability in the naming of cultivars.

The *Cultivated Code* introduced the term *cultivar*, a plant maintained solely by cultivation. It defines a cultivar as a plant which has been selected for a particular attribute or group of attributes that is clearly distinct, uniform, and stable in its characteristics and, when propagated by appropriate means, retains these characteristics. Some cultivars arise as sports (mutants) in the wild or as natural hybrids, which are then taken into cultivation. The vast majority arise in cultivation as chance or induced sports, or as chance or deliberate hybrids.

In the case of Japanese maples, most cultivars arise from a keen-eyed grower or collector spotting an unusual form among a group of seedlings. ‘Ariadne’, ‘Eddisbury’, ‘Red Filigree Lace’, and ‘Sharp’s Pygmy’ are examples. Some, such as ‘Shaina’ and many dwarf cultivars, arose from witches’-brooms on existing plants, while atypical shoots on a tree have been noticed and given rise to new cultivars. Several of the variegated forms arose by this means. Finally, but rarely, new cultivars may be the result of deliberate cross-pollination, as in the case of ‘Autumn Flame’ from New Zealand.

To distinguish cultivar names from botanical names, which refer to plants growing in the wild, the cultivar name must be in roman type, begin with a capital letter, and be embraced in single quote marks (inverted commas). It is normally preceded by the botanical name of the group to which it belongs, for example, *Acer palmatum* ‘Shishigashira’. Cultivar names can be in any modern language, but Latinized cultivar names have been illegitimate since 1959—again to distinguish



‘Sharp’s Pygmy’ was a chance seedling spotted by Jimmy Sharp in the early 1980s. Photo by Harry Olsen

them from botanical names. Latinized names in use prior to 1959 are still valid. To avoid mistranslations, varying translations in different languages, and alternative translations, it is recommended that cultivar names should remain in the language in which they were first published. Translated names should be avoided.

To be accepted a cultivar name must be published with a description, dated, and be available to the public. This does not include trade catalogs, however. It is recommended cultivar names be registered with a registration authority as a precaution against the duplication of names, misuse, fraudulent use, and misspelling. Cultivars in the same cultivar class cannot bear the same cultivar name. In the case of maples, the cultivar class is usually the species.

There are several other important ornamental plant groups (such as cherries and rhododendrons) which, like Japanese maples, have a long history of Japanese cultivar names and so have incurred similar problems and errors in their nomenclature. In the past, transliteration procedures depended upon the interpretation of individual authors and resulted in numerous variations. The *Cultivated Code* enables everyone to deal with the problems of nomenclature in the same way.

The names of all cultivars described in this book conform to the rules of the latest *Cultivated Code* as far as is practicable, particularly in respect to the use of the modified Hepburn system of transliteration from Japanese characters. The Hepburn system has been approved by the Japanese government, taught in Japanese schools, and widely accepted in the West.

It is obviously desirable and less confusing for each cultivar to have a unique, constant, correctly spelled name. Growers and collectors could not be blamed for incorrect naming when there was no up-to-date authoritative source to guide them. One of the main purposes of this book is to identify errors and try to rectify them—to clarify and stabilize Japanese maple cultivar names. This purpose has been aided considerably by the rules of the *Cultivated Code*.

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'Versicolor' exemplifies the fascinating group of variegated cultivars. Fall coloration usually intensifies the base color of the leaf into reds and oranges. Photo courtesy of Oregon State University Archives, Corvallis

CHAPTER 3

Culture



Culture in the Garden

Gardeners and hobbyists may want some information on the care and culture of Japanese maples, while commercial nurseries have their own methods of handling and growing these plants in production.

Japanese maples are remarkably adaptable to soil and climatic conditions. In their native habitats, *Acer palmatum* and its natural varieties have adapted to a wide range of environments on the islands of Japan. In North America, these plants thrive in the soils and climates ranging from the rain-forest type of the Pacific Northwest to the very warm climate of southern California, and from upstate New York down the Atlantic seaboard to the southeastern states and through the Midwest. In Europe, they grow in the warm Mediterranean conditions of Italy, in the almost-pure peat soils of Boskoop, Netherlands, and in the varied soils in Britain. They also thrive in many parts of Australasia. Thus we begin to understand the versatility of these plants as ornamentals throughout the world.

Locations

Japanese maples are widely used as specimen plants and companion plants. Since they rarely attain great heights, they are not classed as shade trees. There is a magnificent specimen of *Acer palmatum* at The Ford, Wiveliscombe, near Taunton, Somerset, England. It was planted about 1850 or before and still thrives 150 years later at about 12 m (39 ft.) tall. There are taller examples in cultivation, such as the 18-m (59-ft.) tree at Westonbirt Arboretum in Gloucestershire, England, but the grand specimen in Somerset is worthy of note.

Most upright cultivars of *Acer palmatum* and *A. japonicum* attain a height of 8 to 9 m (26–30 ft.) in 50 years, depending upon site and conditions. Many cultivars, especially from the Dissectum Group, mature at 5 m (16 ft.) or less. This height places them in the large shrub category, while mature cultivars in the Dwarf Group rarely exceed 2 m (6½ ft.) and may be less than 1 m (3 ft.) tall.

The green varieties and cultivars take full sun very well. In extremely hot situations they may sunburn slightly under late summer conditions. Afternoon shade aids in preventing this, as does an adequate supply of water. Variegated leaf forms need semi-shade or at least protection from the blistering afternoon sun. Cultivars such as ‘Sagara nishiki’ do best with afternoon protection to keep the golden variegations in the leaves from crisping brown. Other white and pink variegated forms should also have afternoon shade. Variegates such as ‘Versicolor’ and ‘Waka momiji’, however, are more tolerant, and can often be grown in full sun without serious sunburn. Such extreme forms as the variegated dissectum ‘Goshiki shidare’ must have ample shade or they will be seriously sunburned.

The red cultivars of the Dissectum Group appreciate some shade. However, they cannot develop their typical deep red colors without benefit of full sunlight for at least part of the day. A fine specimen of ‘Garnet’ grows under *Calocedrus decurrens* (incense cedar) at Maplewood, but it does not develop the true color for which it is known. Instead of turning a strong orange red, it remains a greenish red although in fine condition and leaf form. In general, the color of most red cultivars is greatly enhanced in full sun, and some forms, such as ‘Fior d’Arancio’, readily revert to green in too much shade.

Use in the Garden Landscape

The use of Japanese maples in the garden landscape is a challenge because there are so many types, colors, shapes, and rates of growth from which to choose. Of course, this very fact makes it easy for homeowners to create whatever mood or effect is desired. Each homeowner should create the appearance, design, or mood personally desired and should not slavishly try to match a rigid book outline or a landscape concept better suited to a different site or sense of taste. One’s own garden should reflect one’s personal preferences, not those someone else might dictate. To this end, Japanese maples offer unlimited choice in combinations of types or alternatively a design featuring just a single specimen plant of a choice cultivar.

DISSECTUMS

The most familiar and widespread form of the Japanese maple is the dissectum or lace-leaf of the nursery trade, *Acer palmatum* f. *dissectum*. This form occurs naturally with red or green foliage, as well as in various named cultivars. It is commonly offered



Mixed cultivars of *Acer palmatum* line a pathway. Photo courtesy of Oregon State University Archives, Corvallis

in nearly every retail nursery of any size. Dissectums have been propagated and sold for many decades and have found uses in a wide variety of situations and garden landscapes. They are outstanding as individual specimen plants, container trees for the patio, accent plants in lawns, companion plants in a mixed border, or in a special spot in the rock garden. This type is particularly showy used as an accent plant beside a pool or overhanging running water, or as a feature plant in a prominent spot along a winding path. Properly cared for 75- to 100-year-old specimen plants possess a magnificent stateliness. Once the autumn foliage is off, the characteristic shapely, twisting branch scaffolding carries the featured beauty on through the dormant season—especially if the dead leaves and debris are cleaned out of the interior.

Young plants can grow rapidly at first, during which time they can be trained in shape and structure to make good accent plants. They have a natural tendency not to become too large too soon. However, the “cute little plant” purchased as a starter



'Tamuke yama' as an accent plant in the lawn. Photo courtesy of Oregon State University Archives, Corvallis

should be allowed plenty of room to spread, so that it can make the typical cascading shape which is so desirable. Choice red forms are ‘Beni kumo-no-su’, ‘Crimson Queen’, ‘Inaba shidare’, ‘Lionheart’, ‘Red Dragon’, ‘Red Filigree Lace’, and ‘Tamuke yama’. Among the best green forms are ‘Ellen’, ‘Emerald Lace’, ‘Green Mist’, ‘Orangeola’, ‘Palmatifidum’, ‘Sekimori’, ‘Spring Delight’, ‘Sunset’, and ‘Waterfall’. Variegated forms include ‘Filigree’ (green with gold or cream flecks) and ‘Toyama nishiki’ (purple or green red with pink or white marks).

UPRIGHT GROWERS

The upright-growing forms present the greatest number of choices and landscaping possibilities. First, there are the colors with many shades of yellow, green, red, or variegation, some with bright spring colors and others with a predominant color in the fall. Next, the plant shape with some growing tall, others spreading, some cascading, but all offering easy acceptance of pruning to guide them to the desired shape. Some cultivars develop unusual limb structures for winter enjoyment. Others, such as ‘Aoyagi’ and ‘Sango kaku’, have bright colored winter shoots and branches, while still others, such as ‘Arakawa’ and ‘Ibo nishiki’, have a unique corky bark.

An individual large accent plant placed in a prominent place attracts attention from every part of the garden. Red-leaved types, such as ‘Bloodgood’, ‘Emperor I’, ‘Trompenburg’, and ‘Yasemin’, stand out boldly. Several of the green selections, such as ‘Autumn Glory’ and ‘Mirte’, fill this need for boldness equally well, as do variegated selections, such as ‘Asahi zuru’ (white and green) and ‘Butterfly’ (cream and blue-green). For larger plantings, a blending of several color types forms an ever-changing canopy throughout the seasons.

The large upright forms of *Acer palmatum* and other closely related species are useful in several ways—as overstory plants for alpine, rock garden, or flower borders; as solid plantings employing several types to make a “woody” grove; as a border for the background edge of a garden landscape by adding various colors and textures; or as a corner or end specimen to emphasize a change in landscape design or use.

These maples have the additional advantage of ready adaptability to a wide range of cultural situations. This cultural tolerance allows them to adjust to the needs of various companion plants. Acid-loving plants such as rhododendrons, azaleas, kalmias, and dwarf conifers in an endless selection, plus a great variety of perennials and bulbs, all make excellent companion plants. Maples also blend well with shrubs and perennials which prefer a less acid situation, including slight-to-medium alkaline soils. However, they will not tolerate highly alkaline soils. Raised beds or container growing is the answer in such cases. Moreover, these maples do not have a strongly invasive root system which might damage borders or ornamental walks. Root competition is not vicious, so Japanese maples are compatible with most plants.

MASS PLANTINGS

For larger gardens, or sites with sufficient space, mass plantings offer tremendous possibilities through all seasons. In various types of mass plantings, it may be advisable to include two or more cultivars or species possessing outstanding features to insure a bold effect through each season. For example, the brightly colored spring foliage of ‘Katsura’, ‘Orange Dream’, ‘Seigai’, ‘Shin deshōjō’, and ‘Ueno yama’ would highlight a mass planting. Blending taller growing red-leaved cultivars with upright forms of the green-leaved types makes a dramatic color pattern throughout the spring and summer months. Plan to highlight cultivars with especially bright fall foliage, such as ‘Hōgyoku’, ‘Ichigyōji’, and ‘Ōsakazuki’, to maintain the interest in this season as well. *Acer japonicum* cultivars always give bright fall colors also, plus they show interesting limb scaffolding in winter. To complete the year-round special interest, cultivars with unique bark texture and color might be included, such as ‘Aoyagi’, ‘Kogane sakae’, or ‘Sango kaku’.



Mass planting of *Acer palmatum* cultivars in the large landscape.
Photo courtesy of Oregon State University Archives, Corvallis

Boldness in locating the plants for a special effect and contrast is an especially satisfying device. At Maplewood Nursery, we planted ‘Yezo nishiki’ near *Sequoiadendron giganteum* (redwood). This planting created a striking effect in the spring as the sun highlighted the contrasting color and texture of the two quite different plants.

In large plantings, another opportunity presents itself in planning for lighting effects. Highly colored red cultivars, such as ‘Bloodgood’, can be planted so that the viewer is looking through the foliage at the sun with the light filtering through the foliage. The results are spectacular and may be enjoyed during a major portion of the season. The weeping dissectum types, blended with various heights and shapes of the dwarf forms, visually tie the whole planting to the ground. A “hedge” of dissectums makes a unique and extremely distinctive planting for the edge of a landscape. A planting of green or red forms in a row, covering a range of autumn colors, spaced



Mixed planting of *Acer palmatum* ‘Crimson Queen’, *Rhododendron*, and *Cedrus*.
Photo courtesy of Oregon State University Archives, Corvallis

so they will merge in a few years, presents an unusual and distinguished planting not often seen. Those who like color patterns may choose to alternate plants with green and red foliage.

It is not usually wise to make a mass planting of only one type of plant, however. Even though many cultivars have an interesting limb structure, the overall effect of bare limbs becomes monotonous. The interplanting of the larger dwarf conifers with rhododendrons, azaleas, kalmias, camellias, and other low-growing evergreen shrubs helps break the monotony of purely deciduous plantings.

A few selections for some of the landscaping objectives described are listed here. Species and cultivars not included may be equally desirable. The list is simply offered to start the reader thinking about the extraordinary range of landscape possibilities which Japanese maples offer.

Spring Color

- 'Akane'—orange gold
- 'Aka shigitatsu sawa'—cream, orange, and pink
- 'Ariadne'—variegated
- 'Beni maiko'—red
- 'Corallinum'—pink
- 'Coral Pink'—pink
- 'Katsura'—orange
- 'Orange Dream'—orange
- 'Peaches and Cream'—cream and rose
- 'Seigai'—red
- 'Shin deshōjō'—red
- 'Ueno yama'—yellow and orange

Fall Color

- 'Aureum'—yellow
- 'Golden Pond'—yellow orange
- 'Herbstfeuer'—orange
- 'Hōgyoku'—orange
- 'Ichigyōji'—yellow orange
- 'Jūnihitoe' (*A. shirasawanum*)—orange
- 'Kinshi'—orange yellow
- 'Ōsakazuki'—red
- 'Seiryū'—yellow and red
- 'Shishigashira'—gold and red
- 'Tana'—gold and red
- 'Vitifolium' (*A. japonicum*)—gold and red

Winter Bark

- 'Aoyagi'—green
- 'Arakawa'—rough bark
- 'Beni kawa'—salmon red
- 'Eddisbury'—red
- 'Fjellheim'—red
- 'Ibo nishiki'—rough bark
- 'Japanese Sunrise'—red
- 'Kogane sakae'—green and yellow
- 'Nishiki gawa'—rough bark
- 'Sango kaku'—red
- 'Winter Flame'—red

DWARF CULTIVARS

The large variety of dwarf cultivars opens other endless possibilities, the first of which, of course, is bonsai culture. Those who practice bonsai either know or have access to the literature about the uses of *Acer palmatum* and its cultivars and related species for this purpose. There is no need to expand on the vast potential of this very old art here. Both the type species from seedlings and many selected cultivars such as 'De-shōjō' have made some of the most spectacular and famous bonsai in various parts of the world.

Dwarf forms are especially well suited for inclusion in shrub borders and among alpine plantings. They blend with nearly all the border-type perennials, annuals, bulbs, and shrubs. In the northwestern United States, common plant choices include most ericaceous shrubs and conifers, plus an endless variety of other choices. In the eastern United States, the choice is nearly as wide, but more attention must be paid to the winter hardiness of many shrubs. Japanese maples can withstand temperatures well below -18°C (0°F) once well established, if well mulched and with adequate root protection. In mixed plantings in more arid climates, they will survive in a fairly low moisture situation, although the growth rate is slowed considerably. Soil pH values up to 7.6 are tolerated once the plant is well established, but higher pH levels can be deadly. In such cases, it is necessary to employ special soil management provisions such as raised beds with imported soil or, better still, grow maples in containers if specimen plants are desired.

Dwarf Japanese maples adapt well to the art of alpine gardening. They like such conditions—well-drained soil, minimal water and fertility, and mid-range pH situations. They do not grow in an overpowering manner, and they blend well with most alpine plants. The range of dwarf, dissectum, and smaller-sized maples offers many chances for imaginative companion planting in rock garden and alpine culture. Some

outstanding dwarf cultivars include 'Aratama', 'Baby Lace', 'Beni hoshi', 'Coonara Pygmy', 'Garyū', 'Jerre Schwartz', 'Kamagata', 'Murasaki hime', 'Pixie', and 'Red Elf'.

CONTAINERS

Container growing of Japanese maples is increasing in popularity. Small gardens and landscapes as well as the growing role of patio gardening fit the nature of these plants very well. With proper but not overdemanding care, Japanese maples may be grown in containers for many years without the necessity of repotting or root pruning. Dwarf types in ornamental urns are well suited to small patios. Where larger containers can be utilized, the range of choices increases greatly. Not only can the dwarf



Many dwarf cultivars, such as 'Kamagata' shown here, work well in alpine plantings.
Photo courtesy of Oregon State University Archives, Corvallis

forms be utilized singly or in small groupings, but the larger-growing dissectums and the upright cultivars also do extremely well. The choices of form, color, leaf texture, and winter branching are wide-ranging.

The full-sized types, including the species, grow well in tubs or large permanent containers. Occasional directive shaping or pruning is not a demanding chore, attention possibly once or twice a season being required. The full-sized trees are easily grown in large patio containers and are not overly demanding in attention and care.

Two important requirements must be met in all container planting. First, the planting mixture must be open enough to allow good drainage and aeration, and not become waterlogged. Second, the containers must be given faithful attention and not neglected for long periods of time during the growing season, such as a va-



Most cultivars of *Acer palmatum* can be successfully grown in containers. Photo by Harry Olsen

cation trip or some other absence. Minimal fertilization is necessary to maintain good color, and moderate watering is required. Overwatering can be detrimental, but so can lack of watering during long dry spells. Unlike the roots of plants grown in open ground, the roots of container plants cannot search further afield for moisture. In areas subject to very cold spells during the winter, the containers should be wrapped in insulating material, such as straw, bracken, burlap, or bubble polyethylene, to prevent frost damage to the roots.

Planting

Japanese maples are easy to plant. Their root system is not a deep taproot type of structure but is predominantly a fibrous root network that will stay mostly in the upper level of the soil. Naturally, with age the roots will be found rather deep, but they do not go to an excessive depth. This is especially true in irrigated soils where the roots do not need to search for moisture. Regular irrigation maintains the roots in the upper levels of the soil.

This fact, however, does not make them serious competitors with companion shrubs such as rhododendrons or similar ornamentals. They are not overly competitive but coexist well with practically all landscape plantings. A surprisingly large number of maple enthusiasts also have fine plantings of rhododendrons and azaleas, because the culture of Japanese maples is very similar to that of rhododendrons.

The nature of rooting in the upper surface allows planting in soils which may have a hard stratum or bedrock close to the surface. With adequate root coverage and attention to uniform moisture supply these plants do an excellent job of beautifying difficult areas. This is also why they do so well in containers of all sizes. The fibrous roots will utilize the limited area without root binding and choking themselves too easily. The uniform level of moisture supply, whether great or small, must be emphasized. I cannot stress the uniformity of watering too much. I do not imply the need for large amounts, but rather, constant amounts.

PLANTING STOCK

The newly purchased plant may come from the grower in one of several ways. Young plants, whether produced from grafts or seeds, will probably be in containers. Medium-sized to very old plants can also be purchased in containers. In modern nursery production, maples of any age are successfully produced as “containerized stock.” This allows for successful transplanting into the permanent position with very little transplant shock. Hence, the planting season can be extended to any month of the year.

Young plants up to four years of age, when purchased in the dormant season, may be “bare-rooted.” These are dug up or taken out of containers, and transported with-



Spring accent of early color with 'Beni komachi' in mixed border.
Photo courtesy of Oregon State University Archives, Corvallis

out soil on the roots to save transporting heavy growing medium. Bare-rooted plants can be transported safely only during the dormant season and usually only when less than four years old.

Field-grown material, several years of age, is usually dug with an earthen ball intact around the roots. It comes from the nursery with the root ball often wrapped in burlap, or similar material, to prevent the root ball from drying. “Ball and burlap” plants are usually only safe to transport during the dormant season.

When moving a plant to a different location within a garden, the plant must be dug with an earthen ball intact around the roots. If the plant is of any size or age, this root protection is important. It is also desirable that the planting hole be prepared in advance, ready to receive the plant with its root ball, as soon as it is dug up. Having the new planting hole ready minimizes the risk of the fine feeding roots drying out. For this reason it is imperative that, whatever method, material, or timing is used when planting a Japanese maple, the roots are not exposed to air or direct sunlight for any length of time. Such care will help prevent them from becoming desiccated, which would cause too much transplant shock and possible loss of the tree.



Mixed planting of *Acer palmatum* f. *dissectum* for dramatic border effect.
Photo courtesy of Oregon State University Archives, Corvallis

PLANTING METHOD

The planting hole should be dug slightly larger than the root mass of the plant. To enable the root system to establish itself quickly, it helps to mix with the soil organic compost, such as composted conifer bark mulch, rhododendron or azalea planting mix, or rose compost. In tight, heavy clay soils the compost helps condition the soil, while in light, sandy soils the compost assists in water retention. Sawdust or wood chippings should never be used as, during their breakdown, they use up the available soil nitrogen and render it unavailable to the newly planted tree.

The planting hole should be deep enough so that the root collar of the plant, the ground line at which the young plant was grown, is level with the ground surface. The exception to this rule applies to tight, heavy soils, like clay, where success will be greater if the hole is rather shallow so that the root system is partly above the ground level. When filling in the hole, the soil should then be mounded up to the root collar to protect the roots from drying out. If deep holes are dug in heavy soil, it is like planting the tree in a large iron kettle with no drainage. Surely the plant will soon drown and die.



Planting mixed cultivars in mass arrangements accents the many foliage textures.

Photo courtesy of Oregon State University Archives, Corvallis

Whatever the soil conditions, the tree should never be planted deeper than the root collar. After the first season or two, the plant will find the level of root activity at which it can exist in particular soil conditions. I have observed maples growing in some surprisingly dry, shallow, and exposed conditions.

MULCHING

Mulching serves several useful purposes—to maintain weed-free conditions, to minimize water loss in dry spells, and to provide winter protection for the roots in prolonged freezing conditions.

A newly planted maple needs several years before its relatively shallow root system is established enough to successfully compete for moisture and nutrients with other vegetation. The competition from grass roots is especially intense. Hence, the area around a newly planted maple should be kept weed-free for the first two to three years. After that the root system will be strong enough to hold its own in most conditions. Of course, once the area is weed-free, the right mulching can keep it that way.

The aerial parts of most Japanese maple cultivars, once established, can withstand winter freezing and air temperatures down to -18°C (0°F) and below. The roots, however, can only survive to -10°C (14°F). When planted normally in the soil, the plants can withstand extreme temperatures because the roots are protected sufficiently in the deeper soil. The roots of newly planted trees, however, are not necessarily protected sufficiently, hence the importance of correct mulching.

If the mulch material is too fine or matted (compost or farmyard manure), it provides a perfect seedbed for weeds and prevents the free exchange of air and gases between the soil and the atmosphere—the maple roots and the lower stem must breathe. If it is too absorbent (sawdust and woodchippings), it allows water loss through capillary action and, as mentioned earlier, uses up nitrogen needed by the plant. In addition, the breakdown of the woody material can cause too much heat to be generated and scorch the bark above the root collar.

The ideal mulch is a 5-cm (2-in.) layer of coarse bark with an average chip size of about 2 cm ($\frac{3}{4}$ in.). It allows moisture downwards but not upwards, it encourages the free exchange of gases, it deters weeds from developing because of the lack of moisture in the upper mulch layers, and it acts as a protective insulating layer during cold winters. There are other suitable mulch materials and compromises, including mulch mats, but bear in mind the absorbency, porosity, weeding, and insulating requirements.

Microclimates

Microclimates are those small areas which differ slightly from the conditions in most of the garden and landscape. These spots may be hotter, colder, windier, drier, or wet-

ter. Japanese maples do not differ from other garden plants in adverse responses to such conditions.

A spot with a constant strong wind will misshape the plant and may burn the leaves. In winter, the wind-chill factor may cause bark and cambium damage.

When planted close to a pure white wall, the foliage may be burned by the intense reflected light. In foundation plantings around a building, people tend to plant too closely to walls. Plant positioning should provide for at least 10 years of growth, and this should be envisaged when planting. The smaller dwarf cultivars work well for lower foundation sites.

In areas of strong marine breezes, leaf damage from salt deposits may occasionally occur. Anyone growing plants under such conditions should be familiar with the necessary protection and the need for periodic washing of the foliage with fresh water. Many maples are successfully grown on seashore sites.

Drought and waterlogged sites are discussed in the next section on soils. If these problems are recognized, corrective measures can be taken at planting time. Given some additional care in their first year or two of establishment, Japanese maples will adapt to most conditions, even though somewhat adverse.

Soils

The ideal soil for Japanese maples is a slightly acid sandy loam with a low to medium amount of organic matter. This ideal soil is hard to find in many places. However, these plants adapt well on less-than-perfect soils of most types. In very sandy or tight, heavy soils, the growth rate will be reduced somewhat. Sometimes, simple procedures of planting or moisture management will make up for poorer soils.

The richer the soil, the more rapid the growth. However, this can also be a drawback. Some of the upright cultivars can get too “leggy” when forced by rich soils or high fertility.

The site must be reasonably well drained. Japanese maples do not do well in a wet or swampy location, but they may be grown along pools and little streams provided the root zones have sufficient drainage and aeration.

I have seen these plants growing on dry hillside locations in a clay soil and under a hot sun. Although their annual growth was limited and certainly could not be called lush, at least the plants were fine small trees fulfilling a particular need.

The roots of Japanese maples are not deep, so mulching is also important in tight, heavy soils. Since the shallow roots cannot penetrate the heavy soil readily, mulching helps retain moisture and keep the roots cool in the heat of summer.

Extremes in alkaline conditions prevent maples from performing well. Soils with a very high pH should be adjusted with acid fertilizers or neutralizing soil additions. Growing Japanese maples in containers or raised beds offers alternative choices where impossible soil conditions exist. The acid or neutral soils in which rhododendrons do

well seem to be equally suitable for maples. Soils of an extremely sandy nature will need considerable organic matter incorporated, plus mulching, to help in water retention.

Moisture

Japanese maples do not have any unusual moisture requirement. The “average” amount of water supplied to the normal range of garden shrubs is usually adequate. Grown as companions with most other shrubs and perennials, they are carried along nicely with normal irrigation. The principal water requirement, in my opinion, is a uniform supply. By this I mean that if the plant is in a fairly dry situation, it should not be flooded with water at irregular intervals, and if it is grown where moisture is plentiful, it should not be left to dry out during dry spells but should be watered during such times. The water supply, whether little or much, should be constant.

Maples will grow with limited water but produce a shrubbier type of plant. This can be an advantage with the taller-growing cultivars and species if larger trees are not desired, but remember, even though the supply of water is limited, it should be constant.

The main danger to guard against is very wet periods followed by very dry periods



On-rock planting of dwarf cultivars, such as ‘Garyū’ shown here, can lead to dramatic results.
Photo courtesy of Oregon State University Archives, Corvallis

or vice versa. This pattern will surely cause summer leaf drop or leaf scorch. One of the most common causes of leaf scorch is an excessively dry period, even if only a few days, in a normally watered situation. In fact, the leaves may all fall off as though it were the beginning of winter—completely defoliating the tree. I have seen this occur in midsummer. A thorough soaking into the deepest part of the root zone will possibly save the tree and perhaps even cause a new crop of leaves to grow in late summer and early fall, if the tree has not been damaged too badly.

Watering the leaves in full sun during the hot summer months causes another leaf-scorch problem, especially with container-grown specimens. Watering in early morning or early evening during the hottest weather prevents this type of scorch.

Containers must not be allowed to get waterlogged, as overwatering can be worse than underwatering. Aeration is as important as irrigation because the roots must be able to breathe. The grower must determine the water requirement of a particular medium and adjust watering accordingly. Proper water management is even more important than type of soil or fertilizer!

Fertilization

Japanese maples do not demand large amounts of nutrients. If the soils are generally fertile for most garden plants, maples will do well with little or no additional attention. It is not possible to generalize here about the nutrient needs in all the locations in which maples grow around the world.

In soils of the northwestern United States, *Acer palmatum* seems to resent the ammonium sources of nitrogen. I have found that calcium nitrate works best, with other non-ammonium sources also working well. A balanced “garden” fertilizer, such as that recommended for roses, applied lightly not more than once a year will provide for these non-greedy plants. If very rapid growth is required for some purpose, calcium nitrate applied to the landscape plant in early spring and again in July will give rapid results. It must be watered well into the soil.

On very poor soils and problem areas, a balanced “complete” fertilizer for shrubs and trees may be used. A once-a-year early spring application, before the leaves emerge, is generally best. Newer slow-release fertilizer mixes now on the market work well. The risk of chemical burn is reduced, but the cost is higher. Old barnyard manure is rich in many nutrients but may need addition of nitrates and probably introduces weed seeds. Because of capillary action it will also lose moisture to the atmosphere in hot, dry spells.

Pruning

A major sin in landscaping and gardening is the constant neglect of pruning and shaping our plants. So many enthusiasts get busy and let their plants, such as rho-

dodendrons, get too high, too wide, or too floppy. This is true of flowering shrubs, dwarf conifers, and even perennials in most gardens. At Maplewood Nursery we, too, have been guilty of this misdemeanor. In far too many cases we let a fine plant go unchecked for a few years and then suddenly realize that it just can't be that big anymore and still live in its allotted space. So we have to either tear it out or prune it back drastically and start over again. The latter leads to several years of unsightliness or, even worse, the tree might not recover from such treatment. Thoughtful pruning and shaping should be done each year. Better still, limited but constant pruning to shape a plant every season of the year is desirable. The smaller the pruning wound, the quicker it will callus over and heal. Hence, shaping should start once the young plant is established, about two to three years after planting. These detailed remarks are given to emphasize the need for pruning all Japanese maples.

Where large plants and great expanses allow, it is magnificent to permit these trees to grow unhindered. However, unless one wants to have a very tall Japanese maple of an upright cultivar, top shaping and pruning should be started rather early in the life of the tree.

Major pruning should be done during the dormant season after the leaves have fallen, from late November to early January, well before the sap starts rising prior to leaf production in the spring. Corrective pruning and training can be done at any time of the year, however, except when the sap is rising and all the plant's energy is devoted to the emergence and development of the young leaves. Cuts should be made just beyond a pair of buds on the twig. Usually, this will then produce two side shoots. When removing a larger limb, like any other pruning, the cut should be made just above the branch collar—the ridge or line where the branch joins an older branch or stem. Never cut below this natural barrier against the ingress of disease from a pruning wound. Cutting beyond this point not only gets behind the plant's last line of defense, it also creates an even bigger wound surface for disease to attack. At the same time, an unnecessarily long "stub" should not be left, as it provides a greater food source for any disease to build up its strength before penetrating the tree's natural defense system.

The need for SHARP pruning tools cannot be overemphasized. A clean pruning wound heals much more quickly than a jagged, torn wound created by blunt tools, and the wound calluses over more effectively. To prevent spreading disease from tree to tree, it is good practice to clean and sterilize pruning tools regularly. The use of tree-wound paint on cut surfaces is not recommended. Studies and trials in the 1980s and 1990s showed clearly that allowing the wound to dry out discourages the germination of disease spores on the open wood surfaces. Painting the pruning wound prevents drying out, and the spores, which are inevitably already on the wood surface, can live like lords, well protected from the elements and with ample moisture and food to thrive.

The fine, twiggy growth in some larger maples must be removed, especially from cultivars in the Dissectum Group of *Acer palmatum*. A tree that is too bushy inside invites insect and disease problems. But, perhaps more important, is proper display of the plant's structure. The cascading, undulating, and twisting branches in this group can be as beautiful and interesting as the foliage. Part of the beauty of these maples is the trunk and limb structure and texture. Periodically removing the inside growth of these trees enhances the display of the graceful trunk and branch structure during the winter months when the foliage is absent. In the case of 'Sango kaku' (coral-red shoots) and 'Aoyagi' (bright green shoots), the bark and shoot color is the outstanding feature and should be exposed.

The planting at Maplewood Nursery is quite limited in area. It was necessary to plant hundreds of stock plants of numerous cultivars in a small area. Therefore, they are much too close to let them mature to the size which they would reach if unchecked. With judicious pruning and shaping, these plants still fulfill their purpose



Pruning can shape a Japanese maple for dramatic effects. Photo by Peter Gregory

and make good specimen plants. It would be nice to own unlimited areas, but all of us are not that fortunate. Pruning and shaping is the answer.

Container Growing

Japanese maples lend themselves admirably to container growing. Dwarf types in ornamental urns are well suited to patios and small gardens. Where larger containers can be utilized, the choices of form, color, leaf texture, and winter branching increase. Full-sized trees, including the species, grow well in tubs or large permanent containers. Care of these is minimal, although it has to be constant since plants in containers will naturally dry out more rapidly than the same plants in the ground.

Dwarf forms, such as 'Kamagata', 'Kiyohime', and especially 'Goshiki kotohime', are excellent in containers, as are various color forms of the Dissectum Group and the upright cultivars. These can be utilized singly or in small groupings. Even old specimens can be kept in containers indefinitely with the proper attention to fertilizer, watering, and occasional pruning to shape the plant.

Not everyone is aware of the excellence of Japanese maples for bonsai work. Here is the extreme example of growing even the more vigorous forms of the species as very small specimens. The occasional root and top pruning and proper attention to watering and fertilizer create this art form.

Those who wish specimen plants for medium-sized to large containers will find most of the cultivars with colorful and interesting leaf shapes make outstanding and unusual container plants. Collectors with limited space may utilize the adaptability of containers to maintain a large collection of cultivars in a small area.

Two important requirements must be met in all container culture. First, the planting mixture must be open enough to allow good drainage and aeration. It must have good water-retention capabilities without becoming waterlogged. Second, the containers must be given faithful attention and not neglected for long periods of time during the growing season, such as a vacation trip or some other absence. Minimal fertilization is necessary to maintain good color. Overwatering can be detrimental, but so can lack of watering during long dry spells. Unlike the roots of plants grown in open ground, the roots of container-grown plants cannot search further afield for moisture.

There are as many planting mixes as there are growers. At Maplewood Nursery we have grown red and green dissectums, as well as other cultivars, for several years in wooden cedar tubs with a basic container mix of about 90 percent Douglas fir bark and the balance of sand for weight plus a little perlite. The plants maintain a healthy and vigorous condition even located on a cement patio slab in full sun. Most of the commercial soil mixes for containers are adequate. A mixture of good loam with a high percentage of peat moss, or better still ground conifer bark, will maintain a



Even the upright types of *Acer palmatum* do well as container plants. Shaping will control size. 'Beni kawa' (center) with 'Tsukomo' (left) and 'Oto hime' (right). Photo by Harry Olsen

good specimen indefinitely. Slow-release fertilizers now on the market lend themselves quite well to a constant flow of nutrients in containers.

In extremely cold climates, the roots of container-grown plants must be protected. Research has indicated that the destruction point of the roots of *Acer palmatum* is -10°C (14°F). Below this point complete root destruction occurs. I have had containers freeze solid at about -7°C (20°F) with no apparent damage to the root zone the following year. Some type of protection that will adequately guard the entire container from extremes of low temperatures is necessary. Wrapping in thin poly-foam sheets, in turn covered by several thicknesses of burlap, is effective for large ceramic planters which cannot be moved easily. Smaller containers can be set in beds of sawdust or other winter protection mulch. The mulching should cover the containers for 5–13 cm (2–5 in.) with the top of the plant exposed. The tops of the plants, both in containers and in the ground, will survive below -18°C (0°F) when the plants have gone into proper dormancy. In mild winters an occasional cold snap may cause some twig tip loss if the plants have experienced a mild fall or early winter and not hardened-off properly. This natural pruning is of no great consequence.

In areas of extreme winters the tops of the plants should be protected from strong freezing winds which rapidly desiccate the bark and cambium. Bracken or straw wrapped loosely round the trunk affords effective protection in most cases.

Pests and Diseases

At the beginning of this section on pests, diseases, and problems, it should be emphasized that no attempt to present specific chemical controls has been made. With the wide range of chemicals in use today, the constant change in control measures growing out of research, the fluctuating status of chemical residues and safety, and the varying regulations in different countries, it would be unwise to include specific

recommendations for specific controls. If serious problems arise, it is suggested that contact be made with local authorities in plant disease and insect control or the nearest agricultural and horticultural research station. For the individual gardener, the experienced commercial nursery owner is usually a dependable source of advice.

Insect Problems

Japanese maples are not often subject to serious insect infestations. No specific insects are major predators of these plants other than the range of insects normally found in any garden landscape. These include various



The bright yellow-green leaves of 'Volubile' turn a brilliant yellow to crimson in fall. Photo by Harry Olsen

aphids, mites, and worms (caterpillars). Thrips, leaf hoppers, scale insects, leaf miner flies, and leaf-cutter bees are occasional pests. All can spoil the appearance of the leaves—significantly so in the case of an aphid explosion—but the general health and vigor of the trees are not affected. Root weevils, such as the strawberry root weevil or vine weevil, kill the roots of young trees with the subsequent death of the plants. They are mainly a problem in propagation and nurseries but can also affect container-grown plants.

APHIDS

Aphids (plant lice of the family Aphididae) are small sap-sucking insects which feed along the veins on the undersides of leaves and on soft, newly emerged young shoot tips. Occasionally they occur in great numbers in late April or early May following a relatively mild winter. More rarely, sporadic infestation will be serious again in early summer or early fall. The excretion of the feeding aphids is the “honeydew” causing unsightly but harmless black sooty molds to develop in these areas. Usually, this is barely noticeable, but in serious infestations, the appearance of choice maples can be ruined by the leaves becoming shriveled and stunted. However, the harmful effect on the trees’ future health and growth is minimal.

An aphid spray for the garden, such as that used for roses which are especially susceptible to aphid attack, is usually an adequate control. However, it must be applied from below to coat the undersides of the leaves. The treatment is especially effective if the infestation is anticipated and the spraying is carried out as soon as the first aphids are spotted.

MITES

Even more unusual are the occasional infestations of spider mites (from the family Tetranychidae). A hand lens is needed to see these minute “spiders” which, like aphids, also suck the sap from leaves. They cause speckled yellowish areas along the leaf veins and, if a plant is badly infested, it can become defoliated as the leaves dry up, shrivel, brown, and drop off. Generally speaking, spider mites can only successfully attack already sick trees, those under stress through growing in unsuitable conditions, and in times of moisture stress. An experienced eye will detect the difference between mite damage and lack of water.

Sometimes, spraying the leaves with streams of water, repeated each day, plus increased irrigation, may offer some relief. There are also several mite-control chemicals on the market. However, the only effective control is to plant and maintain maples in suitable growing conditions, and provide an adequate watering routine.

Various gall-making mites and midges cause occasional disfigurement on maple leaves, but the damage is usually so slight on Japanese maples that no treatment is necessary.

WORMS (CATERPILLARS)

Leaves are again the target of several groups of other insects, including “worms,” wasps, bees, and beetles (such as the Japanese beetle), which chew holes in the leaves and around the edges. However, the larvae of certain moths and butterflies—the “worms” or caterpillars (order Lepidoptera)—do most of this kind of damage. Examples are the fall cankerworm, green-striped maple worm, and the maple-leaf cutter.

Usually these pests do only scattered damage on Japanese maples and are not a sufficient problem to cause concern. In areas where a serious outbreak does occur, mass-feeding larvae will sweep across the garden consuming maple leaves along with those of other garden plants.

Some of the leaf-chewing larvae belong to the leaf-roller moth. The larva spins a web which rolls the leaf together, so that it can feed in the protective enclosure. These pests are difficult to control with sprays unless a wetting agent (surfactant) is added. For small areas, handpicking is effective.

Gardeners experiencing serious or repeated problems with these leaf-eating larvae may need to use chemical sprays which cover the insect or leave a deposit on the foliage which the insect takes in as it feeds. In most instances, the damage is minor and scattered, and controls are unnecessary.

BARK BEETLES

Bark beetles (usually *Scolytus* species) occasionally attack stems and small limbs of Japanese maples, particularly in large concentrations of young trees and, often, in poor health. Except in very unusual circumstances the damage is confined to a small limb or two. These tiny beetles, less than 1–2 mm ($\frac{3}{64}$ – $\frac{3}{32}$ in.) long, attack a wide range of woody plants. In almost every instance the plant is in poor condition prior to the attack. The beetles are attracted to sick trees. The eggs are laid in the bark crevices and the resulting larvae penetrate the bark and cambium and create a series of characteristic tunnels and “galleries” on the wood surface. They carry fungal spores in with them which develop along the tunnel walls and provide food for the larvae and resulting young beetles.

In this symbiotic relationship, the beetles take the fungi into a protective home with abundant food and moisture, while the fungi provide the beetles with a never-ending food supply of mycelium. Only the tree suffers. The fungi block the cambium and cut off the sap flow to the leaves. In the spring, the fully grown beetles emerge to lay more eggs. The damage is done during the summer and autumn and may not be noticed until the following spring when the buds fail to develop because the limb or stem is dead. It is then that the numerous exit holes can be seen, giving rise to the common name of shot-hole borers.

Cutting and burning infected material before the beetles emerge will help reduce

further spread of the infestation. The chemical control methods needed are too exacting for the average gardener. Maintaining plants in good vigor is the best protection against this type of injury.

ROOT WEEVILS

Root weevils can be occasional but specialized pests. Several species (usually genus *Otiorhynchus*, synonym *Brachyrhinus*) cause root damage to a host of plants, such as rhododendrons and maples. These include strawberries and vines, which give rise to the popular names of strawberry root weevil (*Otiorhynchus sulcatus*) and vine weevil (*Otiorhynchus ovatus*). Fortunately, they do not attack maple foliage.

The adult weevils lay their eggs in the early fall. On hatching, the larvae enter the soil and start feeding on roots. In mild climates they will feed throughout the winter months. By spring only the woody parts of the roots, stripped of all outer layers and cambium, remain. With no or an insufficient supply of sap to the shoots, the buds fail to develop and the plant dies.

At Maplewood Nursery the greatest damage from weevils occurs in overwintering flats or seedbeds prior to transplanting in the spring. Growing one-year understock in small containers for a second year gives the larvae the opportunity to go on feeding in the pots, thereby causing serious losses to the second-year understock. Young transplanted grafts, seedling selections in seedbeds, container-grown nursery stock and, in some cases, bonsai plants are also at risk. Rarely do root weevils endanger older maples. If root damage does occur, it is often limited and the tree recovers. Close observation for this potential problem is essential, and random root inspections in late fall or early winter will reveal the presence of larvae or root damage.

No infallible control is known at present. Potting-up stock in the fall prior to grafting helps, as do soil drenches. Several insecticides, when used properly, will give a satisfactory degree of protection but not total prevention. However, there are different regulations in different countries on their use, so it is best to seek advice from local experts.

Diseases and Other Problems

One of the most talked about and least understood problems of Japanese maples is twig dieback. Any one of a number of fungal diseases, insects, climatic conditions, cultural practices, and soil chemistry can cause this symptom. Disease, however, should not be confused with a certain amount of “natural pruning,” which takes place as the plant matures.

VERTICILLIUM WILT

One of the main causes of shoot or twig dieback in maples is *Verticillium* wilt. This fungus and its various strains affect an extremely large range of host plants, includ-

ing maples. The effects of the disease are apparent in the native forests of maples across the United States. It is a threat in arboreta and large-scale landscape plantings in all parts of North America, if not the whole Northern Hemisphere.

The early signs are wilting and dying back from the margins of the leaves. Then the shoots and branches die back and, occasionally, the whole tree. At this stage, in most cases, bluish green to brown streaking can be seen in the sapwood when the branch is split. The tree may die in one year or over several years with branch after branch dying back.

The spores of *Verticillium* wilt occur in the soil, and they enter the tree via damaged roots and root hairs. The fungus then travels up the tree via the cambium layers, blocking the sap and water movement upwards. For this reason the first sign of trouble is the wilting of the leaves and dieback of young shoots. Leaf blight, leaf scorch, and root damage cause similar early symptoms, and are sometimes mistaken for *Verticillium* wilt.

A common means of transmitting the disease is by carrying it from plant to plant on contaminated grafting or pruning tools—cutting into healthy wood after cutting infected material. It can thus be spread in the propagation house while cutting scions if the knives are not frequently sterilized.

Wilt is widespread and can be serious. However, not enough is understood about its life history and there does not appear to be a dependable cure. Meticulous sanitation during propagation, maintenance of plant vigor and health, and removal and burning of infected material help to limit further spread. If the tree dies, remove and burn all parts including as much of the root as possible. In the garden, it is a wise practice to frequently clean pruning tools with sterilants as a matter of routine, whether the disease is present or not.

FUSARIUM AND BOTRYTIS

Verticillium is only one of many soil-borne fungi causing root rot in young plants. Root rot, or damping-off, presents a potentially serious problem in the propagating process, especially in nursery seedling production. Seed flats or concentrated seedbeds may be attacked by this damping-off process which often results in heavy losses. *Botrytis* and *Fusarium* species are two other culprits.

Fusarium, a fungus involved in dieback or loss of young plants, affects older plants also. Damage may occur at ground level, destroying the cambium at the base, or on twigs and limbs, destroying new buds and shoots.

Botrytis, also a serious threat, is manifest as twig dieback, destruction of buds as they unfold, or a breakdown of tissue at the base of young plants. During propagation in the warm humid greenhouse, total destruction of new shoots and leaves can occur. Overfeeding the young plants, particularly with nitrogen, can increase field losses. The danger increases in warm humid conditions without sufficient air circu-

lation. *Botrytis* also invades dead, dying, and sick twigs and shoots. It can be seen as a gray mold on dead twigs. This fungus, however, is secondary, invading after the twigs and branches have been weakened or killed by other agents.

At Maplewood we experienced losses in one instance following frost damage. With a long, humid warm fall, the growth continued to be very soft and sensitive into November. A sharp frost occurred, “burning” back these unseasonably soft shoots. After the plants were killed back, the remaining tissue was left susceptible to the entrance of *Botrytis*. The normal hardening-off process eliminates some of this vulnerability. Too much shade, protection, and humidity on young plants in the nursery can increase the risk of this and other destructive organisms.

PYTHIUM AND PSEUDOMONAS

Two of the major causative agents of root rot in young Japanese maples are *Pythium* and *Pseudomonas* species. Like *Botrytis*, these fungi also invade dead, dying, and diseased twigs and shoots wherever high levels of soil moisture or high humidities prevail. In addition, *Pseudomonas* may cause sudden dieback (or death prior to spring bud unfolding) in very small twigs, small branches, or in some cases the loss of large branches and a major part of the tree.

Pythium and *Pseudomonas* attack and penetrate the fresh unprotected tissue of the young emerging seedlings at ground level or below. The tissue at the base of the shoots darkens and withers, and the seedlings collapse onto their sides and die. The disease can swiftly sweep through nursery beds, causing quick death to the very young seedlings. The danger in seedbeds is greatest in warm moist springs and summers, in alkaline and neutral conditions, especially if the soil is heavy or too rich in nitrogen. It is much less likely to affect nurseries on light acid soils.

These fungi can also damage older seedlings and transplants, particularly during propagation in warm humid greenhouses with poor air circulation. Losses can occur with these older plants but are rare. In these cases, it is usually only parts of the cambium which are damaged.

If excessive water is used in container-growing areas or on poorly drained soils, the danger is ever present. I have repeatedly observed the symptoms of such losses in one- and two-year-old grafts in containers—the roots turn dark and the cambium becomes soft as the rot extends from the soil surface downward. Excessive irrigation or poor drainage is ideal for fungal attack.

Culture testing in plant pathology laboratories is the only sure way of determining which fungus is responsible for the damping-off. Commercial growers should check local recommendations with the professional pathologist in their region. It is enough for amateur gardeners and landscapers simply to assume the problem exists if the above symptoms occur.

Soil drenches with fungal sterilants obtained from local garden stores for this

purpose may be applied to seedlings, young transplants, and containers to provide some protection and to minimize spreading of the disease. Other control methods include coating the seed with fungicide, sowing seed less densely, and sowing early to get the seedlings through the most vulnerable stage before the warm weather arrives. However, the best remedy is to correct the adverse conditions which support the disease—usually overwatering, poor drainage, poor air circulation, and perhaps insufficient light. Giving special attention to the watering regime, growing medium, air circulation, and control equipment can help to prevent excessive moisture and enable the young plants to grow out of the susceptible stage as quickly as possible.

ANTHRACNOSE

Anthracnose (leaf blight) is a fungus which overwinters on dead shoots and attacks leaves the following spring, especially during wet cool conditions. It causes reddish brown to purplish brown spots to appear on the leaves, which become irregular dead patches. These spots may engulf entire young leaves of Japanese maples, causing them to shrivel and die. The fungus then moves down the petiole into the shoot, eventually killing the infected shoot. By this stage there is no remedy—it is too late.

Preventing anthracnose is more effective than curing it is. Where an attack has been known to occur, all dead shoots should be pruned, removed, and burned, and preventative chemical sprays applied just before bud-break the following spring, then twice more 10–14 days apart. By this time, the leaves and shoots should have passed out of the vulnerable phase and, combined with warm weather, be strong enough to resist any further attacks.

LEAF SCORCH

Leaves are also damaged by leaf scorch. Brown dead patches spread from the leaf tip and margin inwards between the veins. Defoliation and dieback of shoot tips follow prolonged droughts and heat.

Leaf scorch occurs whenever water is lost from the leaves faster than the roots can take it up. A wide range of untoward environmental factors, such as drought, drying winds, and hot sun, can cause it. Salt-laden winds, excessive alkalinity or nitrogen in the soil, and spring frosts can all have similar effects. Leaf burning, caused by watering foliage during the sunniest and hottest part of the day, will have similar effects on container-grown stock and many maple cultivars, especially the red dissectums.

Usually, the plant is not lost but appearance and vigor for at least that growing season are damaged. Watering and mulching can help to reduce the problem during drought and heat spells, but again prevention is better than cure. Plant maples in less exposed conditions, partially sheltered from prevailing or cold winds and from afternoon sun in the hotter areas. The availability of water should be regular and con-

sistent to avoid prolonged drying from whatever cause, and good mulching helps reduce moisture loss from the soil.

CHLOROSIS

Chlorosis, a gradual or general yellowing of the leaves, is a nutrient deficiency. It is most commonly associated with soils which are too acid or too alkaline, preventing the plants from taking up the nutrients concerned—normally one or a combination of essential micronutrients (trace elements). For instance, lime-induced chlorosis, occurring in soils of high pH, begins as yellowing between the greener veins. It is due to a lack of iron available to the plant because of excessive calcium.

Strong, healthy Japanese maples can tolerate a wide pH range from acid to alkaline, provided they are introduced into the new conditions gradually—by mixing the appropriate compost with the soil at planting (that is, a rose compost for acid soils, and a rhododendron compost for alkaline soils). However, like most plants, there are limits. Very acid or very alkaline soils should be avoided by growing the maples in raised beds or in containers. Remedies involving the application of proprietary iron solutions provide only temporary relief in high pH conditions.

POWDERY MILDEWS

Powdery mildews are patches of whitish “powder” on the leaf surface which may sometimes cover entire leaves. Scattered tiny black spherical specks may develop later in these patches. These specks are the fungi overwintering spore stage. The powder is the summer spores of species in the family Erysiphaceae, which live on the surface but penetrate and feed from the contents of the leaf cells. The leaves are not killed, but their appearance is spoiled.

As powdery mildew becomes a nuisance only in very moist localities and seasons, preventative chemical spraying is rarely necessary but can be successfully used if desired. However, mildew is only sporadic and not a general threat. In certain years, some of the dwarf maple cultivars, such as ‘Kiyohime’, seem to be more susceptible than most Japanese maples. The reasons for this are not fully understood.

CANKERS

Cankers, or discolored, cracked, and often swollen patches on branches and stems, are a problem in



The green summer foliage of ‘Shin deshōjō’ changes to scarlet in fall. Photo by Peter Gregory

some areas but in general are not major threats to Japanese maples. Dead spots occur on the bark, then increase in size annually to cause the dead tissue to discolor and split and, in some cases, exude reddish brown sap down the bark. Callusing around the canker creates a swollen distorted appearance. If the growing canker encircles the branch, the branch above the canker dies. Small reddish or black pustules, fungal fruiting bodies, may occur on the dead areas in the summer and a “fuzz” of small tendrils may extrude from these.

Many different fungi cause canker, including *Nectria* and *Phytophthora* species. They nearly always need damaged areas or pruning wounds to gain entry. Hence, the most effective treatment is to keep the trees healthy and vigorous and carry out good pruning techniques, thereby helping to prevent the canker spores gaining a foothold. If canker does occur, remove and burn all infected material, remembering to sterilize pruning tools in between cuts.

In general, Japanese maples have fewer pathological problems than many other genera of woody ornamentals. When grown under normal conditions and with good culture, they are remarkably free of disease and insect problems. Virus diseases are also known to affect Japanese maples. Leading texts on plant disease will aid the reader to determine the cause and control of some of these lesser diseases.

The most serious dangers occur in the mass production of young plants, with possible infestations of root weevils and fungal attacks causing damping-off. Reasonable soil conditions, good positioning and planting techniques, regular watering, and sound cultural practices, especially regarding pruning and sanitation, will encourage healthy and vigorous growth, thus eliminating or minimizing most problems that can occur with Japanese maples in the garden landscape.

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'Koto ito komachi' exemplifies the unusual leaf forms found among the cultivars of *Acer palmatum*.
Photo courtesy of Oregon State University Archives, Corvallis

CHAPTER 4

Propagation



Japanese maples are produced mostly from seed or by grafting. Maple seedlings are grown by nurseries mainly as understock (rootstock) for grafting, and by amateur gardeners. Other methods of propagation used in a limited way include budding, rooted cuttings, and layering.

Seedling Production

The primary purpose of seedling production in nurseries is to obtain large quantities of understock for propagation by grafting. Of importance also, at least in the United States, is the production of strong seedling-grown planting stock of *Acer palmatum* for garden landscape material. These are much less expensive than grafted plants of named cultivars and make excellent trees, some even better than certain named cultivars.

In a few cases, a particular parent seed tree will yield a very uniform strain of red-leaved seedlings which lend themselves to growing-on for landscape material. These are usually sold as the *Acer palmatum* f. *atropurpureum* of the nursery trade. Good red-leaved strains of the upright forms are often grown to larger sizes, making excellent nursery plants for larger scale plantings. Also for large-scale plants, the green-leaved trees of the species can be impressive.

Most propagators prefer the green-leaved species for grafting understock. Some grafters even claim that grafting cannot be done on the red-leaved varieties. I find this completely untrue. Under like conditions I find grafting as successful and the plants grown out to five-year tests perform equally well whether on red- or green-

leaved understock. However, as green-leaved understock is more plentiful, it is only logical to save the red-leaved seedlings for growing-on purposes.

Germinating Seed

Germination of *Acer palmatum* seed can be a most frustrating problem (and here is included most other Asiatic maple seed). An example will illustrate the manifold problems associated with seed. Many years ago, when I first started, I could not find local sources of seed, so I ordered Japanese maple seed from a Japanese source. By the time the order was processed, the seed received from Japan and forwarded to me, it was early June—too late to sow. The seed was held under refrigeration and was planted the following spring. I had not learned of the stratification needed for *A. palmatum* seed. About 5 percent of the seed germinated that spring—19 months after I had placed the seed order. I left the seedbeds undisturbed. The following spring another 25 percent germinated. That seedbed produced new germinants for five years. I detail this because many readers have experienced delayed dormancy and want to know how to germinate *A. palmatum* seed. Many people, unfortunately, discard the seed flats or destroy the seedbeds the first year, thereby losing all their seed. The importance of stratification and desirability of fresh seed cannot be overstressed.

Since early times plant propagators have known that seeds of certain trees and shrubs must be chilled prior to germination. This is especially true with the species of the temperate zone. In nature, the seeds drop on moist ground in the fall and usually freeze prior to germination in the spring. Sometimes it takes two years or more for this to occur in the wild. This knowledge led to the nursery practice of stratification. Originally, *stratification* meant that seeds were layered in moist sand or soil and kept in cold storage near the freezing temperature until time to sow in the spring. A more accurate term might be “moist chilling.” Maple seeds are mixed with moist peat or sand (a mixture of equal parts peat and sand works well), enclosed in light, breathable plastic bags (which must be clearly labeled with the name and origin of the seed), and stored in a refrigerator.

I have had excellent results with both imported and domestic seed which has been allowed to dry thoroughly in storage or transit, by pre-soaking before stratification. Whether the seed is dewinged or comes with the wings attached, it is immediately soaked in warm water at 40–50°C (104–122°F), covered completely, and then held for 24–48 hours while the water is allowed to cool gradually. After cooling, the seed is drained and placed in a mixture of equal parts peat moss and sharp sand for stratification and immediately treated with a fungicide, such as Captan. I use peat moss for stratification, although damp sand and other similar materials can be used successfully. The seed is mixed about 50 percent by volume with peat and enclosed tightly in well-labeled polyethylene bags. The bags are stored at 1–4°C (33–39°F) for no less

than 60 days and no more than 120 days. The cooler temperature is desirable to prevent germination in the bag prior to preparation for planting out.

An alternate stratification procedure, which lengthens the treatment period and shortens the cold period, has been advocated by some propagators as being more effective. After soaking the seed as described for 24–48 hours, the seed is stored in the damp peat or sand mixture at about 21°C (70°F) for about 60 days. Then it is given the cold treatment as described above for about 90 days. The results of the extensive trials of this method at Maplewood did not differ significantly from those realized with the more usual cold stratification procedure. The alternate procedure may work to advantage with species that are more difficult to germinate, such as *Acer griseum* and *A. triflorum*, but this was never demonstrated by trials at Maplewood.

Seedling production from fresh-picked seed is preferred over dried seed and is almost identical to the procedure described above. However, pre-soaking should NOT be done if the seed has been collected properly. At Maplewood, seed picked fairly early in the fall germinated at a rate of 75 to 90 percent, and the best collecting period in Oregon was September. Stock seed was gathered when the wings had become brown and dried but the seed itself retained its original color, whether green, red, or yellow. The samaras were separated, cleaned, and refrigerated in polyethylene bags until the harvest was completed. Dewinging the seed was not only extra labor, but the process could have allowed the seed to dry out to an unacceptable degree and, worse still, provided a possible access to disease. The seed was then immediately dusted with fungicide, mixed with damp (not soggy wet) peat moss, labeled, and stratified as described until the following February or March.

In direct planting, the freshly harvested seed can be sown into outside seedbeds, trays, or pots to allow natural processes to stratify the seed. Unfortunately, all the enemies of the seeds are at work as well, so precautions against natural predators, such as mice and birds, must be taken.

Sowing

Each nursery will have its own method of preparing seedbeds, sowing seed, and protecting it to suit local conditions. The nutrient needs should be established before sowing by having the soil tested. Seedbeds can be raised flats or ground beds. Seed trays and pots are usually used by amateur enthusiasts or when only small quantities of seeds are being sown.

At Maplewood Nursery the stratified seed was sown on raised seed flats during late February and March. Light frosts have not hurt germinating seed of *Acer palmatum*. I plant no deeper than about twice the diameter of the seed and then cover it with the same medium in which I grow it, whether in flats or in ground beds. Although I have grown seed in both seed flats in a shade house and in ground beds, I prefer raised seed



Planting mixed species for dramatic effect. *Acer palmatum* and *Cedrus atlantica* 'Glauca' at Westonbirt Arboretum, Gloucestershire, England. Photo by Peter Gregory

flats to help prevent infection from soil bacteria, fungus, and other pathogens as well as attacks by soil-inhabiting insects and other soil pests. Planting directly into well-prepared soil beds with the proper protection from soil pests and external pests such as squirrels, cats, and other digging animals is equally effective.

Seed flats are prepared with a mixture of 60 percent medium coarse peat and 40 percent perlite. Small amounts of fertilizer are added to the mix. Every propagator has his or her favorite fertilizer mix. *Acer palmatum* does best with a slow-release nitrogen source plus a low level of phosphate, potash, and minor elements (micronutrients). I have excellent results with both organic and synthetic nitrogen. In the acid soils of the Pacific Northwest, ammonium sulfate is not the best choice for Japanese maple seedlings or older stock as it tends to increase the acidity.

Seedbeds prepared with a good loam soil should have coarse sand, perlite, or organic matter added to assure a slightly fluffy and well-drained seedbed. The bed must not be allowed to become waterlogged at any time during the growing or dormant period. Although the seed is often covered with the same medium in which it is grown, it is sometimes advantageous to cover the seed with a sharp, small grit to deter slugs and other pests, moss growth, and to help avoid excessive moisture around the root collar of the seedlings.

Every effort should be made to maintain a high level of fertility in the ground seedbeds during the growing season. Small feedings at frequent intervals during the growing season are best. In acid soils, calcium nitrate gives good results. In neutral or alkaline soils, ammonium sulfate is excellent. In seedbeds, bloodmeal gives an excellent response as a slower-release form of nitrogen. Of course, phosphate, potash, and minor elements should be supplemented when needed. These needs should be established before sowing by having the soil tested. Nitrates should not be applied later than the end of July, to give the seedling stems time to thicken up and harden-off before winter.

The seedlings should make a good growth from germination and go through a brief summer rest period. In late summer a second growth will occur. If prepared for this second growth period, the grower can obtain surprisingly large one-year-old seedlings with proper fertilization and moisture. At Maplewood, one-year-old Japanese maple seedlings reached up to 1 m (3 ft.) tall in seed flats.

For amateur growers using seed trays or pot, normal seed compost obtainable from garden centers is a suitable medium for Japanese maples. It already has a balanced fertilizer mix. As in seedbeds, the seed should be covered to twice the depth of the seed, preferably using sharp grit if available. There is no need for further nutrient applications as the seedlings, when large enough to handle, are “pricked out” into individual pots. Pricking out should be done with care and tenderness, handling only the leaves, as the stems and roots are easily bruised and damaged at this stage.

It is best that young seedlings have some shade at least during the first growing season, commonly provided by lath shelters or netting. Watering should be done carefully to assure a constant supply of moisture, but the seedlings should never become waterlogged. In early fall it is important to withdraw water gradually and begin to harden-off the seedlings so they will be prepared for the first frost. They should not be in “soft-tip” condition at that time.

Constant attention to pests is necessary. Small leaf-eating caterpillars, aphids, spider mites, slugs, root weevils, birds, and squirrels all present a threat to valuable seedbeds. Disease can quickly damage a concentrated planting of seedling maples. Damping-off fungi and gray-mold *Botrytis* are particular threats at this time.

Usually one-year-old seedlings are separated during dormancy and either potted up in grafting pots for the following year or lined out in ground beds for the second-year growth. Handling of understock is discussed in the section on grafting.

Much variation will be seen in seedling crops of *Acer palmatum*, depending on the parent trees. Some seed lots will produce quite uniform seedlings; others will show variations in almost every seedling. The latter is especially true with seed gathered from some forms and cultivars of *A. palmatum* subsp. *matsumurae*. Some of the most beautiful individual plants will be found among these seedlings.

Naming Seedlings

An enormous temptation exists for hobbyists and commercial growers to name seedlings with great enthusiasm. Witness the past history of the naming of rhododendrons and azaleas, certain dwarf conifers, and cultivars of many other plant genera. In his book *Azaleas* (1987), Fred Galle addressed very well the manifold problems arising from this hasty and heedless naming. He noted that the only sound reason for registering a new cultivar name should be readily evident in one or more of the plant's characteristics—flower, habit, leaf, and so forth. He also pointed to the frequent confusion resulting from the duplication of names for different selections.

The attraction to name almost every red-leaved Japanese maple seedling which appears is apparently a strong one. These seedling variations occur with great frequency when seed from certain red-leaved cultivars of *Acer palmatum* is sown. For example, sowing seed of ‘Bloodgood’ produces hundreds of red-leaved seedlings. With more than 40 red-leaved upright cultivars already named, it is difficult to imagine the need for many more in this group. It should be clearly evident that any new selection, suitable for naming as a new cultivar, must have such outstandingly desirable and distinctive features that it can be easily distinguished from any other existing cultivar. Discerning judgment must be exercised in selecting and naming a new form. This dictum applies with equal force in the case of dissectum and variegated forms.

Another valid reason for caution in selecting and naming new cultivars is that of

misnomers or incorrect names. For instance, if enough seed of ‘Sango kaku’ is sown, several seedlings will undoubtedly appear which have the same kind of red bark as the parent. However, the rules of the *Cultivated Code*, described in chapter 2, do not allow any of these seedlings to carry the same name as the parent. They may well be look-alikes, but there will be differences in other characteristics which may or may not be immediately noticeable. This is just one example of a rule of naming to which growers should adhere. Unfortunately, since this rule has already been breached in a few cases, confusion already exists. ‘Atropurpureum’ is a prime example.

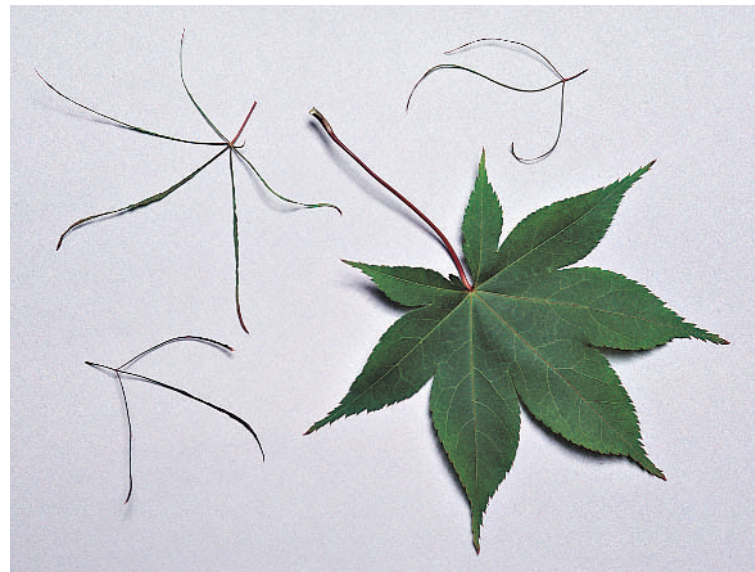
Experience has shown that selecting and naming a seedling too early may lead to disappointing results. Sometimes an outstanding feature may not persist into later years. A first-year seedling may show a particular characteristic. In the second to fourth years, the seedling will settle down to show if that characteristic increases in desirability or if it tends to disappear. In some cases, the desirable features of a seedling remain for the first four to five years, but then gradually disappear by the eighth year. These disappointments are better discovered prior to naming and distributing new cultivars. Conversely, another seedling may show much better traits after the fifth year.

None of this should discourage the close inspection of seedling populations and picking out outstanding seedlings. It is great fun to watch a seedling bed and see, in some cases, diverging types develop. Of course, most of the seedlings will be fairly uniform and similar to the species parent. Certain cultivars will produce variants much more readily. The seedlings not selected as particularly special are not a loss, of course. They can be used as understock or, particularly if the leaves are red or dissected, they can be grown to larger sizes for landscape and large-scale plantings at reasonable cost.

Hybridizing

At Maplewood I have been doing a limited amount of controlled hybridization with hand pollination of selected male and female blossoms from various named cultivars of interest. Also, open-pollinated seed between interesting named cultivars has been sown and observed. This results in a tremendous variation in the seedbeds.

Very vigorous selection of seedlings is made after the second year, when leaf form and color



An example of the extreme variance which may occur in hybridizing *Acer palmatum*. The large-leaved form ‘Osakazuki’ was the female parent of the cross from which the filament-leaved form ‘Koto ito komachi’ was selected. Photo courtesy of Oregon State University Archives, Corvallis

are best judged. Usually the true character of a seedling does not show until leaves develop from two-year-old wood. Many outstanding red forms and other worthwhile seedlings have resulted. However, only the truly outstanding clones should be retained. It is unnecessary to add to the already confusing abundance of red upright forms of named *Acer palmatum* cultivars.

From tens of thousands of seedlings produced at Maplewood over the years, I have found only two or three so outstandingly different to warrant named cultivar status. One, a dwarf with divided and recurved leaves, was named, 'Kamagata'. A second, with extremely fine and delicate linear separations of the leaf—almost hairlike—is a very dwarf form named 'Koto ito komachi'. These are well adapted for container, patio, or alpine gardens but not large landscapes. There was also an entirely different deep crimson-maroon variegate, named 'Yubae', and another very different form of green-white variegate that showed considerable promise.

Cross hybridization within *Acer japonicum* clones produced some extreme forms. These range from very finely dissected leaves, approaching the delicacy of many of the



The variation of foliage in *Acer japonicum* hybrids which resulted from the crossing of two outstanding clones of the species. Photo courtesy of Oregon State University Archives, Corvallis

A. palmatum Dissectum Group, to the other extreme of very large leaves, exceeding even those of the popular cultivar *A. japonicum* 'Vitifolium'.

Distinct opportunities to develop worthwhile plants by crossing cultivars of *Acer palmatum* with other species in the series *Palmata* are available to anyone interested. Hybrids between *A. palmatum* and such species as *A. pseudosieboldianum*, *A. shirasawanum*, and *A. circinatum* offer possibilities for the serious propagator or hobbyist willing to spend the time and informed effort. Chance crosses such as the one that resulted in 'Trompenburg' indicate the possibilities, as do deliberate crossings, such as that of *A. palmatum* with *A. circinatum*, both in the series *Palmata*, to produce the outstanding 'Autumn Flame'.

Registering New Cultivars

Any new selection which has proven its worthiness and stability over a period of time should be registered to establish its name and the unique features of the cultivar. The registration of maple cultivars costs nothing except the effort of completing the registration form. The registration authority then publishes the details and history of newly named cultivars at regular intervals. Alternately, a full account of the cultivar, with its description, history, and propagation, can be published in any widely available book or periodical and a copy of the account sent to the registration authority. This excludes publication in trade catalogs for the obvious reason that these could be biased with incomplete descriptions (for the practical reason of space) that highlight only the selling points.

The advantages of registering names of new maple seedlings are to minimize the risk of duplicating cultivar names, to aid in the recognition of new cultivars by publishing their description and history, and to help answer the problems arising from the use of local names. Many fine specimens are not known or properly registered outside their immediate area.

At present, the registration of maples is done by the Registrar, Woody Plants, Brooklyn Botanic Gardens, 1000 Washington Avenue, Brooklyn, New York, USA 11225-1099. However, maples may soon have their own International Registration Authority. It should be noted that registration is not related to patenting a plant, which is pursued through quite different channels.

Grafting

Grafting is the principal method of propagating Japanese maple cultivars, both in commercial production and for the hobbyist. In collecting data from commercial operations in the United States, Japan, and Europe, I found that the timing and methods of grafting vary considerably. I also found that each propagator introduces

his or her own variant of the basic operation to suit local conditions and purposes. It should be emphasized that because there are wide variations in the same basic principles, it does not follow that some are right and some are wrong. Each variation is appropriate for that particular propagator.

Timing varies widely. Most grafting is done during the late winter months of January and February, especially in the United States and Japan. Summer grafting, when the tips of the current shoots are just beginning to firm up in mid-June and early July, is popular with many propagators in Europe and with some in the United States. A few propagators in the United States do successful grafting in October and November.



Newly cut young graft of 'Aratama', with the understock trimmed. Photo courtesy of Oregon State University Archives, Corvallis

Understock

The understock used varies from one- to three-year-old stock, in grafting pots varying from 5 cm (2 in.) “rose pots” to 4-liter (1-gal.) containers (*Acer palmatum* Dissectum Group standards). Most grafting is done with two-year-old seedlings of *A. palmatum*. Some propagators prepare the understock by potting up one-year seedlings and growing them on for the second year in their grafting pots. Others grow the stock in fields until the fall of the second year, and then pot them up and transfer them to the grafting house for winter. Summer grafting requires potting the understock in the fall prior to grafting.

Carrying the potted understock during the second growing season demands extra care. Water stress must be avoided to produce good growth and full root systems. As in ground beds, the potted understock must be protected against soil insects and disease. It is most disappointing to fill the greenhouse with potted understock which has had unknown insect or disease damage, for the grafting effort will be wasted.

An old Japanese method, used at Maplewood, is to graft onto potted understock recently dug up from the growing beds. Under Oregon conditions, the understock is dug up and potted in November or December. The potted rootstocks are then watered and left to drain thoroughly in outside beds or in the unheated grafting benches. The growing medium should dry

down, but not to the point of stress or desiccation. A medium that is too wet will allow the understock to “bleed” excessively during and immediately after grafting, thus inhibiting the healing of the graft union. The potted seedlings are next exposed to increased heat in January, the usual time for stimulating growth. Propagators in other areas, and thus employing different timing schedules, must make adjustments to meet their needs. Potting up the understock just before the grafting period automatically sorts out those with poor root systems or weevil damage. The heating period prior to grafting and post-graft care are the same as for pot-grown understock.

The potted understock for winter grafting is placed in the unheated greenhouse in late fall or early winter, and the shoots trimmed back to about 15 cm (6 in.) in height. About two weeks prior to grafting, the greenhouse temperature is raised to 15°C (60°F) to bring the understock into active growth. As the grafting is done, I increased the night temperature to 18°C (65°F) and try, as much as possible, to keep the daytime temperature below 27–30°C (80–85°F) when the grafts are producing leaves. I use shading and ventilation to protect the young growth from excessive heat and sunlight which could burn the new tips.

Stock is ready to graft when the buds begin to swell but before leaves are produced. One good method of determining if the stock is ready is to turn out several pots gently and observe if white roots are starting to show in the root ball. If there is good root activity, grafting should begin. It is important not to have the understock too advanced as the sap flow in maples could be strong enough to “bleed” at the cut surface and drown the graft, thus preventing healing of the cut surfaces.

Scions

For winter grafting, scions are collected from the cultivar plants while still dormant. The scion is the short piece of shoot which is to be inserted into the understock to form the graft. Ideally, scions should be collected immediately prior to grafting, when the understock is ready. Usually, however, in commercial nurseries, large quantities have to be collected in advance. In this case they should be trimmed to the proper length and stored, slightly moist (not saturated) in a plastic wrap or polyethylene bag in a refrigerator at very close to freezing—1–3°C (33–36°F). The scions should never be allowed to dry out, even when handling during the grafting operation.

I prefer a scion of one-year-old shoots or, when necessary, not older than two-year-old wood. Young wood heals more quickly. For extremely dwarf cultivars, with only 6–12 mm ($\frac{1}{4}$ – $\frac{1}{2}$ in.) of growth per year, I have used four-year-old wood but prefer not to do this for commercial plants. The scion should have at least three pairs of buds. The length will vary from 2.5 to 20 cm (1–8 in.), depending upon the cultivar and its vigor. Terminal shoots are often selected and are usually excellent wood for grafting.

Very special care should be taken when selecting the scion wood. Winter damage,

hidden disease, and other weakness might be present. Each scion should be carefully inspected again prior to grafting. Wood damaged by winter temperatures may not show the weakness at time of collection in January.

Cambium

The most important single aspect of grafting is the successful union of the cambium layers of the scion and understock. It is important to understand what this layer is and how it can be matched and united so that the resulting graft will heal.

In woody plants the structure of roots and stems is formed of three basic parts. The bark is the outer covering, mainly for protection. The central core is the wood which mainly provides structural strength to support the plant. It is the major part of the plant. Between these two parts is the circle of tissue called the cambium layer. In this layer most of the life functions take place. The cambium contains growth production cells, tubes conducting moisture and nutrients up and down the plant, and the cells responsible for the growth and regeneration of tissue.

The following oversimplified explanation may help readers visualize the important plant structures involved. Imagine a broomstick with a tight-fitting pipe slipped over it which, in turn, is wrapped up in strong burlap. The broomstick represents the wood structure, the pipe represents the cambium layer, and the burlap is the bark. It is the “pipe” or cambium with which we are most concerned in grafting. It is composed of cells involved with growth and with regeneration when damage occurs. Grafting cuts are a form of damage which the plant tries to heal via the cambium. If the cambium layers of the scion and understock fit closely, the cells will unite and repair the “damage,” and a graft union will result.

All other aspects of grafting are essentially either culture or mechanics, such as the growth and care of the understock, handling of scions and understock, grafting methods, and post-grafting care. Each is variable. The one constant item is that the cambium layer of the scion must match or join at some point that of the understock to start regeneration of the cells which results in the union of the graft.

It is true that a graft can succeed when only a few cells are joined, but the more that do, the quicker the damage will be repaired, and the better and stronger the graft. The ideal graft is one where the cambium diameter of the scion exactly matches the cambium diameter of the understock. This is usually not possible. Therefore, specific attention must be given to the matching of at least one side of the scion cambium to one side of the understock cambium. It should be kept in mind that the older the understock, the thicker the cambium layer under a deeper bark layer. Conversely, in young scions the cambium is a very thin layer under very thin bark. Matching these can be very difficult, especially with tiny dwarf cultivar scions. It is often impossible to place these on understock of equal diameter as this size base would be too weak.

Grafting Techniques

Japanese maples are normally propagated by the side-graft method. Detailed descriptions and step-by-step illustrations of this method and others can be found in any good publication on plant propagation, including those listed in the bibliography.

I cannot emphasize too strongly the necessity of having an extremely sharp knife for graft cuts. It is not possible to have it too sharp. The cambium layer is so thin and soft that it is easily bruised. The smaller cultivars with tiny scions have an unbelievably thin cambium—only a very few layers of tiny cells in thickness. A knife which may be thought sharp may be comparatively dull. All cuts must be very clean. Bruised cambium tissue does not heal or at best heals weakly. It can cause up to 50 percent loss in grafting. I have found that a single-edged razor blade does an excellent job as a grafting knife and is easily replaced when it loses its sharpness.

With a very sharp knife, a long slanting slice is removed from the base of the scion. The cut will be 12–25 mm ($\frac{1}{2}$ –1 in.) long. The thickness of the cut varies with the diameter of the scion. On the opposite side a very short cut is made to form a point at the scion base.

A corresponding cut is made, angled downward into the side of the understock. The cut should be slightly longer than that on the scion to assure a closely matched placement of the graft. The cut should be very low on the plant, towards the shoot base, and should never penetrate more than one-third of the shoot diameter. The resulting flap should have the upper two-thirds of the end removed.

The scion is then slipped into the matching cut of the understock, pressing the point firmly into the notch, to unite as much of the two cambium rings as possible. The flap is then brought up over the short cut on the outside of the scion base. The graft should be tied firmly. I use strips of budding rubber pulled firmly tight but not tight enough to choke the cambium layer. Holding the scion in place, the tie is spirally wrapped around the graft to immobilize the scion until the cuts are healed (callused over) and a good union has been achieved. Some propagators tie with plastic strips, cotton thread, grafting tape, and so forth. The important point is to keep the scion firm in the understock, with both cambium layers in contact, until healing is completed.

After tying, it is usual to coat the graft with a good grafting wax or compound. This is to protect the vulnerable cut surfaces from disease entry, and it also helps keep the tape in position. Some grafters paint with beeswax mixtures or paraffin. Others dip the entire graft, understock and scion, into melted wax. I prefer the grafting wax emulsions, only coating the cut and joined surfaces on both sides of the understock. Some of the new plastic-based pruning paints are too constrictive on the very small grafts of some cultivars. As growth starts, these preparations will constrict

and choke the growth. The ties are usually cut later in the season when the grafts are planted out of the greenhouse.

There are as many variations to this method of grafting as there are propagators. In Europe, many grafters will make a short tapered cut in the scion, rarely over 1 cm ($\frac{3}{8}$ in.) long, with a rather stubby point. In Japan, grafting is sometimes done with the top of the understock removed, grafting directly on the stub with the entire union wrapped to keep out the air. One variation on this is saddle-grafting where the top of the understock is removed with two shallowly angled cuts to leave a “blunt screwdriver” cut surface, and two corresponding cuts made in the scion base to form an angled channel to fit closely over this. A cleft graft is the exact reverse. My feeling is that neither a cleft nor a saddle graft results in as smooth a union as a side or a veneer graft. I also know of commercial grafting with unpotted understock. This method attaches a dormant scion on a bare-root dormant understock with a short side graft into the top of the stub. The entire graft is then plunged into moist peat beds in the greenhouse, to cover the union. This technique is known as a bench-graft. As growth



Japanese maples blend in well with most trees, in a variety of growing conditions. Photo by Peter Gregory

develops, these grafts are then potted up and kept in the greenhouse for the rest of the growing season.

As mentioned, grafting is done very low on the understock, especially for the upright cultivar forms. This makes a nice trunk when planted out and the tree matures. With cultivars of the Dissectum Group, low grafting is also done, but in this case the pendulous new growth is staked and trained upwards for a few years. Many dissectums are grafted onto standards. Scions are grafted near the top of understock, which is 30–90 cm (1–3 ft.) tall. This gives a good, strong, straight understock from which the cascading varieties can arch down. I have seen and have made a few grafts on good, straight three-year-old understock which was 1.5–2 m (5–6½ ft.) tall. With a few years of training these special grafts form spectacular specimens of dissectum cultivars.

Summer Grafting

Summer grafting follows the same process but with variations in handling and, of course, timing. The understock is potted up during dormancy the previous late fall or early winter. After the active spring growth period, the understock is allowed to dry out in the pots until the leaves approach wilting point. The understock is then cut back to 15 cm (6 in.) and the leaves carefully removed. Meanwhile the new growth on stock plants has gone into the summer rest period. The scions are collected from those new shoots and protected from drying out. They are cut and inserted into the prepared understock using the side-graft method and tied together with grafting tape. Most of the leaves, except the terminal pair, are removed to reduce water loss by transpiration. Waxing is not necessary when the newly grafted young trees are placed immediately under an automatic mist system. The frequency of misting should be timed to keep the grafts moist but not waterlogged. There must be no delay in getting the grafted plants under the mist system. The graft will heal within days (temperature also determines the length of time) and the union will be complete, allowing the misting to be reduced over a week or so until it ceases altogether. Summer grafts do not always put out new shoot growth.

Budding

I have been successful with T-budding, chip-budding, budsticks, and patch budding. I have even seen good grafts made with short budsticks inserted at right angles to the understock. This method of using limited material assures that more cambium cells are in contact with the understock. The final graft may not be as smooth, but it is a method which will allow more successful grafts to increase the stock plants of a very rare and limited cultivar.

Chip-budding is popular with some propagators. This is an excellent adaptation

of a long-used procedure, using an individual lateral bud with its thin backing of wood. A chip is made with a short downward cut below the chosen bud. A longer slightly curved slanting cut is made starting above the bud, going down behind the bud and joining the back of the chip. An identically shaped cut is made in the understock and removed. The new bud is then inserted and secured in this position. Minute variations are common in cutting, inserting, and securing the bud, depending on the individual propagator and his or her experience, and seem to yield equally good results.

One advantage of chip-budding is that it can be done successfully at almost any time of the year, thus extending the grafting period. Also, because it utilizes only a single bud, more grafts can be made from limited material of scarce or rare cultivars or species. Some propagators like it because they can make two, three, five, or even more chip-bud grafts on a single understock. This can save a lot of time to produce saleable plants when top-working dissectums on tall standards. Other ornamental variations are sometimes made, such as inserting one bud from each of two or three different cultivars into the same understock. Chip-budding also gives something larger to work with than the small single bud used in regular budding.

Of course, all these objectives can be achieved by T-budding, budsticks, and patch budding, but chip-budding seems particularly easily adapted for use with Japanese maples. T-budding and patch budding work well for cultivars with larger buds but not for dwarf forms such as the many yatsubusas. The extremely small buds are difficult to place properly. Any good reference book on propagation will show these basic procedures.

Budding, patch buds, and budsticks may be used in the summer grafting method as outlined above. It is also possible to bud on understock lined out in the field, if necessary. Budding of various types is also successful when done in the greenhouse in winter. None of these methods is widely used because the size of the material is quite small and so hard to handle properly. Budding is an excellent way, however, of getting more material out of an extremely limited supply of a rare or unusual cultivar by using one or two buds instead of a long scion.

Post-Graft Care (Weaning)

Post-graft handling must be given close attention. After the scion produces new growth in the greenhouse, the understock should be clipped off immediately above the graft. Care should be taken that the new graft is not pressed or put under strain, or the union of the newly healed scar tissue will be broken. The newly trimmed grafts should be shaded from hot sun and have adequate water and fertilizer. The temperature should be controlled to prevent excessive chilling or overheating. The scions will go through a new period of growth, and within two months newly formed buds will

become apparent. This is the time to start hardening-off the grafts, preparing them for winter by reducing the feeding and watering, eliminating nitrogen feed altogether, and increasing air circulation. It is very important that grafted plants be well hardened-off as fall approaches, ready for overwintering.

Cuttings

Propagation of Japanese maple cultivars is usually by grafting, but the rooting of cuttings has been successfully used in some cases. Most propagators feel that many cultivars are better grafted than on their own roots from cuttings. Japanese maple cultivars, in general, have not proven to be as strong or as reliable on their own roots as when grafted onto good seedling understock. Some plant failure in rooted cultivars, as they get older, is attributed to their being on their own roots. However, I have observed very satisfactory plants from two nurseries where rooted cuttings of several cultivars were made.

I have made cuttings of many cultivars of *Acer palmatum* and *A. japonicum* and



Acer palmatum as an accent plant. Photo by Peter Gregory

demonstrated to my satisfaction that some root very poorly, if at all. Other cultivars, such as 'Bloodgood', root very well and seem to make very strong older plants. The dissectums in general, and most dwarf cultivars, are not readily rooted, although certain cultivars do fairly well.

Propagation by cuttings can be done in several ways. Most cultivars can be propagated by using either softwood cuttings in summer or dormant hardwood cuttings.

Summer Cuttings

Summer cuttings of semihard wood are one method used. As soon as the spring shoot has hardened or stiffened up in early summer, the selected shoots can be cut into 8- to 15-cm (3 $\frac{1}{8}$ - to 6-in.) lengths. Care must be taken to protect the cuttings from drying out and wilting. The cutting is prepared by carefully removing all but the top pair of leaves to reduce water loss by transpiration. With a very sharp clean blade, a 2-cm ($\frac{3}{4}$ -in.) long slanting cut is made in the base of the cutting. This cut should not extend into the center of the cutting. It is usually necessary to dip the base of the cutting into a proprietary rooting powder or solution. I have tried several strengths, combinations, and types and do not find much difference.

The prepared cuttings are then inserted into a peat-sand, perlite-sand, or other suitable mixture, in cutting beds or pots. The cuttings must not become waterlogged, so good drainage is essential. Many commercial nurseries provide bottom heat set at 22–24°C (72–75°F) as well as an automatic mist system to prevent any drying out. For the amateur, humidity can be maintained by placing the pot in an upturned thin (breathable) plastic bag and sealing the base of the pot with an elastic band. The pots must be sheltered from any sun, at least until the roots are firmly established. In propagating houses or pots, some shading is necessary for new growth on *Acer palmatum* cuttings.

Hardwood Cuttings

Some propagators have equal success with dormant (winter) cuttings. The material is gathered in January, prepared, and inserted in the same way as the summer cuttings. Bottom heat is held fairly low at 18°C (65°F) for the first 7–10 days until some callusing occurs. Heat is then increased to 21–22°C (72°F). As new growth develops, close attention must be given to moisture supply and shade.

Layering

Layering is a method of obtaining a few larger plants in a short time or of expanding the supply of a choice plant. Hobbyists who do not have grafting or other propagation facilities sometimes find this method easier.

Air Layering

Air layering can be successful for *Acer palmatum* cultivars, using the same technique described in any good propagation books for other plants. At Maplewood, April and very early May are the most desirable times, as active cambium cells and some leaf production appear to speed up the callusing. With a sharp, clean knife, a slanting cut to about one-third the stem diameter is made at the point chosen for the new base of the new plant-to-be. The cut is dusted with a hormone powder just before wrapping. The cut area is then packed with damp sphagnum moss and enclosed with polyethylene sheeting. The covering must be tightly sealed at both ends to prevent drying and also to prevent rain from entering and wetting the enclosed area excessively. The plastic enclosure must then be wrapped in aluminum foil or some other material to protect the enclosed area from excessive heat from the sun's rays. New roots will have formed and can be observed in the fall or the following spring. The shoot is then cut off just below the rooted area. The new roots are VERY brittle and so planting must be done with great care. Shade and shelter should be given the new plant for the first season following planting.

Normal Layering

Normal layering or "stooling" into the ground works well for special conditions. It can give several good plants from a single stock plant at one time. The stock plant is cut back or "coppiced" to induce bottom sprouting the following year. A small slice or wound is made near the base of each new young shoot. A mix of peat moss, bark, open loam, or any good friable material with good drainage is mounded up around the shoot bases. This arrangement should be left for two seasons to ensure that a new strong root system develops. The rooted shoots are then removed from the parent plant (the "stool") during the following dormant season and transplanted for growing on. This method is very hard on the stock plant, which should be rested for a year or two before repeating the layering.

Alternatively, layering can be done by carefully bending one or two low current-year shoots to the ground, wounding the underside of the bend, and pegging them down on the already prepared ground patch. The ground preparation will be the same as for the mound mentioned above. The vertical end of the shoot will need to be staked to hold it upright and prevent disturbance of the rooting area. This technique would be more suitable for the amateur grower than the "stooling" form of layering.

Often, nowadays, the light, temperature, moisture, and air circulation are automatically controlled electronically. The widely used mist system of maintaining and controlling a moist atmosphere and the newer "fogging" technique continue to be im-

proved. There has been considerable progress in the use of tissue culture techniques for propagating many woody plant clones. No cases are known of its use for the large-scale propagation of Japanese maples. However, serious propagators need to continue to monitor the progress of these and other improved methods.

In conclusion, I would like to emphasize one point relating to propagation. There is a very large variation in the propagation methods used in various parts of the world. Each propagator has developed his or her own technique, adapting procedures to suit the locality, climate, facilities, and personal abilities. I am convinced that Japanese maples can be propagated by almost any method used for other woody plants. Propagators should choose the method that gives them the best plants consistently and economically under their own conditions.

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Acer palmatum cultivars in a woodland setting at Westonbirt Arboretum, Gloucestershire, England.
Photo by Peter Gregory

CHAPTER 5

Acer palmatum and Its Cultivars



This chapter is devoted to the description of *Acer palmatum* and its cultivars.

Acer palmatum Thunberg ex Murray (1784)

COMMON NAME: Smooth Japanese maple

JAPANESE COMMON NAMES: Iroha momiji, Iwato beni, Kaede noki, Momiji, Tako kaede

Acer palmatum is a variable complex species with numerous varieties and forms. It is the species to which most Japanese maple cultivars belong. As mentioned in chapter 2, three subspecies are currently recognized: subsp. *palmatum*, subsp. *amoenum*, and subsp. *matsumurae*.

Acer palmatum subsp. *palmatum* has small bright green leaves, 3–6 cm long and wide, with shorter petioles 2–4 cm long. The five to seven lobes are palmately arranged, usually divided two-thirds to three-quarters, but sometimes almost entirely, to the leaf base. The lobes are ovate-lanceolate, acuminate, and terminate in a sharp tip. The margins are coarsely double serrated. The small red and cream flowers appear in late May and early June, and develop into small winged fruit (samaras) which ripen in late September or early October. The samara (wing plus nutlet) is one of the smallest in the genus, about 1.5 cm long, and has a small, smooth, rounded nutlet. This subspecies forms an upright-growing tree, usually with a domed or broad canopy. In its natural habit, the tree reaches a height of 10–12 m, although trees this tall are not often seen in cultivation. Some plant explorers have reported trees of 25 m in native stands. They are thrifty, hardy, and in cultivation seem to adapt to a wide variety of culture and locale. Subspecies *palmatum* is confined to Japan, on the islands of Honshū, Shikoku, and Kyūshū, and to

southwestern Korea. It grows in moist valleys and along streamsides up to an elevation of 1100 m.

Acer palmatum subsp. *amoenum* (O momiji) has much larger leaves, 7–10 cm long and wide, with usually seven lobes divided halfway to two-thirds of the distance to the leaf base. The margins are evenly and finely toothed. The flowers and fruits are much larger than those of subspecies *palmatum*, and each samara measures 2.5–3.5 cm long. This subspecies is found as an understory tree in and on the edge of mountain forests throughout Japan, and in the southwestern coastal areas of China and Korea.

Acer palmatum subsp. *matsumurae* (Yama momiji), like *A. palmatum* subsp. *amoenum*, has larger leaves, flowers, and fruits, but the seven- to nine-lobed leaves are very



Acer palmatum at Westonbirt Arboretum, Gloucestershire, England.
Photo by Andrea Jones, Garden Exposures Photo Library

deeply divided—more than three-quarters of the way to the leaf base—and the margins are often coarsely double toothed. This subspecies is more shrublike than are either of the other two subspecies and, if it forms a small tree, is rarely more than 8–10 m high. It is native to the mountain forests of Japan at elevations up to 1300 m and is mainly part of the understory.

It is important to consider several factors if one is seeing a cultivar for the first time—especially a young plant or a new graft. Different cultural conditions can alter the immediate appearance of many of the cultivars. This factor should be taken into consideration when comparing written descriptions with the plant growing in a garden location.

SUN

Red cultivars, particularly the dissectums, bronze more severely in extremely hot, direct sun. Most variegated forms also need afternoon relief in areas of hot sun.

SHADE

Red cultivars, including the dissectums, alter color considerably when grown in deep shade. ‘Garnet’, for example, will be green tones rather than the garnet color for which it was named. Other red dissectums are predominantly green with subdued red. New propagates grown under shade cloth (55 percent) do not develop red colors or variegations in true color tones. Lighter colored leaves, such as those of ‘Aureum’, do not show the gold undertones for which they are so desired. Variegated leaves may be more predominantly green in deep shade.

FERTILITY

Plants grown in very fertile conditions may mask the characteristics for which they were originally selected, particularly if they are variegated forms. Odd-leaved forms may produce normal leaf shapes. Dwarf plants may grow to atypical shapes and sizes. Good health is important, but overfertilizing can cause several difficulties.

AGE

A cultivar should be judged only by the foliage produced on older wood. Leaves on vigorous new growth are quite often nontypical for the cultivar. They usually are more typical for the species. This is especially true in the *Linearilobum* Group and with variegates, as well as the odd-leaved types, such as ‘Higasa yama’. Particularly in the *linearilobums*, the new foliage may have rather coarse lobes, even on two-year-old wood. This is an important consideration when judging the future quality of a seedling. Any special feature which may make a cultivar a possible candidate for naming may not appear until the third or fourth year. I have found several unusual forms in two- to three-year-old plants which were not apparent the

first year. It is best to make a final judgment of a new seedling selection from the fifth year onwards.

REVERTING

Variegated cultivars are most often suspected of reverting, or losing the color form for which they were named. In some instances, reverting is undoubtedly linked to overfertility on certain soil types or growing composts. Plants which have lost their variegation have been observed in later seasons to return to the variegated form as they matured and had less nitrogen available. This may not be applicable in all areas due to varying soil types. I have repeatedly made grafts of “noncultivar” tips of ‘Higasa yama’ and ‘Hagoromo’ (as well as some variegates). In every case, the second season after grafting produced the type foliage of the cultivar. If strong, nontypical shoots which occasionally appear become disturbing to the plant owner, they can be removed easily at any season of the year. Those appearing on very young plants should not be removed in the first year or so, as this might weaken the plant too much.

I do not mean to imply by the above points that Japanese maples are overly delicate in culture. The reverse is true. However, the dissectum, variegated, and red-leaved cultivars are rather sensitive to excessive shade and fertility, and may not show their individual character to the fullest extent.



Pairs of leaves from *Acer palmatum* cultivars showing juvenile foliage (bottom row) compared with leaves of older wood (top row): from left to right, ‘Shinobuga oka’, ‘Trompenburg’, ‘Okushimo’, ‘Higasa yama’, and ‘Red Pygmy’. The new, vigorous foliage shows nontypical form.

Photo courtesy of Oregon State University Archives, Corvallis

The cultivars of *Acer palmatum* are described in the following pages in alphabetical order. Included are most of the plants which are in cultivation. The descriptions of cultivars known in the late 1970s are primarily derived from specimens growing in the Maplewood collections, augmented by written material from early literature. The descriptions of the newer cultivars are based on specimens seen in various collections and nurseries, material received, and information provided by the originators or other knowledgeable collectors and growers. It has been difficult to describe adequately all the subtle differences which occur in some cultivars. The color illustrations of the foliage were planned to assist in identification and not to present landscape situations.

The cultivars are assigned to one of seven groups, based mainly on the division of the leaf lobes or, in the case of the dwarf group, the ultimate height of the cultivar. These groups are as follows:

AMOENUM GROUP

Leaf lobes shallowly to moderately divided—up to two-thirds of the way to the leaf base.

PALMATUM GROUP

Leaf lobes moderately to deeply divided—two-thirds to three-quarters of the way to the leaf base.

MATSUMURAE GROUP

Leaf lobes very deeply divided—more than three-quarters of the way to the leaf base.

LINEARILOBUM GROUP

Leaf lobes narrow, straplike, divided to the leaf base.

DISSECTUM GROUP

Leaf lobes very deeply divided and deeply dissected into sublobes.

DWARF GROUP

Cultivars whose mature height does not usually exceed 2 m.

OTHER GROUP

Cultivars that cannot be placed in any of the above groups.

The names of the first three groups (Amoenum, Palmatum, and Matsumurae) follow the terms used in earlier additions of this book and in recent literature. However, they imply that each member of the group has all the characteristics of the natural subspecies with these names, which is not necessarily true and can be very confusing. Splitting up the hundreds of cultivars into these artificial groups has been

done for convenience and as an aid to identification. Many cultivars are hybrids between the subspecies or between *Acer palmatum* and other related species. As a result, the various characters distinguishing the subspecies are mixed up. Hence, it is easier and simpler to base the groups on one easily recognizable character, namely, the depth of lobing. In other words, it is probably better and more meaningful to name the first three groups “moderately divided,” “deeply divided,” and “very deeply divided.” In this way there would be no confusion with the natural subspecies, it would be easier to recognize the group to which a cultivar belongs, and there would be fewer cultivars which could equally well be placed in either of two groups.

'Aka kawa hime'

PALMATUM – *green*

This outstanding plant is a semidwarf form of 'Sango kaku', selected and named by Del Loucks of Del's Japanese Maple Nursery, Eugene, Oregon. It retains all the desirable attributes of 'Sango kaku'—fresh yellow-green spring foliage, bright red shoots and petioles, eye-catching yellow, gold, and red fall colors, culminating in the attractive coral-red winter stems. The leaves are typical of the Palmatum Group and are identical in shape, size, and seasonal coloring to those of 'Sango kaku', but this cultivar is unlikely to exceed 2–3 m high, making it ideal for container culture and small gardens. The name means “small red bark.”

'Akane'

PALMATUM – *green*

This small palmatum is a member of the group of cultivars, such as the well-known 'Katsura', valuable for their bright spring foliage. As the leaves emerge they are a striking orange gold with the margins shading into a deep pink. It is a more intense orange than that of 'Katsura', and the color contrasts well with the bright coral red petioles and shoots. The spring colors last for almost a month and turn to a deep yellow, gradually becoming a light green. The fall color is shades of orange and yellow with reddish blushing, but not outstanding.

The small mainly five-lobed, sometimes seven-lobed, leaves are usually longer than broad, 4–4.5 cm long and 3.5–4 cm wide, and divided up to three-quarters of the way to the leaf base. The lobes are ovate-triangular with pointed tips, about 3 cm long and 1.2 cm wide at the broadest point in the lower third, narrowing to 5–6 mm at the lobe junctions. The margins are clearly toothed. The leaf is smaller and less deeply divided than in 'Katsura'. The straight, slender, red petioles are 1.5–2 cm long.

This delightful compact semidwarf tree was im-

ported into the Netherlands from Japan in 1991 by Firma C. Esveld, Boskoop. It is proving to be slower growing than 'Katsura', but the spring coloring is more intense and longer lasting. Its height at maturity is unlikely to be more than 3 m, with a spread of about 1.5 m. The short, thin shoots make this cultivar difficult to propagate. The name 'Akane' means “the madder plant.” Because of the color of the dye obtained from the madder plant, the name has also come to mean “the glowing evening sky,” which describes perfectly the color of this cultivar in the spring.

'Aka shigitatsu sawa'

PALMATUM – *variegated*

This plant is the red-tinged form of 'Shigitatsu sawa', but with the lobes of the leaves slightly longer and more deeply separated. The leaves are seven lobed, sometimes



'Akane'. Photo by Cor van Gelderen

nine lobed, separated at least two-thirds of the way to the leaf base, 4–6 cm long and 6–9 cm wide. The lobes are elongated and taper to a sharp point. The clearance between the lobes is rather wide, probably because the lobe edges are partially and irregularly curled downward. The margins are wavy and have large, coarse, and sharp teeth.

As the buds first open, the inner bud scales and new leaves are maroon. When fully opened, the typical leaf has quite dark veins on a light yellow-green background. The entire leaf is strongly overtone with pink and red, however, which is the striking feature of this cultivar. This color holds very well into the summer, when the whole leaf darkens somewhat and develops a strong green tone within. This triple variegation of green, yellow, and pink is quite striking. The patterning can persist all summer when the tree is partly shaded, but is lost in full sunlight, the leaves becoming light green.

'Aka shigitatsu sawa' is not as strong growing as its green counterpart. It becomes a somewhat bushy tall plant up to 4 m tall and 5 m or so wide. It is hardy but not easy to propagate and is rather rare in nurseries and collections. It makes a very interesting specimen plant because of the unusual color form and combination. The ancient Japanese meaning of the name 'Aka shigitatsu sawa' is "red snipes over a winter marsh."

This cultivar has also been known under the names 'Beni shigitatsu sawa', 'Samari' and 'Samurai'. The Japanese characters for 'Beni shigitatsu sawa' are identical to those for 'Aka shigitatsu sawa', hence the names should be treated as synonymous. Confusion has been caused by applying the name 'Beni shigitatsu sawa' to one or two plants which are different from the above description.



'Aka shigitatsu sawa'. Photo courtesy of Oregon State University Archives, Corvallis

'Akegarasu'

MATSUMURAE – red

This large, upright red form with large leaves is named 'Akegarasu', which means "the crows at dawn." The five- or seven-lobed leaves are divided nearly to the leaf base and are broadly ovate-elliptic, coming to a very sharp point with the edges toothed. The leaves are 8–12 cm long and wide. The early season color is a very deep purple red or black red, depending on the light. Later in the summer, the leaves bronze somewhat, showing more green. Like other reds, when grown in shady conditions the red is not as intense in early summer. The petioles are 4–5 cm long and are a deep red. The branches are green.

This strong, upright-growing maple reaches at least 5 m at maturity. It tends to widen into a broad-topped, short tree. It is a hardy cultivar for the garden landscape as the color contrasts slightly with other red forms, and it is a good choice among the larger-leaved cultivars.

'Akita yatsubusa'

DWARF – green

This robust dwarf is similar in leaf and form to 'Sharp's Pygmy' with small deeply divided leaves of the Palmatum Group. Unlike 'Sharp's Pygmy', it has dark brown shoots. The small five-lobed, sometimes seven-lobed, leaves are 3.5–4.5 cm long and wide. The lobes are long, ovate-triangular and are divided up to three-quarters of the way to the leaf base. The margins are clearly but shallowly toothed. When they first appear, the young leaves are a pinky red, turning yellow green before becoming medium green for the summer. The fall color is a vivid orange red. 'Akita yatsubusa' is a reliable, hardy cultivar



'Akita yatsubusa'. Photo by Harry Olsen

which forms a dense round shrub, ideally suited for the small garden, container culture, or bonsai.

'Amagi shigure'

PALMATUM – *green*

The name of this dense low-growing cultivar means “soft drizzle.” The foliage is rather small considering the type of plant, and it is fairly closely spaced on short twigs. The bright green leaves have five or seven lobes, radiating outward in the star shape typical of *Acer palmatum* subsp. *palmatum*. Each lobe is ovate and terminates in an acuminate sharp point with an evenly toothed margin which tends to be attractively crinkled. In general the middle three lobes are much longer than the two or more lateral lobes. Each leaf measures 3–5 cm long and wide. The petioles and small twigs carry a dark red tone. Fall color is rather bright in the yellow-orange ranges. This semi-dwarf tree grows broadly as well as upright. It tends to be dense and twiggy and forms a low-growing background in the garden landscape.

'Aoba jo'

DWARF – *green*

This good, strong dwarf shrub has large seven-lobed leaves. In fact, the leaves are surprisingly large for a dwarf. Strong growth produces foliage 7 cm long and more than 11 cm wide. The long lobes radiate out well, with the leaf base somewhat truncate. The lobes are strongly ovate-lanceolate with long, tapering points, separated two-thirds of the way to the leaf base, and are well notched at the margins. Old wood inside the plant produces somewhat smaller leaves. The color of the foliage is strong green with bronzed edges and tips, and the texture is neither weak nor thin. Fall color is yellow with reddish hues but not outstanding.

High fertility causes excessively long shoots, making for unbalanced plants. When grown with moderate moisture and fertility, the leaf nodes become more compressed along the shoots. This cultivar enjoys some popularity with bonsai enthusiasts and has been widely used for this purpose. It is also attractive in the right place as a dwarf in the landscape. 'Aoba jo' has been known under the names 'Aoba bo' and 'Aoba cho'. It has also been spelled 'Aoba joh'.

'Aocha nishiki'

AMOENUM – *variegated*

The name means “yellow-green brocade,” but this cultivar seems to be rather shy in its display of variegation.

The stock plant at Maplewood Nursery has been reticent in producing markedly variegated leaves. Older plants seen in Europe were not strong in variegation either.

The medium-sized leaves are of a pale green tone and measure 5–6 cm wide and are slightly longer. The five or seven lobes graduate to a sharp point and separate about halfway to the leaf base. The variegations are creamy yellow and in small sections of the leaf. Occasionally, the light areas occupy almost the entire leaf. However, most leaves are not variegated. This plant eventually forms a short, broad tree of up to 3 m high. It is not a strong, vigorous grower or a bold plant in the garden landscape.

No trace of the name 'Aocha nishiki' as an *Acer palmatum* cultivar can be found in the Japanese literature, so it is possible the true name may be 'Aoba nishiki', a very similar cultivar in Japan. There are much better similar variegated cultivars, such as the reliable 'Asahi zuru'. The cultivars 'Siecha' and 'Siecha nishiki' (misspelled 'Seika nishiki') are so similar that they are treated as synonymous to 'Aocha nishiki'.

'Ao kanzashi'

PALMATUM – *variegated*

This small to medium-sized tree or shrub has variegated leaves. It is very like 'Tennyo-no-hoshi' in leaf shape, variegation, and habit, and was suspected of being synonymous. However, it originated from Japan and has slightly smaller leaves and more compact growth. The light cream-green variegation around the leaf edges does not turn pink in the sun as readily as does that of 'Tennyo-no-hoshi'. 'Ao kanzashi' forms a densely branched upright tree, up to 4 m tall, the crown spreading out at the top in a similar fashion to 'Butterfly'. 'Ao kanzashi' has been known as 'Oa hanzashi'.

'Ao shidare'

DISSECTUM – *green*

This cultivar, whose name means “green cascading,” differs slightly in leaf form from many other green dissectums, but is similar to 'Kiri nishiki' and 'Sekimori'. 'Aoba shidare' is a synonym. The color of the leaves is a slight blue green, not the sharp green of 'Viridis'. Fall color is yellow.

The seven-lobed leaves are of medium size and doubly dissected as in the typical dissectum. However, the secondary cuts are not as deep nor are the lobes as long as in the better-known forms of green dissectum. The many points of each leaf seem not as sharp, giving the whole leaf a more blunt appearance in outline. The leaves are

6–8 cm long and about as wide. Each lobe, from halfway to the leaf base downwards, is quite narrow, almost just the width of the midvein. The stems and branches are a pleasing green with a whitish overtone at times. This cascading cultivar becomes 2–5 m high and 3 m wide. When planted near other dissectums, 'Ao shidare' obviously differs in color.

'Ao shime-no-uchi shidare'

LINEARILOBUM – *green*

This plant is quite similar to 'Shinobuga oka', except that it is more pendulous in habit and rarely grows taller than 2.5 m. The branches tend to droop and give a round bush effect, in contrast to the other members of the Linearilobum Group which tend to be upright. The deep green leaves are mostly seven lobed. The lobes are very long and narrow like a blade of grass, and about 3–5 mm wide and up to 8 cm long. They turn yellow in the fall, sometimes to a deep gold.

There are many cultivars of the Linearilobum Group which are quite similar but show fine differences. All are finely separated in their characteristics but overlap in description. A single leaf from one plant could appear to belong to another cultivar. It is necessary to see the entire plant to see the differences. This cultivar is known in Japan as 'Ao meshime-no-uchi shidare'.

'Aoyagi'

PALMATUM – *green*

Ao means "green" and *yagi* is the Japanese name of a coral species, so the name of this cultivar means "green coral." The bright pea-green color of the bark on twigs, small branches, and limbs is the outstanding feature of this cultivar and gives it its name. It is sometimes referred to as the green counterpart of 'Sango kaku'.

The green foliage is typical palmatum type with five- or seven-lobed leaves about 5 cm long and wide. The lobes radiate outward, separate two-thirds of the way to the



'Aoyagi'. Photo by Cor van Gelderen

leaf base, and taper gradually to a long, sharp point. The margins are serrated. The bright green is of a light tone and becomes a pleasing yellow in the fall. The leaf texture is rather thin. The green petioles are usually about 2 cm long, making the leaves rather compact along the shoots.

While this is an upright-growing tree, it is not quite as vigorous as 'Sango kaku'. It becomes a wide-topped tree reaching 6–8 m tall as it matures. The brilliance of the bark is surprising for a green tone. When planted near the contrasting 'Sango kaku', the effect is pleasing. The stem colors are most intense during the winter season. A snowfall enhances the beauty of this cultivar by emphasizing the bark color.

'Ukon' appears to be similar in leaf, color, habit, and size. Although it originated from a different clone than the one from which 'Aoyagi' originated—both names are found in old Japanese literature—no differences between the two cultivars have been observed, so it seems reasonable to include it under 'Aoyagi'. 'Aoyagi' can also be found misspelled 'Ao gaki'. 'Ukon' is sometimes called 'Ukon nishiki' or misspelled 'Yukon'.

'Arakawa'

PALMATUM – green

Normally, cultivars of *Acer palmatum* are chosen for some outstanding feature of the foliage. However, in this case, it is the interesting bark, hence the plant's alternative name of 'Rough Bark Maple'. The name 'Arakawa' means "rough bark" and is also the name of a river outside Tokyo. The bark of the cultivar is quite roughened and corky, with longitudinal creases and also short cracks and irregularities across the surface. It is not as deeply fissured as 'Nishiki gawa'. New propagates do not show this feature for three to five years, at which time the roughening begins and develops more rapidly each year. Other names used for this cultivar are 'Ganseki momiji' and 'Nishiki sho'. The word *nishiki* usually indicates variegated foliage but, in this case, refers to the rough bark feature.

The green foliage is typically palmatum in shape. The five or seven lobes are narrowly ovate, tapering gradually to a long, slender point. They radiate outward and are separated three-quarters of the way to the leaf base. The margins are double toothed. The leaves range from 4 to 7 cm long and 5–7 cm wide. The fall color is yellow gold. The red petioles are slender and 3–5 cm long.

This vigorous, upright plant matures at over 8 m. Young plants can produce shoots more than 1 m long in a season. However, they also dwarf well for bonsai use

and make very interesting plants. The rough bark is prominent even when the plant is dwarfed.

'Aratama'

DWARF – red

This highly desirable dwarf shrub has bright red foliage varying from a brick red to a light purple red. It is difficult to describe except that it is a pleasant color and is showy. The larger, older leaves carry the darkest tones, while the new foliage is more bright red during growth. Under these colors is a base of strong green which often shows through along the midribs of the lobes and adds an interesting two-tone effect. As the plant goes into the heat of midsummer, more and more green shows through.

Leaf size is fairly uniform, except that those on new vigorous shoots are the largest. Most leaves are 5–6 cm long and wide. The five or seven lobes are long-ovate with long tapering points and have well-serrated margins. The lobes join more than two-thirds of the way to the leaf base which is truncate. The petioles are short. Another unusual feature is that in a majority of leaves, the center lobe (usually the largest) is often shortened and only one-third to one-half the length of those on either side. Newer leaves often display this feature as well. Shortened center lobes are a characteristic of cultivars derived from witches'-brooms.

The growth is fairly short, even under intense culture, and produces a round, dense, twiggy, shrubby plant. The leaves lie rather flat along the twigs. This shrub slowly reaches 1–1.5 m tall in 10 years. 'Aratama', whose name means "uncut gem," is among the most desirable shrubs for the small garden landscape because it is one of the few dwarfs not in the usual green colors. It takes full sunlight very well.



'Aratama'. Photo by Harry Olsen

'Ariadne'MATSUMURAE – *variegated*

'Ariadne' is an introduction of Firma C. Esveld, Boskoop, Netherlands, in the 'Shigitatsu sawa' group of cultivars with conspicuously marbled leaves in contrasting colors to the network of veins. The new young growth is especially attractive and noticeable, with yellow green veining on pastel shades of light orange-pink-red marbled background. This gradually changes through the summer to become red-veined on a purplish red background by late summer, with the undersurfaces becoming purplish green. In the fall, the colors of the leaves return to the orange-pink-red marbling with a deeper pink red spreading inward from the margins, while the network of veins remains yellow green. This cultivar also has attractive green young stems with fine, closely packed glaucous striations and lovely red fruits.

The large five- or seven-lobed, rarely nine-lobed, variegated leaves are very deeply cut and are 7–8.5 cm long and 5.5–7.5 cm wide. The lobes are narrowly ovate with narrow tail-like tips, 4–6 cm long and 1–1.5 cm wide at the broadest point about one-third to halfway, narrowing to 5–10 mm at the lobe junctions, less than 1 cm from the leaf base. The central lobe occasionally has a short truncated tip, similar to that found in many dwarf cultivars propagated from witches'-brooms. The lobes are widely spread with the small basal lobes angled backward and outward. The margins are coarsely double toothed, the teeth having very sharp-pointed tips. The strong pink to red petioles are 1.5–4 cm long and have swollen bases.



'Ariadne'. Photo by Peter Gregory

'Ariadne' matures to a 3 m tall or so spreading shrub and is at least as wide. It was a chance seedling discovered among a large batch of open-pollinated seedlings and, after lengthy observation, was named for one of D. M. van Gelderen's granddaughters.

'Ariake nomura'PALMATUM – *red*

This upright form has is reported to be a seedling from the well-known 'Nomura'. Its leaf shape is more or less identical, which makes it very difficult to distinguish from 'Nomura'. The distinguishing feature is a slightly different tone of red. 'Ariake nomura' is a little more brown red in its spring color, a lighter purplish red-bronze in late summer, and a bright crimson when the fall colors appear. It is not widely found in collections or nurseries.

'Asahi zuru'PALMATUM – *variegated*

Asahi means "the dawn" or "rising sun" and *zuru* means "swan." Hence, the name of this cultivar can be interpreted as "the dawn swan." 'Asahi zuru' is among the dependable cultivars with sharply defined and clear variegation. The white portions have distinct and sharp margins, and the green portions are a rich green. The leaves vary considerably in markings on each plant. Some, especially the smaller leaves, are almost entirely white, while others are almost completely green with only one small patch of white. Some leaves have only minute flecks of white or pink. Solid green leaves occur



'Asahi zuru'. Photo courtesy of Oregon State University Archives, Corvallis

and are usually larger in size than the variegated ones. Quite often the new growth in the spring is a light pink which later turns white.

The typically shaped palmatum leaves vary from 3 to 8 cm long and wide. Usually the five-lobed, good-textured leaves are symmetrical, but a percentage have sickle-shaped lobes when containing white sections. The petioles range up to 6 cm long and vary from pink on some leaves to green on the normal-colored leaves. Twigs and small branches are dark green and do not have the pink striping often present in the similar 'Oridono nishiki'.

This upright but spreading, round-headed tree grows rather fast as a young plant. As it becomes older, growth slows down and becomes more compact. It can reach 8 m high and 3–4 m wide. Multistemmed trees are quite striking in appearance. New growth occasionally is typically palmatum, but as the wood becomes two years old and older, the variegation develops well. This hardy form is desirable in many landscape situations. Afternoon shade helps prevent excessive leaf burn, as it does for all variegates. 'Asahi zuru' has been known under the alternative names of 'Asahi nomura' and 'Asahi beni zuru'. It has also been misspelled and misnamed 'Asahi juru', 'Asahi kaede', and 'Asaji'.

'Atrolineare'

LINEARILOBUM – red

This cultivar has dark black-red foliage when in its prime in the early season. It may bronze out with greenish undertones later in the season, especially in full sun. The leaf has five, or sometimes seven, lobes, widely separated, very narrow, and divided completely to the base. The midrib of each lobe is green. The lobes of leaves on mature



'Atrolineare'. Photo courtesy of Oregon State University Archives, Corvallis

wood are 7–9 cm long and 2–5 mm wide. Foliage on current-year wood is much coarser. The leaves may even be semipalmate on vigorous new shoots, with the leaf lobes 9–10 cm long and 1–1.5 cm wide. As the wood matures, the foliage takes the characteristic "stringlike" lobe shape.

The upright-growing small form is quite twiggy. The plant might be classed as a tall shrub rather than a small tree, reaching a height of 4 m. It is a very desirable form, contrasting with the more round-headed cultivars in the Linearilobum Group, such as 'Red Pygmy' and 'Villa Taranto'.

'Atrolineare' has been known under the names 'Aka-no-hichi gosan', 'Aka-no-shichi gosan', 'Aka shime-no-uchi', 'Aome-no-udu', 'Blood Vein', 'Filifera Purpurea', 'Filiferum Purpureum', 'Linearilobum Atropurpureum', 'Linearilobum Purpureum', 'Linearilobum Rubrum', 'Pendulum Angustilobum', 'Pendulum Angustilobum Atropurpureum', 'Pendulum Atropurpureum', 'Purpureum Angustilobum', 'Scolopendrifolium Purpureum', and 'Scolopendrifolium Rubrum'. A number of slightly different red linearilobum clones are named as 'Angustilobum' and 'Angustilobum Purpureum' in several Dutch nurseries. This is confusing and misleading so, as there are alternative named cultivars as good as or better, such as 'Atrolineare', these names should be dropped.

'Atropurpureum'

PALMATUM – red

The red tones of the leaves distinguish this cultivar as a form of *Acer palmatum*. The leaves have five or seven lobes and vary from 4 to 10 cm long and wide. The lobes separate two-thirds to three-quarters of the way to the leaf base and are ovate to ovate-lanceolate with pointed tips



'Atropurpureum'. Photo courtesy of Oregon State University Archives, Corvallis

and margins indistinctly to prominently toothed. This cultivar forms a strong-growing, upright, round-topped tree.

The name is universally used for different clones and seedling plants with red leaves. These should more properly be named *Acer palmatum* f. *atropurpureum*. The original plant of this name was probably an excellent clone originating from the old nursery of Constant Wattez in Woudenberg, Netherlands (van Gelderen et al. 1994). It forms a well-branched tree 8–10 m tall. The leaves are mainly five lobed and a rich purple in the spring, which becomes deeper in early summer and turns to a brilliant scarlet in the fall. However, because many nurseries have used this name for any red-leaved seedling selection, it has become so diluted as to be meaningless. It is from such red seedlings that many outstanding cultivars have been selected, such as 'Shōjō', 'Nuresagi', and later 'Bloodgood' and 'Moonfire'.

Propagators continue to select red seedlings with the aim of naming new cultivars. However, there are so many red-leaved cultivars named and marketed, there is a risk of more confusion and loading the market with even more "names." This should be avoided unless the new selection has outstanding or unusual desirable characteristics. 'Atropurpureum' has been called 'Blood Leaf'.

'Attraction'

PALMATUM – red

This cultivar was imported into the Netherlands from Japan in 1970, and a few years later from there into the United States via Maplewood Nursery as 'Atropurpureum Superbum'. Because the mixture of Latin and English results in illegitimate names under the international nomenclatural rules, the name was changed to 'Attraction'. This cultivar is a seedling selection. Its color is deeper and holds better than the usual seedlings of *Acer palmatum* f. *atropurpureum*.

The seven-lobed, occasionally five-lobed, leaves separate to within 2 cm or so of the leaf base. The lobes are long-ovate and the outer ends gradually taper to a sharp point. The inner third of the margin is rather smooth, while the outer two-thirds is sharply and regularly toothed. Leaf size ranges from 6 to 9 cm long and up to 11 cm wide. The stiff, red petioles are 4–5 cm long. The leaves are a deep purple red or maroon in color. Tones are brightest on new leaves and then become deeper in summer. The color, though not quite as deep as that of 'Bloodgood', holds almost as well, but burns in hot locations. The leaves turn a bright crimson in the fall.

As a young plant, 'Attraction' is a vigorous and sturdy grower, and perfectly hardy. It becomes a tall, upright round-headed tree of 7 m or more at maturity. It is a good landscape plant, often marketed in the United States under its synonym 'Superbum'.

'Aureo-variegatum'

MATSUMURAE – variegated

The new foliage in the spring is not strongly variegated, being a rather uniform light green tone. However, the stronger variegation comes later in the fall. Small and indefinite markings of yellow or gold appear in the green background color. The variegation is not brilliant but discernible. However, the lack of "aureo" and "variegation" characteristics is disappointing.

The leaves are five lobed with a truncate leaf base and good texture. They measure 5–6 cm long and about 6 cm wide. Each lobe is oblong, gradually terminating in a slender point. The lobes separate to within 1–2 cm of the leaf base. The margins are finely serrated on the outer half of the lobe. The petioles are firm, slightly reddish in color, and 2–3 cm long. This upright-growing tree does not get as tall as the species. Older trees are broadened at the top, not overly twiggy, and about 4 m high, but mature trees can reach 8 m.

According to the literature, the name 'Aureo-variegatum' has been applied to more than one cultivar. One source considers it synonymous with 'Komon nishiki' (van Gelderen et al. 1994). Because 'Aureo-variegatum' is much larger and has deeper lobing, while 'Komon nishiki' grows to only 3 m, has lobes divided only up to two-thirds to the leaf base, and its variegation is more evident, these two are treated as separate cultivars here. 'Aureo-variegatum' has been known under the name 'Aureo-maculatum' and misspelled 'Aureum-variegatum'.

'Aureum'

PALMATUM – green

The distinctive yellow of this cultivar is quite dominant. However, there is an undertone of light green which becomes more noticeable in shady conditions. When the new foliage appears, the margins of the lobes have a slight tinge of rust-pink color which soon disappears. As the season progresses, the leaves age into a more pure light green, the "golden" tone softening. In plants grown at Maplewood, the yellow tones are even more pronounced as the second growth occurs in early August. This seasonal flush of growth is also more vigorous and quite often more branched. This cultivar does not have

the same type of golden cast as the more familiar golden fullmoon maple, *A. shirasawanum* 'Aureum', with which it must not be confused. In shade the yellow is rather masked and assumes a light green tone. In full sun the color develops into the golden shades. Fall coloration produces a display of bright yellow.

The palmatum-type leaves are five lobed, sometimes seven lobed, and of medium size. The lobes extend outward, forming an almost circular leaf with a diameter of 5–6 cm. The margins are slightly toothed. The petioles are about 3 cm long. The petioles and shoots are bright red. The form of this plant is upright, bushy, and reaches up to 8 m at maturity. It tends toward a twiggy type of growth on older wood. It has also been known under the name 'Sunrise'.

'Autumn Fire'

DISSECTUM – green

This green dissectum originated as a chance seedling in 1979, was propagated and introduced by Del's Japanese Maple Nursery, Eugene, Oregon, and registered in 1996. It differs from most green dissectums in being semi-erect, not the usual dome shape. The outstanding feature of this cultivar, as the name suggests, is that the medium green leaves turn a brilliant red in the fall. New growth is a light yellow green with pink edging, and makes an attractive contrast with the darker green older foliage.

The large, very coarse, seven- or nine-lobed deeply divided leaves are 10–11 cm long and 11–13 cm wide. The lobes themselves are not as deeply divided as most lace-



'Aureum'. Photo courtesy of Oregon State University Archives, Corvallis

leaved maples and border on those of the Matsumurae Group. They have surprisingly small, narrow, sharply pointed teeth compared to the leaf size. The petioles are relatively short at 2.5–3.5 cm. 'Autumn Fire' forms a vigorous, semi-erect, widespreading bush, reaching only about 2 m high in 10 years, but spreads even wider.

'Autumn Flame'

PALMATUM – green

The outstanding feature of this interesting hybrid (*A. palmatum* × *A. circinatum*) introduced by Duncan and Davies Nursery of New Zealand is that the deep green summer foliage turns vivid shades of gold, orange, and red in the fall, even in New Zealand's mild climate. The seven- (or nine-) lobed medium-sized leaves of the Palmatum Group are divided halfway to three-quarters of the way to the leaf base and are 5–7.5 cm long and 6.5–9 cm wide. The broad oblong-ovate lobes are 2.5–3.5 cm long and 1.5–2 cm wide at the broadest point, narrowing slightly to 1–1.7 cm at the lobe junctions, which are 1.5–3.5 cm from the leaf base. The margins have large, coarse double teeth. The short pink red petioles are 2–2.5 cm long. This vigorous, upright grower has an estimated mature height of 6–8 m. 'Autumn Flame' was originally named 'Autumn Fire', but as there is a green dissectum already registered in that name, the cultivar name was changed to 'Autumn Flame'.

'Autumn Glory'

AMOENUM – green

This cultivar name was applied to a few selected seedlings which were notable for their beautiful fall coloration patterns—mostly crimson. These maples were selected and introduced by R. de Belder of the Arboretum



'Autumn Fire'. Photo by Harry Olsen

Kalmthout, Belgium, about 1958, and commercially distributed out of the Netherlands. The fall coloring has proven to be inconsistent in different places, raising the question whether this form deserves cultivar status. The leaves are broad with five or seven lobes divided up to halfway to the leaf base. These upright small trees of 4–6 m form a broad canopy.

'Autumn Red'

MATSUMURAE – *green*

'Autumn Red' was selected in the Fratelli Gilardelli Nursery, near Milan, Italy, for its spectacular fall color. It forms a medium-sized shrub or small tree, reaching 4–5 m tall. It is an upright form with an open crown. The newly emerging pink red leaves quickly turn a light greenish yellow with rose edging, and become a bright green through the summer. Then, as the name suggests, they turn a fiery red in the fall. The foliage can withstand full sun without damage. The large five- or seven-lobed leaves, up to 10 cm long and 10–12 cm wide, are deeply divided to within 1 cm of the leaf base. The margins are coarsely but fairly evenly toothed. The petioles are bright red and up to 6 cm long.

'Azuma murasaki'

MATSUMURAE – *red*

The name means "purple of the East," though *Azuma* could be an old name for Tokyo in this context. 'Toshi' has been used as an alternative name for this cultivar, but the descriptions in the Japanese literature do not seem to agree.



'Azuma murasaki'. Photo courtesy of Oregon State University Archives, Corvallis

The deeply divided reddish lobes of the leaves distinguish this cultivar—the red is of an unusual tone. There is a slight purple hue in the red, but the entire leaf has an undertone of green showing through. New foliage is a yellow-orange color which has a "dusty" appearance due to a covering of fine pubescence which soon disappears. As midsummer arrives, the leaves alter to a deep green with a reddish cast to the surface. The undersides of the leaves develop a bright, shiny, smooth, green surface. The leaves are seven lobed, measuring 5–7 cm long with a spread of up to 9 cm. Each lobe separates widely from the rest, is long, ovate-lanceolate, and has definite toothed margins. The petioles are a bright red most of the season.

'Azuma murasaki' is not a tall-growing cultivar. Early growth is fairly rapid but slows down as the years pass. The short tree form reaches 6 m high and becomes rather round-topped and about 5 m wide. Outside shoots take on a cascading form in time. The color tones of this choice tree contrast well with other red-leaved forms. It is different enough to make a good contrast in the garden landscape.

'Baby Lace'

DWARF – *red*

This highly desirable and interesting dwarf cultivar was the first dissectum witches'-broom to be discovered. It was found by Rick Rey of the Delaware Valley Agricultural School in the early 1980s and named by Edward Rodd of Raraflora Nursery, Kinterfield, Pennsylvania.

The finely dissected leaves are half the size of normal dissectum leaves in the first year—3–5 cm long and wide—becoming smaller with age until reduced to the size of



'Baby Lace'. Photo by Harry Olsen

a thumbnail. The leaves emerge a reddish orange in the spring, quickly becoming a bronze green for the summer, turning orange red to pink red in the fall. During the summer, the orange-red new growth makes an attractive color contrast to the darker older growth.

Like most witches'-brooms, it produces relatively vigorous shoots from the graft, 5–8 cm long, but slows down in subsequent years, attaining about 1 m tall and wide after 10 years. It eventually forms a small round, densely twigged shrub. Also, like most witches'-brooms, 'Baby Lace' is very sensitive to wind and needs protection for at least the first three to four years.

'Baldsmith'

DISSECTUM – red

'Baldsmith' is among the best of the newer dissectum introductions, bearing light, bright orange-red spring foliage. The leaves become paler and green-tinged in the center with pink-tinged margins as they develop. The combination of mature and new leaves through the summer gives a multicolored appearance of greens, pinks, and orange reds. In the fall, the leaves turn a bright yellow with orange hues. The medium-sized finely dissected five- or seven-lobed leaves are 8–11 cm long and wide, the lower end narrowing to the width of the midrib for 1–1.5 cm down to the junction of the lobes with the petiole. The division of the sublobes, unlike many dissectums, does not quite reach the midrib. The sublobes have conspicuous, large, narrow, sharply pointed teeth. 'Baldsmith' has the usual mounded habit and vigor of most dissectums but has a distinctive appearance because of the very pendulous, finely dissected light



'Baldsmith'. Photo by Harry Olsen

orange-red foliage, which contrasts markedly with the deeper reds of 'Crimson Queen' and 'Dissectum Nigrum'.

'Beni fushigi'

MATSUMURAE – red

This small-leaved slow-growing cultivar is similar to 'Beni komachi' but easier to grow, with deeper bright red foliage and not as dwarf a shrub at maturity. Like 'Coralinum' it looks its best in the spring and early summer, with intense pink red young leaves which become a deeper red. Thus, the summer color is an unusual mixture with the mature leaves red with dark red margins, and the bright pink red new leaves. The curved lobe tips add extra character to the tree.

The small five-lobed deeply divided narrow leaves are up to 5.5 cm long and 3.5 cm wide, but usually smaller. The lobes are long, narrow, almost straplike, with long, narrow tips, deeply divided to at least three-quarters of the way to, and within 5–6 mm from, the leaf base. The center lobe is usually appreciably longer than the other lobes and often has a curved tip. The margins are irregularly and coarsely toothed. The purple-red petioles are slender and 1.5–2 cm long. This unusual and very desirable slow, upright grower eventually matures at 2–3 m high after 10–12 years and is usually wider than tall. It is ideal for small to medium-sized gardens.

'Beni hime'

DWARF – red

'Beni hime' is among the smallest dwarf shrubs with reddish foliage. The individual leaf is of the palmatum type, being mostly fine-pointed and star shaped. The short



'Beni fushigi'. Photo by Cor van Gelderen

acuminate lobes are separated two-thirds of the way to the leaf base. The tiny leaves vary in size, with the largest being 2.5 cm long and 3 cm wide. Many leaves are only 1.5–2 cm long and wide. They are clustered on short petioles. Twigs are very thin, and annual growth is quite limited. New shoots are very short and often come out in an angular manner which eventually makes for a rather dense compact bush. As the growth thickens with age, there is a strong tendency to self-prune and die out inside. This cultivar has predominantly a reddish tone, pink red to rusty red, both rather light. Full sun increases the intensity of color. A greenish shade shadows it somewhat in midsummer. Fall colors will move into vibrant red tones.

Like many very small-leaved dwarf maples and some of the smaller cultivars with reddish foliage, 'Beni hime' tends to show early spring damage from fungi on the new growth. This can happen as early as the breaking-bud stage and on into fully developed new leaves. Diseases, such as *Botrytis*, can seriously affect the new leaves and terminal development. Good air circulation and full sun aid in prevention. Some fungicides help to suppress the disease.

This small dwarf, while very delicate in overall appearance, is not as tender as one would assume. It does better in open situations with plenty of light and tends to weaken in a strong overstory of shade. Some plants attain a height and width of 1 m in 8–10 years. 'Beni hime' is ideally suited to container culture and bonsai. The name means "red dwarf."

'Beni hoshi'

DWARF – green

This cultivar, whose name means "red star," originated as a chance seedling in 1979 and was introduced by Del Loucks of Del's Japanese Maple Nursery, Eugene, Oregon, in 1992. The leaves emerge a bright red in the spring and turn green during the summer. A second growth of new red leaves creates splashes of red on a green background, which persists until the leaves turn yellow to orange in the fall.

The small seven-lobed widespread palmate leaves are 4.5–5.5 cm long and 6–7 cm wide. They are divided about two-thirds of the way to the leaf base. Each broadish lobe is 3–4 cm long and 1.2–1.5 cm wide at the broadest point in the middle, narrowing to 7–10 mm at the lobe junctions, and tapering to a short tail-like acuminate tip. There are numerous fine double teeth on the margins. The short, stiff petioles are about 1 cm long.

'Beni hoshi' forms a compact dwarf tree, reaching 1.75 m high in 15 years. It is suitable for the small garden, container culture, and bonsai.

'Beni kagami'

MATSUMURAE – red

This cultivar, whose name means "red mirror," is reportedly a seedling selection from 'Nomura'. In spring the leaves are orange red to purplish red, depending on location and shade cover. The leaf color is not the deep black red of many other red cultivars in the Matsumurae Group. The leaves have green undertones when grown in deep shade. The fall color is a bright crimson. The palmate leaves are divided into seven long, narrowly ovate lobes. The divisions reach almost to the leaf base. The leaves are 6–8 cm long and slightly wider, and the margins are double toothed. The petioles are 2–3 cm long



'Beni hime'. Photo by Peter Gregory



'Beni kagami'. Photo courtesy of Oregon State University Archives, Corvallis

and bright red. This fairly strong grower forms a spreading medium-sized tree and reaches a height of 8 m at maturity. It is quite graceful.

'Beni kawa'

PALMATUM – *green*

The effect of the winter shoot color of this cultivar has been described as spectacular. Like the ever popular 'Sango kaku', the color of the current winter shoot is a bright salmon red, but it is a deeper color and the color persists on the second-year shoots. It comes into leaf two weeks later than 'Sango kaku' and has a slightly slower growth.

The medium-sized five- or seven-lobed fresh green leaves, often with red-tinged edges, are divided two-thirds to three-quarters of the way to the leaf base, and are 5.5–7 cm long and 6–8 cm wide. The lobes are ovate-triangular to broadly ovate with tail-like pointed tips, and regular double-toothed margins. They are 4–5 cm



'Beni kawa'. Photo by Harry Olsen

long and 1.5–2 cm wide at the broadest point in the lower third, narrowing to 5–10 mm at the lobe junctions. Narrow sinuses separate the lobes. The slender petioles are pink to red and 2–4 cm long.

This cultivar becomes a large upright shrub or small tree, reaching about 3 m tall in 10 years. Though a plant for winter color and for use as a focal point in the garden landscape, its foliage turns a lovely golden yellow in the fall, made even more attractive by the contrasting red shoots in the background. The name means "red bark."

'Beni komachi'

MATSUMURAE – *red*

This semidwarf plant has very unusual leaves of brilliant red. Each leaf is five lobed, separated almost entirely to the leaf base. The lobes extend widely and openly, the basal two extending obliquely backward. Each lobe is long and narrow, lanceolate but not parallel-sided. The outer half gradually narrows to a very sharp terminal. The margins are irregularly but markedly toothed. The lobes curl sideways or down or both. The sides of the lobes bend slightly upward, almost forming a shallow trough at times. The overall leaf measurements vary from 3 to 5 cm long and wide on the smaller foliage to 5 to 7 cm long on the larger leaves. However, even though the lobe may be as much as 7 cm long, it is never wider than 3–5 mm.

The new foliage, which is delicate appearing at first, is a bright crimson. The intense color begins to darken as the leaf matures, and older foliage is a greenish red. The margins remain edged in crimson. In the fall, the colors again become a scarlet tone.



'Beni komachi'. Photo courtesy of Oregon State University Archives, Corvallis

The growth of this cultivar is fine, never gross, and mostly of a multibranched, twiggy nature. Occasionally, long shoots occur, adding height to the plant. However, the total growth is short and lacy, and forms a small bush. Mature plants are up to 3 m tall. This very choice cultivar is not widely known and rather difficult to propagate. Occasional reversions occur when the leaves are very like those of 'Shin deshōjō', which suggests it may be a sport from that cultivar. The name 'Beni komachi' means "beautiful red-haired little girl."

'Beni kumo-no-su'

DISSECTUM—*red*

The red dissected leaves of this cultivar are unusually small and very finely cut. This lovely cultivar originated as a chance seedling in 1979 and was named and introduced by Del's Japanese Maple Nursery of Eugene, Oregon, in 1992. The name means "red spider web."

The new foliage is a bright red which gradually changes to bronze red in the summer, later becoming bronze green before returning to a bright red in the fall. The seven-lobed widespread leaves are 5–6 cm long and 7–8 cm wide but, because of the slender cut lobes, appear even smaller. Each finely dissected sublobe is 1–2 mm wide only, and the lobe narrows to the width of the midrib, 1 mm or less, for up to half its length. The short, slender red petioles are 1–1.5 cm long.

'Beni kumo-no-su' forms a low, dense, broad bush, with outwardly spreading pendulous branches, probably not reaching more than 1.5 m high in 12 years, but spreading even wider. It has one of the smallest and finest cut leaves of any dissectum, and the plant is small



'Beni kumo-no-su'. Photo by Harry Olsen

enough to also be in the Dwarf Group. It is ideal for the small garden, rock garden, patio, and container culture. The name is often misspelled 'Beni komo-no-su'.

'Beni maiko'

PALMATUM—*red*

'Beni maiko' produces fire red or scarlet leaves in early spring. As they mature, the leaves appear rather thin in texture and fade into a pinkish red with a very slight green undertone. During the summer, the foliage becomes a greenish red with the main veins remaining red, as do the petioles. In the fall, an edging of deep pink red appears at the leaf margins, spreading into the center until the whole leaf is ablaze.

The leaves are five lobed, irregular, and slightly wrinkled. Each lobe separates about halfway to the leaf base, and tapers to a blunt point. The lobes tend to curve sideways. The margins of the lobes are toothed. Smaller leaves on the plant tend to be even more irregular and more intense in coloration. Mature leaves measure 3–6 cm long and wide. The petioles are only 1 cm long.

Although classed as a semidwarf, this plant occasionally produces shoots up to 60 cm long. Older growth



'Beni maiko'. Photo by Peter Gregory

tends to remain multibranching and rather bushy. Mature plants are not expected to exceed 2.5–3 m high. Compared with other brilliant scarlet cultivars, such as 'Shin deshōjō', this one is not quite as brilliant. However, the irregular leaf shape adds to the interest. In Japan, it is considered more brilliant than such cultivars as 'Seigai'. This maple is an exciting plant, especially when positioned with contrasting foliage plants. It is very adaptable to container culture. The name 'Beni maiko' means "red-haired dancing girl."

'Beni ōtake'

LINEARILOBUM – *red*

This attractive, vigorous upright cultivar has purple-red straplike leaves and a distinctive layered bamboo-like appearance and shape. The name 'Beni ōtake' means "big red bamboo."

The deep purple-red foliage is outstanding in the spring, the red color holding throughout the summer and then changing to a vivid crimson in the fall. The large widely spread seven-lobed, occasionally five-lobed, leaves are 9–11 cm long and 10–13 cm wide. Each straplike lobe is long and narrow, but broader than most linearilobums, varying from 3 to 10 mm wide, with long tail-like pointed tips and sharply pointed teeth along most margins. The more vigorous juvenile shoots carry broad matsumurae-like leaves with the lobes up to 2 cm wide.

'Beni ōtake' forms a vigorous, upright tree which may reach 8 m high at maturity. It was first noticed as a chance seedling by Edward Wood and introduced by T. C. Plant Inc. of Hillsboro, Oregon. The name has also been spelled 'Beni ohtake'.



'Beni ōtake'. Photo by Harry Olsen

'Beni shichihenge'

PALMATUM – *variegated*

The outstanding feature of this cultivar is the coloration in the variegated leaves. It is similar to 'Kagiri nishiki' and 'Butterfly', but the markings are pink orange rather than pink. Basic coloration is green or bluish green, with strong white margins. The white is overlaid or blushed with pink orange, a distinct color which becomes orange brown later in the summer. Occasionally, the entire lobe is orange. Each five- or seven-lobed leaf varies in size and shape, and is up to 6 cm long and wide. Some lobes are very slender and uniform, while others are contorted and of different widths. The petioles are crimson and 2–3 cm long. This plant is slow growing and forms an upright shrub up to 5 m tall, with a spread of 2 m. It is not strong growing but tends to be twiggy. 'Beni shichihenge' is highly desirable and attracts much attention, but is rather difficult to propagate. The name means "red and changeful." This cultivar has been known under the names 'Beni schishihenge' and 'Beni shishihenge'.

'Beni shidare'

DISSECTUM – *red*

This cultivar, whose name means "red cascading," has the typical form and color of the red dissectums. The name appears to be the common term in Japan for the red form of dissectum. This usage would compare to the English usage of "dissectum atropurpureum." However, it is felt that a superior clone was originally selected, and the material received from original sources is of excellent quality and color. Therefore, the cultivar status should be retained for this particular clone.



'Beni shichihenge'. Photo courtesy of Oregon State University Archives, Corvallis

Each leaf is divided into seven or nine lobes, each lobe multidivided into pinnatifid subdivisions. The leaves are 6–10 cm long and at least as wide. The petioles are usually slender and 5–7 cm long. The leaf color is very uniform in good red tones. It does not stay a deep red, however, but assumes a bronze color in midsummer, as contrasted with such cultivars as 'Crimson Queen'.

The plant habit is always pendulous. Old specimens may form a mound at least 5 m high and 6 m wide. Some very old specimens in Japan are more than 7 m tall and wide. 'Dissectum Atropurpureum' was cited as a synonym of 'Beni shidare', but so many seedlings with red dissectum leaves had been used under the former name that it has become meaningless and misleading.

'Beni shi en'

MATSUMURAE – *variegated*

'Beni shi en', which means "red smoke," is an unusual cultivar whose almost straplike deeply divided leaves change color all through the growing season. The foliage holds its colors well without burning, even in full sun in the southern United States.

The young feathery leaves emerge a rosy red color, which changes to purple as the leaves develop, and then to medium green with a conspicuous light green midrib down each lobe. Many lobes develop an interesting light green edging, which sometimes broadens downward from the tips and may cause the lobes to become sickle shaped. The leaves take on a pinkish hue in late summer and slowly turn golden in the fall, the fall color lasting later than most cultivars.

The five-lobed, sometimes seven-lobed, very deeply divided leaves are mostly longer than wide, 6–9 cm long and 5–7.5 cm wide. The lobes are long, narrow oblong-ovate, coarsely toothed, 5–10 mm wide at the widest point in the middle, and with long tail-like tips. Each leaf is divided almost to the leaf base though, oddly, the distance between the lobe divisions to the petiole on the same leaf can vary between 5 and 20 mm. Most leaves fit the above description, but some leaves are much longer and coarser with broader lobes—8–12 cm long and 8–10 cm wide, with the lobes 1–1.5 cm broad. Occasionally, some leaves are distorted. The slender green petioles are 2–3 cm long.

This cultivar is moderately vigorous and forms a small upright tree. It requires full sun or partial shade and a reasonably well-drained soil. 'Beni shi en' was discovered and propagated by Harold Johnston of Tallassee, Alabama, from a witches'-broom on an *Acer palmatum* f. *atropurpureum* plant. The original plant is still in the nursery and has attained 2.5 m high in 10 years. It is estimated it will reach about 5.5 m at maturity, perhaps more compact in cooler areas. This plant makes an excellent and unusual small specimen tree, with changing seasonal interest.

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'Beni tsukasa'

PALMATUM – *red*

The remarkable color tones of this plant make it a very noticeable cultivar. When they first appear, the small leaves are a bright orange-red or peach tone. As they mature, their color changes to delicate shades of pink and red with greenish undertones. Some leaves show strong yellow-green vein colors through the blend of red pink. Further into the summer, the foliage darkens somewhat and many leaves take on a faint variegation. This pattern is of minute flecking with tiny light-colored dots.

The leaves have five or seven lobes, and when seven lobed the basal lobes overlap the petiole. The lobes are separated halfway to three-quarters of the way to the leaf base and are ovate-lanceolate with double serration on the margins. The lobes taper quickly to a slender point. Small leaves of older wood are 2 cm long and 3 cm wide. However, the leaves on new vigorous shoots are at least twice as large. The thin petioles are 1.5–3 cm long.

This willowy, slender-twiggged plant is not cascading. Occasionally, young shoots grow quite vigorously, but normal growth is rather shrubby. It makes a medium-sized plant up to 5 m at maturity, but is usually smaller. This cultivar makes a fine accent plant in small garden landscapes and lends itself very easily to container cul-



'Beni tsukasa'. Photo courtesy of Oregon State University Archives, Corvallis

ture. 'Beni-no-tsukasa' is another name under which this cultivar has been known.

'Beni ubi gohon'

LINEARILOBUM – *red*

This unique cultivar has the typical characteristic of most red linearilobums, except it is the smallest member of this group, both in leaf dimensions and ultimate size. It attains only a little over 2 m high at maturity. The small five-lobed straplike leaves are 5–7 cm long and wide, with the basal lobes held at right angles or pointing slightly forward. Each lobe is 3–6 mm wide in the center with a sharp-pointed tip and fine-toothed inner margins. The slender red petioles are 1.5–3 cm long. The young leaves are a light bronze red with green-tinged bases, rapidly becoming purple red. The red color holds well throughout the summer in full sun. This cultivar makes an unusual and attractive container plant and may be well suited to bonsai culture. 'Beni ubi ocha' may be a synonym of 'Beni ubi gohon'.

'Beni yatsubusa'

PALMATUM – *green*

In spite of its name, which means "red dwarf," and often being described as a dwarf, this cultivar grows too tall for this category, to 3 m or more high. Thus it is best described as a strong-growing small shrub with large leaves.

The leaves are a bright green and hold their color well throughout the growing season. For a small palmatum type, the leaves are rather large, reaching 10 cm long and wide on young vigorous shoots. Older wood produces



'Beni ubi gohon'. Photo by Harry Olsen

smaller leaves of about 4 cm, which are closely packed along the stems. The leaves are mostly five lobed, with lobes radiating outward in a strong manner. The lobes are long-ovate with an acuminate tip, and are separated two-thirds of the way to the leaf base. The margins are strongly toothed. The petioles are long and thin, allowing the leaves to hang rather loosely on the plant.

Fall colors are an attractive feature and are bright crimson to a deep maroon-red tone. A good cultivar for contrast in the smaller garden, it blends quite well for variety in larger plantings. This small shrub has a tendency to throw out strong vigorous new shoots when grown in highly fertile soil.

'Berry Dwarf'

DWARF – *green*

This cultivar forms a widespreading low dwarf shrub and has distinctly shaped, relatively large bronze green leaves. It arose from a seedling selected in the early 1980s and propagated by John Emery of Raraflora Nursery, Berry, New South Wales, Australia. The attractive leaves emerge a light apple green, becoming a bronze green for the summer. They are carried on olive green petioles and shoots.

The unusually large (for a dwarf) five-lobed leaves are deeply divided and borderline between the Palmatum and Matsumurae Groups as defined here. The leaves are 7–8 cm long and wide, with the lobes spread outward so that they are distinctly separated right to the lobe junctions. Each lobe is broadly ovate with a pointed tip and the sides of the lower quarter angled inward. The lobes are 15–25 mm broad in the middle, narrowing to 5–8 mm at the lobe junctions. There are about three pairs of irregular lobules along the lobe margins which themselves are coarsely toothed.

'Berry Dwarf' is a surprisingly strong and busy grower for a dwarf, at least for the first few years. It forms a wide-spreading, dense, twiggy low bush with a spread of 3 m in 10 years but a height of only 1 m.

'Bloodgood'

PALMATUM – *red*

'Bloodgood' is one of the most popular large-leaved, upright-growing tree forms of red palmatum in the United States and Europe, and has become a standard by which all newer red palmatum cultivars are judged. It is a very good deep red or black red and holds its color into late summer better than most red-leaved forms. It does not bronze out as many other forms do. In extreme hot sun

it sunburns slightly, as do most palmatum. Some afternoon protection is beneficial.

The leaf shape is typically palmatum with lobes divided up to three-quarters of the way to the leaf base. The leaves are up to 10 cm long and up to 12 cm wide, but more usually about 7 cm long and 7.5 cm wide. The underside is usually a shiny, dark green. Light transmitted through the leaves on a bright day gives a beautiful red effect. Fall colors are usually bright crimson. The dark red petioles are up to 5 cm long. The prominent fruits are a bright red and add to the overall beauty of the plant.

This strong-growing cultivar makes an upright tree maturing at up to 10 m or so. Strong branches form a broad-topped tree with a spread about equal to the height. 'Bloodgood' was about the only cultivar being grown from cuttings on a large scale in Dutch nurseries. It is also grafted there. In the United States, thousands of grafts are made onto strong understock, and these make vigorous trees in a short time.

It is hoped that this cultivar is kept pure as it has very good qualities not found in some other red-leaved cultivars. Carville (1975) suggested it was a selection from *Acer palmatum* f. *atropurpureum* seedlings by the Bloodgood Nursery, Long Island, New York. Vrugtman (1970) suggested the possibility that this cultivar had its origin in Boskoop, Netherlands, and was propagated by the now discontinued nursery Ebbinge and Groos. It was subsequently exported to the United States where it was

named and the propagation expanded. Whatever its origins, it appears to have been cultivated in the United States since well before World War II.

'Boskoop Glory'

PALMATUM – red

The origins of this red cultivar are uncertain except, contrary to its name, it did not originate directly from the Netherlands. It is possible it was selected and named at Wright's Nursery in Canby, Oregon, now no longer operating. Its principle claim to recognition among the many red cultivars seems to be that it grows into a dependable, robust, vigorous large tree, with large, deep red leaves which hold their color well throughout the summer. Its ultimate height is 6–8 m.

The five- or seven-lobed leaves are up to 10 cm long and 11 cm wide. The lobes are neatly spread out, with the smaller basal lobes pointing outward or angled slightly backward. Each lobe is broadly ovate with a long tail-like pointed tip, up to 5.5 cm long and 2 cm wide at the broadest point in the middle. It narrows to 1–1.2 cm at the lobe junctions which are about two-thirds of the way to the leaf base. There are numerous sharp fine teeth on the leaf margins. The stout red petioles are 2.5–3.5 cm long.

The young leaves emerge a bright pink red color with long, narrow lobes divided at least three-quarters of the way to the leaf base and with conspicuous, coarse teeth. As they develop and fill out, their color changes to a deep



'Bloodgood'. Photo courtesy of Oregon State University Archives, Corvallis



'Boskoop Glory'. Photo by Cor van Gelderen

plum red in early summer. This color remains through the summer if not shaded, changing to purple red with green undertones in early fall. The tree tolerates full sun very well.

'Brandt's Dwarf'

DWARF – red

This cultivar is one of the best known and oldest of the many witches'-brooms arising from *Acer palmatum* f. *atropurpureum*. The foliage emerges a bright plum red, quickly changing to a good dark red, then slowly fading to a rusty green later in the season. It turns a brilliant crimson in the fall. The five- or seven-lobed leaves are divided up to three-quarters of the way to the leaf base, with the lobes well spread outward. The leaves are 3.5–5 cm long and 4.5–6 cm wide. Each lobe is ovate with a long tapering tip, 6–7 mm wide at the broadest point in the middle. The margins are finely toothed. In common with many witches'-brooms, the center lobe is often truncated with a short rounded top. The slender red petioles are 1.5–2.5 cm long. Like several other witches'-brooms, 'Brandt's Dwarf' produces vigorous shoots in the season or so after grafting, but this soon slows down with age to a few centimeters a year. At maturity it forms a dense rounded bush up to about 1 m tall and wide.

'Brocade'

DISSECTUM – red

'Brocade' is another of the very fine red dissectums and is similar to 'Ornatum'. The differences in many of the



'Brandt's Dwarf'. Photo by Harry Olsen

"reds" are hard to describe and must be seen to be appreciated. Not as dark as some of the other cultivars, this red is a soft but deep color, lacking the black-red quality of 'Crimson Queen' or 'Dissectum Nigrum'. 'Brocade' holds its color well into the summer but gradually turns to a green red and bronze later in the summer. It is a pleasant bronzing, not as harsh as some other cultivars. Fall coloration is usually bright red to crimson blended softly with orange. The multidissected seven- or nine-lobed leaves are of medium size, 6–10 cm long and at least as wide. This form cascades and eventually makes a large rounded bush 3 m high and 3.5 m wide.

'Burgundy Lace'

MATSUMURAE – red

This striking American cultivar has almost ribbonlike lobes and red coloration comparable with burgundy wine. The leaves are deeply divided with the seven lobes separated virtually to the leaf base. The lobes hold closely together, making the leaf appear longer than broad. The leaves are 6–10 cm long and 8–9 cm wide. Each lobe is ovate-lanceolate, coming to a very gradual sharp point. The lobes are up to 1.5 cm wide in the middle and narrow to a tiny 1 mm at the base. They are sharply toothed along the entire margin. Spring and early summer coloration is the typical burgundy red, but as the season progresses it turns bronzy or greenish. It burns in full sun. This spreading, small tree, up to 6 m high and wide, develops a wide canopy when given room. Although upright, it is classed in the smaller tree group. Hardy and beautiful, it makes an excellent contrast with other upright cultivars. It fits into smaller landscape plantings with judicious pruning.



'Brocade'. Photo by Harry Olsen

'Butterfly'

MATSUMURAE—*variegated*

'Butterfly' is a very spectacular small-leaved variegate. The leaves are variable in shape—rarely are any two alike—and have five or seven lobes. Each lobe is different—some short, some long, and most of them irregularly shaped on leaves of older wood. The leaves on new growth have lobes which are more uniform. The slender lobes are long and narrow, 2–5 cm long and 5–10 mm wide, and are separated almost to the leaf base. The petioles are short, 1–3 cm.

The variegation is basically a cream or whitish color on a bluish to grayish green or pale green. Sometimes an entire leaf is cream colored, but most often this color appears on the edges of lobes or an entire lobe. Quite often the cream portion of the lobe is sickle shaped. Noticeable in the spring are the light pink markings which border the white or cream portions. In fall coloration, the white areas become a striking magenta, lending an entirely new quality to the appearance.

Growth is normally short and twiggy, making a dense, large shrub or very small tree of 5–6 m high. It is stiffly upright. Occasionally, a plant in very good culture puts out a shoot 40–60 cm long. New shoots and twigs are very delicate and slender. The plant is difficult to graft

because of the very small diameter of the scions. The nuts are extremely tiny, not more than 2 mm in diameter.

One of the most reliable and desirable cultivars of the variegated group, this dainty and attractive tree always brings comments from visitors. It differs from the similar 'Beni shichihenge' in its taller, narrower growth and the lack of pink variegation except along the edges of



'Butterfly'. Photo by Peter Gregory



'Burgundy Lace'. Photo by Cor van Gelderen

the cream in the spring, and has deeper cut lobes than the similar-shaped 'Kagiri nishiki'. The Japanese name is thought to be 'Kochō nishiki', which translates to "variegated butterfly," or 'Kochō-no-mai'. It has also been known under the names 'Cho cho' and 'Choco-no-mai'.

'Caperci Dwarf'

DWARF – *green*

This lovely dwarf probably originated in the 1970s with the late Jim Caperci, a nurseryman in Seattle, Washington. It is like a dwarf 'Corallinum' with small leaves of a coral or light pink color, becoming a medium to light green for the summer and then turning a golden color in the fall. The small five- or seven-lobed typical palmatum leaves are 3.5–4 cm long and 4–5 cm wide. The ovate lobes are divided about two-thirds of the way to the leaf base and are 8–10 mm wide at the broadest point in the lower third. The pretty, very slender petioles are 2–2.5 cm long. When young, 'Caperci Dwarf' has a long slender leader and horizontal branching pattern. As it matures it becomes an upright rounded shrub, reaching about 1.5 m tall. This cultivar is sometimes misspelled 'Capersi Dwarf'.

'Chikumano'

PALMATUM – *red*

This tree of unusual quality and leaf size has an upright growth habit but with a tendency to be broad. The leaves are large, ranging from 10 to 15 cm long and from 14 to 18 cm wide. The strong, bold leaves are divided over two-thirds of the way to the leaf base, and the ovate lobes taper to a long point. The margins of the lobes are double toothed. Vigorous spring growth produces very large leaves, while older wood carries leaves which are slightly smaller. The spring foliage is a deep, rich dark purple red with a deep green leaf undersurface. During summer, green undertones appear in the purple red. The leaves change into fall colors of rich burnt orange and yellow orange. This cultivar matures into a medium-sized tree of spreading habit, and makes a strong color contrast with the brighter red- or green-leaved cultivars.

'Chirimen nishiki'

LINEARILOBUM – *variegated*

This variegated form has a basic foliage color of deep green. Irregular markings of yellow are predominant. These are often light areas involving an entire lobe.



'Chikumano'. Photo by Cor van Gelderen

Other markings are indistinct little areas of a subdued whitish green. There are occasional flecks of light yellow. It is a very delicate variegation on a very delicate type leaf. Many leaves are entirely green.

These unusual leaves measure 3.5–4.5 cm long and up to 4 cm wide. They are five lobed and separated to within 1 cm of the leaf base. Each lobe is very elongated, linear-lanceolate, and has an acuminate tip. The margins are very irregular, wavy, toothed, sometimes with small lobules which are short and round. The leaves of new wood are more regularly palmate with lanceolate lobes and very coarsely toothed margins. The thin petioles are up to 3 cm long.

This plant is not strong growing; vigorous young trees send out shoots 30–40 cm long, but slow down as the plant gets older. It is a small shrubby type of plant reaching about 2.5–3 m at maturity—rather delicate and not easily propagated. 'Chirimen nishiki' is a very choice cultivar, not very widely known or found in many collections. The name means “colorful crepe paper.”

'Chishio'

PALMATUM – green

This cultivar is one of a large group of maples which have brilliant crimson spring foliage. Appropriately, the name 'Chishio' means “blood.” During the summer it turns a normal green. Then, in the fall, it develops orange-red tones of varying intensity, depending on the season. The five- or seven-lobed leaves are of the palmatum type. They are 5–6 cm long and wide, and are divided two-thirds of the way to the leaf base. Each lobe is rather narrow, ovate-lanceolate and with slightly toothed margins. The slender petiole is about 3 cm long.

'Chishio' is slow growing and does not exceed 4 m tall



'Chirimen nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

and wide. The twiggy habit is typical of most of this red-colored spring group. The intense crimson new growth and new leaves make this plant as colorful as a flowering shrub. Compared to others, such as 'Corallinum' and 'Shin deshōjō', the color can be described as having a tinge of orange in the scarlet rather than being red scarlet. Since it is among the hardier cultivars, it is a desirable garden plant where a small tree is needed.

It is reported that there was, in the ancient days in Japan, a cultivar called 'Yashio' which looked much like 'Chishio'. The latter was newer and more colorful and so 'Yashio' seems to be lost to horticulture. This cultivar is also known under the names 'Sanguineum Chishio', 'Shishio', and 'Mosen', and has been misspelled 'Chisio'. The name 'Chishio' has often been misused for the cultivar 'Okushimo'.

'Chishio Improved'

PALMATUM – green

This small-leaved cultivar has extremely brilliant spring foliage. It is as bright as the foliage of 'Shin deshōjō', but the color is more of a crimson than crimson scarlet. The color lasts well through the spring and is followed by a good green in the summer. The five- or seven-lobed leaves are small, 3–6 cm long and 4–7 cm wide. The lobes are ovate with tapering, well-defined points. They radiate outward and join about two-thirds of the way or more to the leaf base. The margins are coarsely toothed, the teeth having sharp tips. The petioles are slender and 3.5–4 cm long. The bark of the young shoots is quite red on the upper side.

This multibranched, vigorous shrub grows up to 5 m tall. New shoots can be 1 m long. However, as the plant becomes older, the rate of growth slows. It is among the



'Chishio'. Photo courtesy of Oregon State University Archives, Corvallis

best of the bright pink red spring-color cultivars with no weaknesses. 'Chishio Improved' adapts well to container growing for patio display and for bonsai culture. Shoots and leaves dwarf with this type of care. The origin of 'Chishio Improved' is obscure, but the mixing of Japanese and English names is illegitimate. If it were of Japanese origin, which it does not seem to be, the correct name would be 'Shin chishio'. Another name under which this cultivar has been known is 'Shishio Improved'.

'Chitose yama'

MATSUMURAE – *red*

This deeply divided red form has leaves with slender lobes which separate almost to the leaf base. The lobes are long, narrow, ovate-lanceolate. The leaves measure up to 8 cm long, and the lobes are 5–10 mm broad. The edges are partly double serrated with many sharp teeth. New leaves are often pale crimson but open to a rich purple red. However, they do not color well in deep shade. As the season progresses, a bronze green to dark green color appears. Fall color is a rather bright crimson.

This cascading maple is not as fully drooping as some cultivars. Older plants make a moundlike tall shrub, 3 m tall and wide. 'Chitose yama' is an excellent cultivar of the older type and is found quite widely in collections and some nurseries. It is often used as a specimen in containers and occasionally for bonsai. According to van Gelderen et al. (1994), plants sold under this name in Europe have olive brown to olive green leaves turning orange yellow in the fall, but this does not fit the original description by Kobayashi (1974). The latter agrees with the description above.



'Chishio Improved'. Photo courtesy of Oregon State University Archives, Corvallis

'Coonara Pygmy'

DWARF – *green*

Arnold Teese, Yamina Rare Plants, Monbulk, Victoria, Australia, has selected an excellent little dwarf form which he has named 'Coonara Pygmy'. It forms a round bush, up to 1.5 m tall and broad.

This beautiful little maple has bright green leaf forms. The leaves vary, as do those of most dwarf or "yatsubusa" forms, having very tiny leaves on older wood and larger (more palmate) leaves on new shoots. On mature wood, the leaf nodes are very close together, creating a dense cover of foliage along the twigs. The tendency to multibranching adds to the compact formation of foliage clusters. The twigs and branches are thin but stiff. Most leaves on the old wood measure about 2 cm long and wide. New growth produces foliage 3–4 cm wide. The leaf is five lobed and rather typically palmate. The lobe is broad-ovate and acuminate, with a sharp tip. The margins are toothed, sometimes bluntly so.

After growing this cultivar for several years, it has become one of my favorite dwarf types. It performs extremely well in the landscape, takes on a natural globe shape without much pruning, is vigorous without being unruly, and has attractive foliage in all seasons. 'Coonara Pygmy' is also proving quite valuable as a bonsai specimen plant. The green leaves pass through beautiful pastel yellow-orange-pink stages in the fall before turning a bright deep pink, perfectly matching the deep coral-pink shoots.

I found it of particular interest that we were able to exchange scions for grafting during the growing seasons. Since January is midsummer for Teese and midwinter for me, propagating material at the proper time seemed a problem. However, Teese sent a few terminal shoots,



'Chitose yama'. Photo courtesy of Oregon State University Archives, Corvallis

2–5 cm long, in full leaf which he had cut during the summer “resting period” following the first flush of growth. I grafted on 1 February and the plants all put out two more growth periods in that season. Indeed, that must have seemed like a long year to those plants! Grafting in July with dormant scions from Australia would probably have worked as well, but would have given the new plants only a short half-season.

‘Corallinum’

AMOENUM – green

The spring foliage is the most outstanding feature of this cultivar. The color is difficult to describe, but it could be classed as a deep shrimp pink. It is very distinct and attracts much attention. It is a thrill to see this plant in its spring and early summer glory. During the summer the foliage turns a good tone of green, and some leaves are slightly variegated with minute flecks or speckles of light tones. The new growth which comes in late summer or early fall is scarlet.

The leaves are near typical palmatum with five, or sometimes seven, lobes and 4–5 cm long and 5–6 cm wide. The leaf is divided halfway to two-thirds of the way to the leaf base. The lobes are ovate, tapered, and very slightly toothed. Many leaves develop a slight crinkling, not lying in a perfectly flat plane. The petioles are slender, reddish pink, and about 4 cm long.

I had the pleasure of seeing Sir Harold Hillier’s fine specimen plant at the Hillier Gardens and Arboretum, Romsey, Hampshire, England. Viewed during the first week in June, it was in its glory of rich pink tones. In my opinion, it rivaled many flowering shrubs. It grows slowly with a twiggy habit and makes a dense compact plant.



‘Coonara Pygmy’. Photo by Harry Olsen

Old plants probably do not exceed 3 m high under most conditions.

Unfortunately, the name ‘Corallinum’ has also been applied to the coral-bark maple ‘Sango kaku’. While the true ‘Corallinum’ has some winter bark tone, it must not be confused with ‘Sango kaku’. When discussing this synonymy with Hillier, he remarked, “Why, they are as different as chalk and cheese!” I found this remark most descriptive and one I will not soon forget! This cultivar has also been known under the names ‘Beni seigen’, ‘Carmineum’, ‘Coralliformis’, and ‘Spring Fire’.

‘Coral Pink’

DWARF – green

This lovely small slow-growing cultivar is outstanding in the spring with its eye-catching light coral-pink young foliage and slender pink-red shoots and petioles. The leaves become yellowish with pink edging before turning light green, often with lighter gray-green mottled variegation in early summer. This plant is similar to ‘Wilson’s Pink Dwarf’ but quite a different pink tone in the spring, and a much lighter and softer pink than ‘Corallinum’.

The five-lobed, sometimes seven-lobed, fairly deeply cut leaves are of the Palmatum Group, 4.5–6 cm long and wide. The lobes are ovate-triangular to oblong-ovate with long tail-like tips, and are divided two-thirds to three-quarters of the way to the leaf base. The lobes are 3–3.5 cm long and 1–2 cm wide at the broadest point about halfway along, narrowing to 6–13 mm at the lobe junctions. The margins are irregularly and very coarsely double toothed. The slender pink to yellow-green petioles are 1–4 cm long.



‘Corallinum’. Photo courtesy of Oregon State University Archives, Corvallis

'Coral Pink' is a slow-growing, upright shrub which reaches 2 m high at maturity. It merits a place in any garden landscape, however small, but prefers some shade or protection from the midday sun. It was first noticed by Jelena de Belder at the Arboretum Kalmthout, Belgium, about 1965, kept under observation for many years, and eventually named and propagated by Cor van Gelderen of Firma C. Esveld, Boskoop, Netherlands, in 1985. It is difficult to propagate successfully and has been known under the names 'Carmineum' and 'Spring Fire'.

'Crimson Queen'

DISSECTUM – red

The outstanding feature of this cultivar is the persistence of the good, deep red color of the foliage. Most dissectum cultivars with excellent red color during spring and early summer turn green or bronze. 'Crimson Queen', however, carries the deep red color throughout the entire growing season. It has endured periods of 38°C temperatures in full sun with practically no sunburn, but under these conditions the deep red became orange red. Fall colors range into the extremely bright scarlet tones. The finely dissected leaves have lobes up to 9 cm long, with the side lobes 5–6 cm long. Each narrow lobe is deeply divided and notched. The scarlet petioles range up to 4 cm long.

This strong-growing cultivar originated in the United States and ages into a beautiful cascading form. Under very vigorous conditions, young plants put out shoots up to 60–65 cm long. As the plants age, the growth shoots become shorter and form a more dense growth. The tree reaches 3 m high and 4 m wide. Among the many known cultivars of red dissectums, this one has become a favor-

ite in the United States in the commercial trade. Every effort should be made to retain its purity, and purchasers of young stock should be assured that it is the true cultivar.

'Curtis Strapleaf'

LINEARILOBUM – red

The late William Curtis of Wil-Chris Acres, Sherwood, Oregon, selected this robust, newer linearilobum. The young leaves emerge a bright red and quickly change to plum red, a color held well into late summer with the undersides becoming a bronze gray-green. The deeper color is held longer than that of the popular 'Atrolin-eare'. In the fall, the color changes to orange. The five-lobed leaves are well spread, measuring 8–9 cm long and 11–12 cm wide. Each straplike lobe is elongate and slightly broader in the middle, up to 5–6 mm wide. Irregular, shallow-pointed serrations are scattered along the margins. The dark red slender petioles are 3–3.5 cm long. 'Curtis Strapleaf' forms a vigorous upright tree with open crown and foliage, and eventually attains a height of 3 m or so.

'Deshōjō'

PALMATUM – red

This plant has bright spring foliage. At the early leaf stage the new foliage is a brilliant carmine red. It is a very bright colored plant for a short period of time, but the color does not hold as long as it does in other related cultivars. The basic color of 'Deshōjō' for the rest of the year is a good tone of lighter green often with reddish bronze edges.

There are different selections of 'Deshōjō'. Some forms



'Coral Pink'. Photo by Peter Gregory



'Crimson Queen'. Photo courtesy of Oregon State University Archives, Corvallis

do not have such brilliant spring coloring. At Maplewood Nursery we received plants with the label “‘Deshōjō’ good form” which did have the characteristic striking scarlet color, but even these did not retain the brilliance into the early summer as did some other cultivars.

The leaves are palmatum shaped with lobes separated two-thirds the distance to the base. The usually five lobes radiate from the center, are strongly tapered to a point, and have finely toothed margins. The leaves are up to 5–6 cm long and wide. The thin petioles are up to 4 cm long.

The *shōjō* part of this cultivar’s name (meaning “red-faced monkey”) can become confusing. ‘Shōjō’ is an old standard form of the red palmatum. ‘Deshōjō’, as described above, is the base for other selected cultivars. ‘Shin deshōjō’ is a newer selection (*shin* means “new” or “newer”). ‘Kondeshōjō’ and ‘Ima deshōjō’ are other forms of varying red shades.

This upright form makes a rather tall shrub of 3 m and is unusually as wide as tall. It takes its place as an outstanding ornamental companion plant for smaller gardens and is quite desirable in the group of “brilliant new growth” types. The name is sometimes misspelled ‘Desyojo’.

‘Dissectum Nigrum’

DISSECTUM—red

The new spring growth of ‘Dissectum Nigrum’ is its distinguishing characteristic. The new shoots and foliage are noticeably covered with fine silvery hairs which make the unfolding new growth look almost gray. It soon loses the pubescence and attains the rich, deep red color so typical of this cultivar. Unfortunately, there are many



‘Deshōjō’. Photo courtesy of Oregon State University Archives, Corvallis

plants so labeled which are not the true ‘Dissectum Nigrum’ but rather other forms of *Acer palmatum* f. *dissectum atropurpureum*. These do not have the silvery pubescence on the newly developing leaves, nor do these plants retain the deep red for which this cultivar is known.

Each leaf has seven finely dissected lobes as long as 12 cm, and each lobe is deeply dissected from the edges to the midrib. The lobes tend to hang down, making the leaf about 10 cm wide in many cases, and giving the whole plant a feathery, cascading appearance so desirable in the Dissectum Group.

As the name implies, this maple holds the deep red color much longer into midsummer than do many other red dissectum cultivars. However, it does not usually hold the rich reds quite as long as ‘Crimson Queen’ does. Planting in full sun or in partial shade affects the length of color retention. Partial shade prolongs the deep colors. In late summer the bronze or bronze green colors take over. In the fall, the rich, bright red tones become prominent.

‘Dissectum Nigrum’ is a vigorous dissectum with the typical pendulous growth habit. Large old specimens are 4–5 m high and at least as wide. This plant was one of the better red dissectums of the nursery trade, but has probably been overtaken by ‘Crimson Queen’ and ‘Garnet’. It was originally imported from Japan into Europe and named ‘Dissectum Nigrum’, but renamed ‘Ever Red’ by Cascio when imported into the United States in 1965. Hence, it is better known there as ‘Ever Red’. However, keeping the earlier name of ‘Dissectum Nigrum’ has priority and so this is the legitimate name. It has also been known under the names of ‘Dissectum Atrosanguineum’, ‘Dissectum Ever Red’, ‘Nigrum Dissectum’ and ‘Pendulum Nigrum’. ‘Dissectum Nigrum’ has also been



‘Dissectum Nigrum’. The silvery pubescence of spring growth identifies this cultivar from other similar forms. Photo courtesy of Oregon State University Archives, Corvallis

grown under the name 'Nigrum'. However, it should not be confused with the true 'Nigrum' which is not a dissectum cultivar but belongs to the Palmatum Group.

'Eddisbury'

PALMATUM – *green*

'Eddisbury' is a reliable and desirable coral-bark maple, rather like the popular 'Sango kaku', with similar but slightly larger leaves. However, it does not grow as tall as 'Sango kaku' and the deeper bright red shoots and petioles contrast markedly with the deeper green leaves throughout the growing season.

The foliage is typically palmatum type. The leaves are mainly seven lobed, ovate-acuminate, and tapering to a fine point. The leaf margins are regularly and evenly double toothed. Most leaves are 6–7 cm long and wide, and the slender bright red petioles are 3–5 cm long. Leaf color is a medium to dark green. New young leaves are a lighter yellow green with red-tinged tips and edges. As summer approaches, the foliage becomes a more uniform green, but a red tinge persists at the extreme tips

and outer teeth of some leaves. The main veins are tinged mostly red to pink. The fall colors are orange to gold with light red overtones.

This sturdy, upright plant grows vigorously when young without getting too large or lanky. Its outstanding feature is the coral-red winter shoots, the color persisting into the second and third year. 'Eddisbury' was a chance seedling spotted by a keen-eyed employee at the F. Morrey and Son Nursery in Cheshire, England, who was attracted by its brilliant red stems. The original plant was selected about 1970 and was, after thirty years, more than 3 m tall. It was named after the district in which the nursery is situated.

'Elegans'

MATSUMURAE – *green*

The glory of this cultivar comes with a burst of color in the fall. It is a bright orange tinged with red. The season starts in the spring with the new leaves a yellowish green color, then turning a darker green as they finally develop. The leaves usually have (five or) seven deeply divided and



'Dissectum Nigrum'. Photo courtesy of Oregon State University Archives, Corvallis

widely separated lobes up to 7 cm long and 1.5 cm wide at the broadest midpoint. The long-ovate leaves have distinctly serrated edges and are divided almost entirely to the leaf base, with the lobes very narrow at the junction. The petioles are strong and 3 cm long.

This stocky-growing, low tree tends to become as wide as it is tall. The branches are thick and sturdy. Old specimens reach heights of 3 m or more. 'Elegans' is a good, hardy, trouble-free plant and is useful when a short tree is desired for background planting. Other names under which this cultivar has been known are 'Heptalobum Elegans', 'Pinnatum', and 'Septemlobum Elegans'.

'Elizabeth'

DWARF—red

This dwarf plant is similar to 'Kandy Kitchen' and, like that cultivar, originates from a witches'-broom found and named by Edward Rodd of Raraflora Nursery, Kinterfield, Pennsylvania. The mainly five-lobed small leaves are of the palmatum type, divided up to three-quarter of the way to the leaf base, and are 2.5–3 cm long and wide. The lobes are ovate with tail-like tips, though the center lobe may be truncated in some leaves. The margins are toothed. The young leaves emerge a bright pink red and become purple red. This color holds well all



'Elegans'. Photo courtesy of Oregon State University Archives, Corvallis

summer until changing to a vivid crimson in the fall. The bright pink-red young leaves produced throughout the summer are attractive against the darker red older foliage. 'Elizabeth' forms a dense upright shrub up to 2 m tall and almost as wide.

'Ellen'

DISSECTUM—green

This vigorous, fresh green maple is characterized by its very low widespreading growth habit. It grows to about 1 m high in 10 years, with a spread of 2.5 m. The young leaves are yellow green when first emerging. They turn a clear yellow in the fall. The large seven- or nine-lobed deeply dissected leaves are very variable in size, 7–13 cm long and 8–15 cm wide. Each lobe is itself coarsely and deeply incised, 6–11 cm long and 2–4 cm wide, narrowing to the width of the main vein for the lower 1–1.5 cm



'Elizabeth'. Photo by Harry Olsen



'Ellen'. Photo by Cor van Gelderen

to the junction with the leaf base. The margins of the lobules are in turn very coarsely toothed with hooked, sharply pointed teeth. The strong petioles, swollen and hooked at the base, are 2–4 cm long.

This lovely graceful cultivar was first noticed at Firma C. Esveld, Boskoop, Netherlands, in a batch of open-pollinated seedlings received from the Fratelli Gilardelli Nursery, near Milan, Italy. After years of observation and propagation, it was named in 1992 after Ellen van Gelderen, the owner's daughter-in-law.

'Emerald Lace'

DISSECTUM – *green*

This interesting cultivar was a chance seedling which David Sabo of Charlotte, North Carolina, grew and liked. He sent scion material to Del Loucks of Del's Japanese Maple Nursery, Eugene, Oregon, who propagated and named it. It is a much deeper green than the normal green dissectums, has lacy foliage, and is a fast grower with very pendulous branches. The foliage is yellow green when it first appears in the spring, darkening by midsummer, and then unexpectedly turning a bright burgundy red in the fall.

The five- or seven-lobed medium-sized leaves are 7–8 cm long and 8–9 cm wide, deeply dissected to the leaf base where the lobes narrow to the width of the midrib, less than 1 mm. The lobes and sublobes are well spread outward. The slender but stiff green petioles are 3–4 cm long. 'Emerald Lace' is a vigorous dissectum and forms an irregular semi-upright but spreading bush with long, pendulous branches. It reaches a height and spread of about 2 m in 10 years. This cultivar would make a pleasant contrast with other dissectums with its darker green foliage and different growth habit.



'Emerald Lace'. Photo by Harry Olsen

'Emperor I'

PALMATUM – *red*

This outstanding red palmatum of exceptional vigor was discovered and developed by Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania. It is comparable to 'Bloodgood', the reliable standard to which all newer red upright palmatus are compared. 'Emperor I' exceeds even 'Bloodgood' in leaf color retention and growth rate, and has the additional advantage of coming into leaf two weeks later—thus reducing the risk of damage by late spring frosts and cold drying winds. It also holds its color well in shade and is more versatile.

The leaves are a deep purple red which is retained throughout the growing season until changing to a beautiful dark crimson in the fall. Because the leaves are thinner-textured than those of 'Bloodgood', they are more translucent and glow in the sunlight. The large five- or seven-lobed leaves, which are 9–10 cm long and 10–13 cm wide, are divided two-thirds to three-quarters of the way to the leaf base. Each lobe is ovate with a long, pointed tip, 1.5–2 cm wide at the broadest point in the middle and narrowing to about 1 cm at the lobe junction. There are numerous fine small teeth along the margins. The strong dark red petioles are 3–5 cm long.

'Emperor I' is hardy and grows vigorously into an upright wide-crowned tree. It makes a good focal point for a large landscape. 'Red Emperor', which also originates from Red Maple Nursery, fits the above description and may be the same cultivar.

'Enkan'

LINEARILOBUM – *red*

'Enkan' is a dwarf red strap-leaved maple from Japan, brought back to Europe in 1991 by Cor van Gelderen of



'Emperor I'. Photo by Harry Olsen

Firma C. Esveld, Boskoop, Netherlands. It is very similar to another outstanding strap-leaved cultivar, 'Red Pycmy', also introduced by Firma C. Esveld, but holds its deep wine-red coloring even better in all conditions, even in the hottest climates. It is the darkest red of the linearilobums. The medium-sized five-lobed leaves are divided almost to the base and are slightly broader than long, 7–8 cm long and 9–10 cm wide. The smaller basal lobes are almost at right angles to the petioles. In the mature leaf, the lobes are straplike with bluntly pointed or rounded tips, untoothed or barely toothed, and 2–4 mm wide. The lobes of leaves from vigorous young shoots are finely and sharply toothed, up to 1 cm wide in the middle, and lanceolate-ovate with pointed tips. The purple-red petioles are 2.5–3.5 cm long. 'Enkan' forms an upright tree of up to 3 m but not so wide, and is similar in habit to 'Koto-no-ito'.

'Ever Autumn'

PALMATUM – *green*

The outstanding feature of this strong upright cultivar is the flush of autumn colors—gold through orange red—in the otherwise rich green leaves throughout the growing season, hence the name. This culminates in quite exceptional fall coloring. The almost rounded seven- or nine-lobed leaves are 8–10 cm long and wide, and are divided over two-thirds of the way to the leaf base. The lower lobes point sideways to form an almost flat leaf base. Each lobe is broad-ovate with a short tail-like pointed tip and has coarsely serrated margins. The petioles are 2–3 cm long. 'Ever Autumn' was selected in the mid-1980s and named by Dan Heims, Terra Nova Nurseries, Canby, Oregon, from a seedling in his garden. 'Omure yama' is a possible parent among other *Acer palmatum* cultivars.

'Felice'

DISSECTUM – *red*

This outstanding red dissectum has two unusual features. First, the leaves bunch up at intervals along the shoots, causing the yellowish young leaves to look like brush tips. Second, the seven-lobed deeply dissected red leaves are of two kinds. One has the lobes narrowing near the leaf base to little more than the width of the midrib, with the lobes themselves deeply incised. The other has broader, much less deeply divided lobules, sometimes little more than large teeth, the lobes 7–9 cm long and 1–1.5 cm wide. The margins have coarsely sharp-pointed double teeth. The broader-lobed leaves

hold their purple-red color on the upper surface into the fall, with the undersurface becoming a dark green suffused with purple. The strong red petioles are 1.5–3.5 cm long. The young leaves emerge a light yellow green with pink edging, becoming a bronze green with purple edging later in the season. The bunches of young yellow leaves against the darker bronze green older foliage have a pleasant multicolored effect. 'Felice' forms a bushy mound estimated to reach a height and spread of about 3 m at maturity. It arose as a chance seedling which was named and introduced by Firma C. Esveld, Boskoop, Netherlands.

'Filigree'

DISSECTUM – *variegated*

This small maple is probably my favorite among the variegated dissectums. Its delicate texture and interesting color changes make it a conversation piece. The basic color is light green, almost yellow green in the spring. It darkens as the season progresses. Entirely overlaid on the basic color is a profusion of minute dots, specks, or flecks of pale gold or cream. The leaf shape is so distinct and the color so difficult to describe that personal inspection is necessary. In the fall, the leaves attain a rich gold which holds very well. The bark of the twigs and branches is a silvery green with definite white striping or elongated flecking.

The leaves are dissected entirely to the leaf base. Each of the seven lobes is delicately and deeply dissected almost to the midrib. In turn, each lobule is again toothed,



'Felice'. Photo by Cor van Gelderen

making a double-dissected and very lacy leaf. The end of each dissected tooth is quite sharp. The lobes are up to 8 cm long on mature foliage, and the complex leaf is about 11 cm wide.

The growth habit is pendulous like that of most dissectums. It is compact and makes a well-rounded, cascading plant 2 m high and 3 m wide. Tall staking during early growth of the plant or high grafting on a standard is desirable. The plant will then cascade as it matures.

The original plant is believed to belong to Joel Spingarn of Baldwin, New York. It was a chance purchase by him of a young green dissectum which developed these characters. Spingarn named it 'Filigree'—a valid name and an excellent choice. Later a plant or two appeared in the West without proper nomenclature. It has been called 'Green Filigree'. The name 'Silver Lace' was attached to it but, according to Spingarn's records and history, this is a misnomer. 'Filigree' is a very desirable cultivar for landscapers as well as collectors.

'Fior d'Arancio'

MATSUMURAE—red

The leaves of this cultivar are similar in shape and size to those of 'Wakehurst Pink', without the variegation and with chunkier, less hooked teeth on the margins of young leaves. The leaves emerge a bright orange red, becoming a bronze and copper red as they develop. They tend to green up easily when shaded. The contrast of orange-red young leaves on a background of copper-green older leaves and possibly green-shaded leaves can produce an attractive multicolor effect. The large seven-lobed leaves are 10–11 cm long and 11–12 cm wide, and



'Filigree'. Photo courtesy of Oregon State University Archives, Corvallis

deeply divided to within 1 cm of the leaf base. Each lobe is ovate with a long, pointed tip, 1.5–2 cm wide at the broadest point in the middle and narrowing to 3–6 mm at the lobe junctions. The outer margins are conspicuously double toothed. The sharp teeth are angular and very prominent in young leaves. The stiff reddish bronze petioles are 4–7 cm long. This cultivar forms an upright rounded tree up to 5–6 m high. It originated at the Fratelli Gilardelli Nursery, near Milan, Italy. The name has been misspelled 'Fior d'Arancio'.

'Fireglow'

PALMATUM—red

This impressive and reliable cultivar is a vigorous, upright, well-branched shrub or small tree. It is similar to the popular, well-tried and tested 'Bloodgood', but the leaves are not as deeply divided and it has a deeper, more intense, red color which stays throughout the summer, even in hot, sunny conditions. The new leaves emerge a very bright pink red in the spring before turning a deep red. The upper surface retains its color well into late summer and does not burn in hot sun. The foliage becomes purple red suffused with green in early fall.

The seven-lobed medium-sized leaves are divided to just over two-thirds of the way to the leaf base, with the small basal lobes at right angles to the petioles. The leaves are 7–9 cm long and 9–11 cm wide. The ovate lobes are 5–6 cm long and 2–2.5 cm broad at the widest point in the middle, narrowing to 1–1.5 cm at the lobe junctions. The junctions are 1.5–2.5 cm from the leaf base. The leaf margins are evenly and sharply double toothed.



'Fior d'Arancio'. Photo by Cor van Gelderen

This cultivar forms an upright shrub with many slender dark red shoots, eventually reaching up to 4–5 m high. Although vigorous, it does not become as tall and widespread as 'Bloodgood', and makes an excellent garden or container plant. The original tree is only about 4 m after 30 years. 'Fireglow' was first selected and developed by the Fratelli Gilardelli Nursery, near Milan, Italy, under the code FGI. The name 'Fireglow' aptly describes the eye-catching effect when the leaves are backlit by the sun. A Dutch nursery later sold this same cultivar under the name 'Effigi', which has been misspelled as 'Effigy'.

'Fjellheim'

PALMATUM – *green*

This plant arose from a witches'-broom growing on the ever-popular 'Sango kaku' and discovered by the late Ilo Sorenson from the Blue Mountains near Sydney, Australia. It has retained all the characteristics of its famous parent—the beautiful coral-red shoots and the five-lobed palmatum-type leaf shape, size, and coloring. The notable difference is that 'Fjellheim' is much bushier and shorter. Although in young plants, vigorous shoots may extend to 1.5 m, growth slows down with age. Hence, 'Fjellheim' forms a much more compact bush than 'Sango kaku'. For this reason, it was known under the illegitimate name 'Sango kaku Dwarf'. With its spectacular bark, the beautiful spring and fall coloring of the leaves, and its compact growth, this introduction is ideally suited for the small garden and as a container plant.



'Fireglow'. Photo by Peter Gregory

'Flavescens'

DISSECTUM – *green*

The distinct yellow green of this cultivar makes it a worthwhile addition. Although the leaf form is quite typical of the dissectums, the distinct color phase of the spring and early summer foliage makes this maple quite different. The green tones of the foliage darken as summer progresses. The fall color is usually a good tone of yellow, occasionally tinged with orange.

The leaves are of good texture and durable. There are seven lobes, sometimes five, which are deeply separated entirely to the leaf base. Each lobe is itself incised and toothed along the margins. However, the individual lobes are not as deeply pinnatifid as they are in most typical dissectums. The leaves measure up to 10 cm long and wide.

The plant is very vigorous and has the typical pendulous habit of the Dissectum Group. It is desirable to



'Fjellheim'. Photo by Harry Olsen



'Flavescens'. Photo courtesy of Oregon State University Archives, Corvallis

train the young plant into an upright stem so that the cascading form may develop. The tree matures at 2 m high and 3 m wide. Other names by which this cultivar has been known are 'Dissectum Aureum', 'Dissectum Flavescens', 'Dissectum Unicolor', and 'Sulphureum'.

'Garnet'

DISSECTUM—*red*

The outstanding features of this cultivar are its color and vigor. The leaf color is the rich red orange of the gemstone garnet. When this maple is grown in shade, the leaves retain a greenish cast, but in a sunny location the garnet color develops well.

It is a vigorous-growing form eventually attaining a height of 4 m or more. When very heavily fertilized, the plant sends out new shoots up to 1 m on young plants. In the landscape, however, the shoots are not as long, and the plant shapes itself well. It has the pendulous, spreading habit of dissectums, and as it matures forms a beautiful, cascading, mound-shaped specimen.

The leaves are large for a dissectum, and the deep color holds well into the summer season. Well-fertilized young plants have leaf lobes up to 12 cm long, although most are shorter. Each of the seven lobes separates entirely to the leaf base. The side incisions on each lobe do not cut as deeply toward the midrib as do some other dissectums, and are not as delicate. The whole leaf appears a little coarser than that of most red dissectums.

This plant originated with Guldemond of the Netherlands, who sold the stock plants and propagating rights to Le Faber and Company of Boskoop. Later, propagation rights were given to Hauenstein, Rafz CH, of Switzerland. It has become a popular cultivar with nurs-



'Garnet'. Photo courtesy of Oregon State University Archives, Corvallis

ery propagators and makes a good quality plant of saleable size in a short time. It retains color well and is a durable landscape plant. It has also been known under the name 'Dissectum Garnet'.

'Garyū'

DWARF—*green*

This name, which means "one's own style or manner," is certainly suitable for this cultivar. The foliage is most distinctive. The leaves appear small and delicate, although measurements show them to be larger than they look. The smaller leaves are 2–4 cm long and wide, while the larger leaves measure 6–8 cm long and 6–9 cm wide. These dimensions are misleading since the leaves are so long and slender that they appear much more delicate than indicated. Each leaf has three lobes, sometimes five, which separate entirely to the leaf base. The lobes almost form a T. They are elongate-lanceolate, narrow at the base, tapering to a narrow tip. While the lobe may measure 5–6 cm long, it does not exceed 1 cm in width. However, it is not as parallel-sided as cultivars in the *Linearilobum* Group. The margins are complex—deeply toothed to lobulate or combinations of both. The lobes do not lie flat but twist sideways, curl up or down, or become slightly sickle shaped. This variation occurs between leaves or even on the same leaf. The entire appearance of the foliage is rather disorganized, but it is attractive. The colors also vary. Basically the foliage is medium to light green. New foliage has a definite red overtone, which may persist around the margins. Some older foliage also assumes a red tone in full light.

This compact dwarf tends to produce indefinite directions of the twigs, much as with the foliage. It is semi-prostrate in habit but also has some shoots growing erect. The nodes on the twigs are very close together.



'Garyū'. Photo courtesy of Oregon State University Archives, Corvallis

'Garyū' probably only reaches 1 m high and wide after many years.

'Geisha'

DWARF – *variegated*

Duncan and Davies Nursery of New Zealand raised this amazing dwarf cultivar. In spring the deeply divided leaves are delicate shades of pink to light cream, sparsely flecked with dark and medium green spots and small patches. The creamy areas turn a pale yellow green and the main veins become green as the leaf matures, but the attractive pink tones persist all through the summer.

The five- or seven-lobed leaves are divided almost to the leaf base, and are 7–10 cm long and 7–12 cm wide—surprisingly large for such a dwarf plant. The lobes are narrowly ovate with tail-like pointed tips, 5.5–9 cm long by 1.5–2.5 cm wide at the broadest point in the lower third, and narrowing to 3–8 mm wide at the lobe junctions which are 3–10 mm from the leaf base. The margins have large coarse double teeth. The slender pink petioles are 2.5–5 cm long.

'Geisha' is a slow-growing bushy dwarf, eventually reaching 1 m high and about the same spread. It is a distinct and very unusual cultivar, unlike any other dwarf and, as the pastel colors suggest, is somewhat delicate and needs protection and semishade. It makes a fine patio plant and is ideal for containers.

'Germaine's Gyration'

DISSECTUM – *green*

This lace-leaved maple grows more vigorously than most dissectums, so that the cascading branches twist and undulate, giving rise to the "gyration" half of the name. It



'Germaine's Gyration'. Photo by Harry Olsen

arose from a seedling selected by Bob Vanderboss of Portland, Oregon, and was named by him after his neighbor and friend, Germaine Iseli. The large, coarse seven-lobed, sometimes nine-lobed, dissected leaves are 9–12 cm long and wide. Each lobe is 1.5–2 cm wide at the broadest point and is again divided into sublobes but not as deeply as in most dissectums. The sublobes are little more than large teeth reaching only about halfway to the midrib, and are themselves coarsely toothed. The dark green of the summer foliage changes to beautiful tones of yellow, orange, and red in the fall. Like most dissectums, this plant forms a cascading mushroom-shaped mound, but it is much wider than tall.

'Globosum'

DWARF – *green*

As the name implies this green dwarf forms a round ball. The thick brown shoots have very short internodes so the fully grown tree is no taller than 1.5 m and about as wide. The typically palmate five-lobed, sometimes seven-lobed, green leaves are up to 7 cm long and 7–8 cm wide, and are divided at least two-thirds of the way to the leaf base. The broad lobes are angled downwards and outward. Each lobe is ovate-triangular with a tail-like tip, 15 mm wide at the broadest point in the lower third, narrowing to 6–10 mm at the lobe junctions. The large angular double teeth uniformly arranged around the margins give the leaves an attractive feathery look. The leaves are the same shape and color as those of 'Ōjishi' and turn yellow in the fall. 'Globosum' is thought to have



'Globosum'. Photo by Cor van Gelderen

been imported from Japan and introduced into Europe by K. Wezelenburg and Sons of the Netherlands.

'Golden Pond'

AMOENUM – *green*

This cultivar has the same stunning deep yellow-orange fall color as 'Hōgyoku', with the leaves similar in shape but smaller in size. The summer color is a medium green. However, the growth habit is exactly the opposite, about one and a half times as wide as tall—4.5 m wide and 3 m tall—more like that of 'Shigure zome'. 'Golden Pond' has been growing at Firma C. Esveld in Boskoop, Netherlands, for 25 years and, after many years of observation, was named in 1996.

'Goshiki kotohime'

DWARF – *variegated*

This beautiful little plant is the variegated form of the excellent dwarf 'Kotohime', and the name means "dwarf multicolored old harp." The basic color of the foliage is a rich green, with each leaf varying in the amount of variegation. Some are completely marked with tiny flecks and speckles; others are solid green. The markings are always minute, often overlapping, and are white, cream, light yellow, pink, and red. The individual tones are subdued, but the total effect is quite brilliant in the spring. The newest growth tips are often quite pink as they develop, but soon assume the normal variegation. As the summer approaches, the leaves take on a darker green color. They are quite small, measuring 2–3 cm long and wide. Each leaf has five lobes radiating outward and di-



'Goshiki kotohime'. Photo courtesy of Oregon State University Archives, Corvallis

vided up to three-quarters of the way to the leaf base. The lobes narrow slightly toward the lobe junctions, widest about one-third from the base, and taper to a long, sharp point. The margins are toothed. The leaves are not flat, but are irregular, falcate, or slightly crinkled.

The growth of the plant is very slow and stubby. The distance between pairs of leaf buds is very short, sometimes 5–10 mm and even less on side shoots. Leader shoots rarely grow more than 2–5 cm per season. Side branching is often profuse, thus making a very dense compact small plant. It is indeed a true dwarf selection of less than 1 m tall. This variegated cultivar is quite rare, even less well known than its green counterpart 'Kotohime'. It is quite difficult to propagate because of the lack of vegetative growth. Scions for grafting are extremely short, often offering less than 1 cm to work with. Grafting with three- to four-year-old wood is not as successful as with young wood.

'Goshiki shidare'

DISSECTUM – *variegated*

This variegated dissectum has a great variety of leaf colors. Leaves with the typical, uniform, dissected shape are various shades of green with dark red overtones. Other leaves have thin lobes twisted, curled, and almost tangled. These are deep red-green, heavily marked with pink. Still other leaves have strong white areas. All degrees of variations of the above may be present.

The leaf size is usually smaller than that of most dissectums. Most leaves are 4–6 cm long and occasionally up to 8 cm. They appear narrower because the lobes tend to hold together. On uniform leaves the lobes separate entirely to the leaf base and are pinnately incised as they



'Goshiki shidare'. Photo by Peter Gregory

are on other dissectums. Many leaves have lobes much more irregularly, pinnately incised.

'Goshiki shidare' has a cascading form, as the name "shidare" suggests, and is somewhat similar to 'Toyama nishiki'. The mixture of Japanese and English in 'Beni shidare Tricolor' and 'Beni shidare Variegated' is illegitimate under the international nomenclatural rules. The two plants are so like 'Goshiki shidare', which is a much older name, that it would seem best to treat these as synonyms.

'Green Globe'

DISSECTUM – *green*

As the name 'Green Globe' implies, this green dissectum from the Fratelli Gilardelli Nursery, near Milan, Italy, tends to form a rounded ball shape. It does not have the pendulous habit characteristic of most dissectums.

The spring coloring of the emerging young leaves is attractive, the initial rose color turning to shades of creamy white and quickly becoming a fresh emerald green. This color is held throughout the summer until turning yellow in the fall. The shoots and petioles are an attractive medium green. The seven-lobed deeply dissected leaves are 7–9 cm long and 9–10 cm wide. The lobes are divided to the leaf base, narrowing to the widths of the midvein for approximately 1 cm to the base. The lobes themselves are fairly deeply incised to about 2–3 mm from the midvein. These sublobes have narrow toothed margins. The petioles are 2–3 cm long.

This vigorous rounded cultivar is estimated to reach a height of 4–5 m at maturity, with a spread of 3–4 m. Because 'Green Globe' is rounded rather than cascading, the graft is low down on the understock, not as high as usual with dissectum cultivars. This plant has also been named 'Viridis Olandese'.

'Green Lace'

DISSECTUM – *green*

This desirable green dissectum has a fine leaf texture, graceful pendulous shape, and outstanding fall colors. It was selected and named by Fratelli Gilardelli Nursery, near Milan, Italy. This cultivar grows into a wide mushroom-shaped mound, 3–4 m tall and at least as broad. It can be planted in full sun or partial shade. The leaves are deeply dissected to the petiole junction, the lobes themselves divided to the midrib into sublobes. These are, in turn, strongly toothed. The new leaves emerge a light creamy green, becoming a light emerald green for the summer. In the fall, their color changes to a beautiful clear golden yellow.

'Green Mist'

DISSECTUM – *green*

This excellent medium green lace-leaved maple is similar to 'Waterfall' in leaf and habit but with orange-red fall color and is considered to be hardier. The seven-lobed deeply dissected leaves are 8–9.5 cm long and 10–12 cm wide. Each lobe is 1–1.5 cm broad in the middle, narrowing sharply to the width of the midrib for 1–2 cm to the leaf base. The lobe is itself divided into sublobes almost to the midrib and has narrow, sharp-pointed, curved teeth. The slender petioles are 2–2.5 cm long. 'Green Mist' is vigorous and, like most dissectums, forms a cascading mound up to 3 m high. The color and delicate appearance of the pendulous foliage give it the soft misty look which gave rise to this cultivar's name. The plant was discovered by William H. Wolff and introduced by Red Maple Nursery, Media, Pennsylvania.

'Green Trompenburg'

MATSUMURAE – *green*

This tall-growing tree has distinctive green foliage. The leaves are almost identical to those of the well-known red-leaved cultivar 'Trompenburg', which was selected at the arboretum of that name in Rotterdam, Netherlands. The difference is in the color, which is a dark, rich green with no lighter undertones. The dark green carries well into the summer and fall, and does not appear to show sunburn. The early spring foliage carries a shading of rusty red on the tips and edges of the new leaves, which disappears as the leaves mature. Fall colors produce orange and yellow tones.

The leaves are hardy, of good texture, and measure 7 cm long and 10 cm wide. The seven or nine lobes radiate outward in almost a completely circular manner, and are



'Green Trompenburg'. Photo courtesy of Oregon State University Archives, Corvallis

separated four-fifths of the way to the leaf base. Each lobe is long and slender, which is further accentuated by the curved or rolled-down edges, making a long semi-tube form. The edges of the lobes are coarsely toothed but partly hidden by being rolled down. Strong petioles hold the leaf outward.

This interesting, very vigorous tree reaches a full size of about 8 m. As with the red 'Trompenburg', the foliage texture and form of tree are quite desirable. The green form gives an added choice for the landscape. This cultivar originated in a large batch of seedlings grown from open-pollinated seed, harvested at Firma C. Esveld, Boskoop, Netherlands. It was propagated at Maplewood Nursery, named and registered in 1988. Its alternative name is 'Groene Trompenburg'.

'Groundcover'

DWARF – green

The leaves of this useful small-leaved dwarf are deeply divided and have five narrow large-toothed lobes. The leaves are 3–4 cm long and 4–5 cm wide. The lobes are narrow-ovate with long pointed tips, 5–7 mm wide at the widest point, and divided to within 3–4 mm of the leaf base. The margins have relatively large coarse teeth. The threadlike short petioles are 1–1.5 cm long. The foliage is medium green with the leaf tips and outer margins tinged pink to red bronze. This cultivar is aptly named, growing into a very dense twiggy plant which hugs the ground. It reaches 0.6 m tall and 1–1.2 m wide.

'Hagoromo'

OTHER – green

This maple is one of the very unusual leaf forms of *Acer palmatum*. The distinct leaf of this green cultivar can be described in common terms as "having five feather-type divisions, joined with a stem." More specifically, the leaf is divided completely to the base, which is attached directly to the stem, without a petiole (sessiliform). Each leaf lobe is broadly lanceolate with the base quickly tapering to a petiole-like attachment, and with coarsely toothed margins. Each portion has a different plane of attitude, twist, and curve, as does each leaf on the twig, thus giving an overall very feathery and non-uniform foliage cover.

Each leaf is approximately 5–6 cm long and 3 cm wide. Foliage color is dark green, with emerging young leaves pink tinged. Fall colors are a blend of yellows and oranges in light tones. The twigs on older wood are very short and become dense in habit. However, frequently

new shoots elongate and terminal shoots may be 3–6 cm or more long. This cultivar has a narrow upright form, slowly reaching about 6 m high, though more vigorous growth may occur with heavy fertilization.

The plants in the Maplewood collection do not grow as vigorously as 'Koshimino'. Perhaps this is the main distinction between these two cultivars. Japanese authorities state that 'Hagoromo' does not grow very vigorously. Nonetheless, several authorities consider 'Hagoromo' and 'Koshimino' to be synonymous. *Hagoromo* means "Japanese angel's dress." The lack of petioles probably gave rise to the names 'Sessilifolium' and 'Stalkless' which have been applied to this cultivar in the past. Other names under which it has been known are 'Decompositum', 'Dissectum Sessilifolium', 'Fischergeraete', and 'Kakure mino'. It has also been misspelled 'Hagoromo'.

'Hama otome'

MATSUMURAE – variegated

This cultivar from Japan is considered a variegated form, since the foliage is quite variable. New leaves are a very pale yellow green or whitish green. The lightest tones are



'Hagoromo'. Photo courtesy of Oregon State University Archives, Corvallis

in the center of the leaf, gradually becoming darker toward the outer portions of the lobes. It is not a sharp color division but a soft blending of tones. As the leaves mature, they gradually darken to a light green, but some still retain the undertone of yellow. The texture of the leaf is rather thin. There are five or seven lobes, the pair of basal lobes extremely small when the leaf is seven lobed. The lobes separate almost to the leaf base. Each lobe is ovate-lanceolate with a long slender tip. The margins are finely serrated. The size varies from 5 to 7 cm long and up to 7 cm spread. This cultivar is a small-sized shrub up to about 3 m tall. It is hardy, not fast growing, and relatively easy to propagate. The name has been misspelled 'Hana otome'.

'Hanami nishiki'

DWARF – green

This maple is one of the rarer dwarf forms and is also one of the smallest-leaved forms. Its name means "flower-viewing tapestry." The five-lobed, occasionally three-lobed, light yellow-green leaves vary from 1.5 to 2 cm long and wide. The edges and tips are lightly bronzed in the spring. The five points radiate out, and the lobes separate about two-thirds of the way to the leaf base. Each lobe sharply tapers to a point with margins lightly toothed. The petioles are very thin, delicate, and less than 1 cm long.

The leaves appear in the spring with an orange-red tint, particularly along the margins, and later take on a uniform light to yellowish green. Occasionally, the leaves on older wood show minute pinpointing of light varie-



'Hanami nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

gations, but the markings are so light and the leaves so tiny that this does not become a major feature. The leaves are closely placed along the tiny twigs. The twigs branch frequently, making a tight-growing, dwarf form.

As a container plant, this cultivar is extremely small and can be expected to grow just a few centimeters per year. In the garden, plants generally grow 3–8 cm tall per year, but when force-fed they have produced shoots up to 12 cm long. The plant can eventually reach 2 m tall and wide. This maple is one of the real gems of the dwarf group. It is slightly delicate to grow and difficult to propagate.

'Hanazono nishiki'

PALMATUM – variegated

This shy variegate, whose name means "variegated flower garden," is beautiful when carefully grown. Heavy fertilization suppresses the variegations. The usually five-lobed leaves have a pale green base color and range from 3 to 6 cm in size. Variegations are mostly of the *kiri fu* (cut in) type with some additional irregular marking. Colors range from pink to cream, the pink being predominant when leaves first develop in the spring. Twigs also have faint pink markings in the young bark. The pink cultivar 'Karasu gawa' is more widely known. The lesser-known 'Hanazono nishiki' is not strong-growing and rarely exceeds much more than 2 m high.

'Harusame'

PALMATUM – green

'Harusame', whose name means "spring rain," is best known for its fall coloration, when the red color is dusted with yellowish brown markings of the *sunago fu* (sand-dusted) type of variegation. Most of the year, the



'Harusame'. Photo courtesy of Oregon State University Archives, Corvallis

leaves are a light green, but this cultivar is an example of the type worth waiting for to see its fall display. Occasionally, 'Harusame' has the amusing quirk of throwing out a white variegation in the leaf during the early growing season. It is so infrequent that it could not be called a character. In some years, there have been only two leaves on the whole tree so variegated.

The five- or seven-lobed leaves are of the Palmatum Group, with length and width about 5 cm. The lobes are lanceolate-ovate, divided two-thirds or more to the center, and coarsely toothed. The petioles are about 4 cm long. This plant makes an upright, bushy, small tree. It does not reach much more than 3 m tall and wide, and that after a considerable age. The name is sometimes misspelled 'Harasume' and 'Marusame'.

'Hazeroino'

OTHER – *variegated*

The leaf shape of this cultivar is almost identical to that of 'Hagoromo'. However, the primary difference is in the variegated coloration. The leaf is occasionally white-flecked with cream-colored irregular spots. It is not a strong color variegation, nor does it appear on all the leaves. If the plant is too vigorous or too highly fertilized, the variegations are masked for a growth period or two. Every effort should be made to keep the plant in good vigor but not overstimulated. It is not as strong growing as the non-variegated forms 'Hagoromo' and 'Koshimino', and it eventually reaches a height of 3 m or so. The name has been misspelled as 'Hageriono'.



'Hazeroino'. Photo courtesy of Oregon State University Archives, Corvallis

'Heptalobum Rubrum'

PALMATUM – *red*

This old Dutch cultivar comes into its own with its sensational fall color and beautiful bark with a red-gray pattern. The young leaves emerge a deep purple-red color with deeply divided lobes. As the leaves develop and the lobes fill out, the color changes to a nondescript bronze purple, which turns to a brilliant orange red to scarlet in the fall. The large five-lobed leaves, up to 9–10 cm long and 10–11 cm wide, are divided almost three-quarters of the way to the leaf base. Each broad lobe is ovate with a pointed tip, up to 2.5 cm wide in the middle, narrowing to 1–1.2 cm at the lobe junctions. The margins have numerous fine-pointed double teeth. The stout, dark red petioles are up to 4 cm long. The plant forms an upright bushy tree, reaching about 5–6 m tall and wide at maturity.

'Herbstfeuer'

PALMATUM – *green*

This rather special cultivar is probably a cross between *Acer palmatum* and *A. circinatum*. It was a chance seedling spotted among his maple collection by Andreas Bartel, a German nurseryman. Firma C. Esveld, Boskoop, Netherlands, propagated this cultivar in the mid-1980s before the original plant died.

It has seven- or nine-lobed circular leaves up to 6–9 cm long and 7–10 cm wide. The lobes are broadly ovate with pointed tips, 4–5 cm long and 2–2.5 cm wide. They are broadest in the middle, narrowing slightly to 1.2–1.5 cm at the lobe junctions. The stout, red petioles are stiff, 3–4 cm long, and have swollen bases.

The leaves are dark green during the summer, becoming green with bronze and purple tones in late summer. It is in the fall that this cultivar comes into its own with an outstanding orange color. The German name 'Herbstfeuer' means "autumn fire." This cultivar is very vigorous, densely branched, upright but widespreading, and reaching 5–6 m tall at maturity and about as wide.

'Hessei'

MATSUMURAE – *red*

The deeply divided, red leaves of this form are usually comprised of seven lobes, long and narrow, and divided almost to the leaf base. Each lobe is elongate-lanceolate with toothed margins. The lobes are 8–9 cm long and held closely together, thus making the leaf appear longer than wide, although the spread is up to 7 cm. The leaves droop slightly and give the plant a ribbonlike effect. The

leaf color from spring to early summer is a rich purple red. Later, in the heat of summer, it changes to greenish bronze. Fall color is a quite brilliant crimson.

This plant is not tall-standing but tends to spread. With maturity it probably reaches about 5 m high and 4 m wide. Occasional pruning shapes it very well. 'Hessei' is a hardy cultivar with sturdy twigs and branches. It is not easy to propagate because it heals slowly after grafting. Other names under which it has been known are 'Atropurpureum Lacinatum', 'Elegans Atropurpureum', 'Elegans Purpureum', and 'Lacinatum Purpureum'. These are all illegitimate.

'Higasa yama'

PALMATUM - *variegated*

This cultivar is one of the variegated forms that have unusually shaped leaves. It is found in maple lists from Japan since the early 1880s. Many names were applied as it worked its way round the world. These different names were probably used because of its different foliage traits at different times of the year. One widely used name in the United States is 'Roseo-marginatum', which unfortunately has also been used for 'Kagiri nishiki', a cultivar outstanding and beautiful in its own right. Other names, such as 'Cristatum Variegatum', have been applied to depict certain traits. I saw large specimen trees of 'Higasa yama' in the Netherlands and England. These mature (several decades old) plants strengthen my opinion on the veracity of this nomenclature.

Most leaves range up to 6 cm long with an overall width of 5 cm. The average length is 3–4 cm. The leaves are divided two-thirds or more down to the obtuse leaf base. The seven lobes of each leaf are slender, elongate,

tapering to a sharp point, and with the margins strongly toothed. Usually the leaves are crinkly and curl upward. However, many are slightly twisted or curl downward, making the overall appearance unique.

Leaf color is so changeable it is difficult to describe. Starting in the early spring, the buds unfold with leaflets



'Higasa yama'. Spring buds are spectacular as they unfold. Photo courtesy of Oregon State University Archives, Corvallis



'Higasa yama'. Photo courtesy of Oregon State University Archives, Corvallis



'Hessei'. Photo by Peter Gregory

pale cream, tightly curled, and with the elongated bud sheath a brilliant crimson, giving the effect of two-toned popcorn. These colors remain until the unique leaf unfolds and equals the blossoming effect of some shrubs. The light green veins are bordered in dark green, especially the broad band along each midrib. The borders of each of the seven divisions are cream colored, and the striping continues down toward the leaf base. This color is quite pale in early season and changes to a light creamy green as the season advances. For the first month or so the leaves also have strong pink tones on the margins overlying the cream color and lightly bordering the edges of the lobes. This undoubtedly gives rise to the confusing misnomer of 'Roseo-marginatum'. The pink color fades and disappears as the season progresses. In the fall, the cream color portions take on an orange to dark yellow and occasionally red tone.

The growth on older wood is quite twiggy. The twigs are closely spaced, and the nodes are close together. For this reason, this cultivar is popular for bonsai. When suppressed in pots, it is quite dense and lends itself to shaping. As 'Shinn's #2', it is quite popular for bonsai in California.

Under good growth conditions in the ground, however, long shoots occur up to 1 m long. The new leaves on these shoots are nearly always nontypical of the cultivar. Instead, they are regular palmate, flat, dark green, and most often have five lobes. They are up to 8 cm long. These new atypical shoots revert to the cultivar's typical shape and color by the second year and need not be pruned off. This reversion is a greater problem in Europe than it is in the United States (van Gelderen et al. 1994).

The tree, which can be quite vigorous and have a narrow upright habit, reaches 7–8 m tall. It is a hardy plant which lend itself well to the garden landscape. The unique growth habit and foliage make it most attractive. Light shining through the variegated leaves gives a very unusual and pleasing effect. This cultivar name has been misspelled 'Hikasa yama' and 'Hisagayama'.

'Hiūga yama'

PALMATUM – *red*

'Hiūga yama' is reportedly a seedling selection of 'Nomura', one of the oldest known cultivars. The leaf lobes are longer and more slender than are those of 'Nomura'. The color in the early season is a deep purple red which becomes less intense as the season progresses. By late summer it is greenish bronze-purple. The leaves are of

the palmatum type and regularly five lobed, about 6 cm long and 7 cm wide. The lobes radiate outward and are widely open. Each lobe is long, ovate-elliptical, and the margins are sharply toothed. The petioles are about 2 cm long. The branches are green and slender, and the growth habit rather erect. This cultivar is not widely grown, probably because it has no outstandingly different features from many other red cultivars. The name has been variously spelled 'Higugayama', 'Hiyūgayama', and 'Hyugayama', while this cultivar has also been known under the name of 'Hinata yama'.

'Hōgyoku'

AMOENUM – *green*

Surely this cultivar was selected for its rich, deep orange fall color. The Maplewood stock plant usually turned a bright pumpkin orange. The spring and summer foliage color is a deep, rich green. The leaves measure up to 6 cm long and 9 cm wide and are seven lobed and broadly palmate. They have a heavy texture and good substance. The lobes radiate out and are divided only up to about halfway to the leaf base. They are ovate-triangular with edges very finely serrated. The petioles are up to 4 cm long. This sturdy and hardy cultivar has thick and sometimes stubby new growth. The tree reaches 5–6 m with age and responds well to pruning and shaping. Although not widely distributed, it is a very worthwhile plant since most of the year it is an attractive rich green, followed by the unique orange of fall. The name, which means "a jewel," has been misspelled as 'Hōgyuko'. The cultivar has been known under the name 'Yog saku'.



'Hōgyoku'. Photo by Harry Olsen

'Hoshi kuzu'

DWARF – *variegated*

This dwarf shrub has small unusual leaves which are star shaped and predominantly five lobed, with each lobe varying in shape according to the degree of variegation. The leaves generally lie in a flat plane, although the tips of the lobes tend to curve downward. They range from 2 to 3 cm long and 4 cm wide. Foliage on new vigorous shoots will average larger than this, but the old wood has uniformly small leaves. The lobes are mostly long and slender with a slightly broader mid area, gradually tapering to a fine point. The edges are faintly serrated.

The general tone of the foliage is a pleasant light green without being weak. In each leaf of this base color there are variegated breaks of varying size and shape. Some leaves are totally colored with the variegation of pale cream green, while others may only have a portion of one lobe colored on the edge. The markings vary between these two extremes. The cream-green variegation is quite subtle, not garish, and may even have a faint tinge of pink on the borders in early spring as the leaves emerge. The overall appearance is a pastel tone.

This neat-growing, upright, non-spreading, small shrub is somewhat twiggy, and under normal culture has short terminal shoots. It blends well with many types of companions and makes a good patio plant. This cultivar was spotted at Maplewood Nursery as a chance seedling from 'Kamagata'. The name means "the star-studded sky."

'Hupp's Dwarf'

DWARF – *green*

This choice green dwarf was a chance seedling which Barbara Hupp of Silverton, Oregon, first noted in a seedling bed. The seedling was moved to Maplewood Nursery in 1976 and observed for about 10 years. It seems similar in growth type to some of the other compact dwarfs, such as 'Kotohime', 'Mikawa yatsubusa', and 'Tsukomo', but appears more compact in habit than these cultivars and more vigorous than 'Tsukomo'. It is distinct enough to warrant its place in the range of dwarf cultivars.

The foliage is a deep, rich green which holds well all season. The leaf has five long, slender lobes separated almost entirely to the leaf base. The leaves vary from 3 to 4 cm long and 1–3 cm wide, and are densely concentrated on the short annual growth of 1–4 cm per season. The lobes have sharp, slender points, and the edges are strongly toothed.

The very stubby twigs branch out and form a dense, compact, upright dwarf. The original seedling is in a good location in the Maplewood collections and measured 45 cm tall and 35 cm wide after 10 years. The very few young plants grafted onto strong rootstock show no greater growth rate. The twigs are quite brittle, and the minimal annual growth makes this cultivar difficult to propagate. It is ideal for bonsai.

'Ibo nishiki'

PALMATUM – *green*

This tall-growing plant is one of the rough-bark cultivars. *Ibo*, one of the Japanese words for "warty," indicates the interesting character of the bark. The wartiness is rather lenticular oblong in shape and is slow to develop, appearing on third-year (or older) wood. It is very slow to coalesce, remaining separated for a few years, finally joining into larger roughened areas. It is not as showy as are some of the other cultivars with rough bark. The intermediate bark color is a good green.

The leaves are from 3 to 8 cm long and wide, seven lobed, occasionally five lobed, and separated two-thirds of the way or so to the leaf base. The lobes are long-ovate with heavily toothed margins. The spring color is a good light green with bronze-tinged margins. Fall colors range from yellow orange to deep crimson. This fairly strong grower has the typical palmatum upright habit. The warty bark makes an interest point for the collector of unusual forms. The name has been misspelled 'Ebo nishiki' and 'Iibo nishiki'.



'Ibo nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

'Ichigyōji'AMOENUM – *green*

This plant is almost identical to 'Ōsakazuki' except for the fall color, which is an intense brilliant yellow or yellow orange, while 'Ōsakazuki' is crimson. The plant stands out from all others for its brilliance. Because the leaves are large, their colors are flamboyant. During the growing season, when the leaves are a pleasant green, the tree looks identical to 'Ōsakazuki'. It is reported that they may have been sister seedlings when selected in the 1880s.

These trees have very large leaves, measuring up to 12 cm long with a spread of 15 cm. The seven lobes are broadly ovate, shaping to a sharp point, and with the edges slightly toothed. The lobes are joined about halfway to the base, forming a broad and substantial leaf. The petioles are up to 7 cm long.

The tree is upright and broad and, at maturity, is round-headed. It can attain a height of 7 m, although it is not usually seen this tall. With pruning, the tree shapes well and there need be no fear of keeping this type within bounds in the smaller plantings. It is of sturdy branch structure and not willowy. Japanese writers wisely suggest planting 'Ichigyōji' and 'Ōsakazuki' near each other on a rise or hillside, or near a pond, to allow the full glory of the fall brilliance to be appreciated. The name 'Ichigyōji' has been misspelled 'Ichijoji' and 'Ighigyoji'.

'Iijima sunago'MATSUMURAE – *variegated*

The colors of this dark-leaved variegate make it an unusual addition to the garden landscape. The large leaves



'Ichigyōji'. Photo courtesy of Oregon State University Archives, Corvallis

are up to 11 cm long and 14 cm wide. The seven lobes are each broadly ovate, acuminate tipped, with edges finely double toothed. The lobes are divided more than three-quarters of the way to the leaf base. The leaves have a good texture—not thin—and are more durable. The petioles are up to 5 cm long.

The spring foliage is a rich red color, slightly on the orange side, and lasts into the summer. At this time, the feature for which this cultivar is named develops. The leaves become a rich purplish brown—a rather unique color—with tiny and irregular green spots, sometimes rather obscure, but resembling sprinkled sand. It is for this type of variegation, known as *sunago fu* (sand-dusted), that the cultivar has been named. These colors intensify in late summer and fall. The midrib of each lobe remains a distinctly contrasting yellow green, while the leaves turn to yellows, oranges, and reds in the fall.

This strong-growing tree remains upright but does not reach extreme heights. It probably matures at about 7–8 m high and forms a round-headed tree. The branches are sturdy and not willowy.

'Inaba shidare'DISSECTUM – *red*

This outstanding dissectum differs from others of its type in its deep color and individual leaf shape. The leaves are large for a dissectum, with lobes up to 10 cm long. The basal lobes point backward. The entire seven-lobed leaf measures as much as 15 cm long and wide. Each lobe ends in a fine tip. The lobes measure less than 1 mm at the tip, broadening to 3 cm in the middle, and



'Iijima sunago'. Photo courtesy of Oregon State University Archives, Corvallis

tapering to 1 mm at the leaf base where all the lobes join. The lobes are dissected toward each midrib, but the many separations are not as fine as in the more common dissectums. Thus each lobe appears to be sturdier and the leaves appear to have more substance than do those of other dissectums. The bright red petioles are 4 cm long.

The leaves develop a deep tone of purple red as they grow in the spring and retain the deep color all season. They do not bronze out in late season as do other reds. The tips may burn in hot, direct sun, especially if the plant becomes dry. Fall color is brilliant when it turns from purple red to a crimson tone. 'Inaba shidare' is the red counterpart of 'Palmatifidum'.

For a dissectum, 'Inaba shidare' is a rather upright-growing form. Although it does cascade, it tends to be a little more erect in appearance. It is vigorous and sturdy. The branches are not of the fine, overly delicate type which is a weakness in some dissectums. Although not widely found in cultivation, it should become a popular garden landscape item when it is better known in the United States. It has been listed in Japan since the mid-1800s.

It presents an interesting example of Japanese nomenclature. The Japanese observed that in the rain this plant looks a little like *ine* ("a rice plant"), an old form of which turned crimson in the fall. Thus, *inaba* is "rice plantlike leaf." *Shidare* means "cascading." Putting the two together, 'Inaba shidare' means "cascading ricelike leaf." The cultivars 'Red Select' and 'Select Red' are probably the same as 'Inaba shidare'. The name has been misspelled 'Anaba shidare' and 'Inabe shidare. Another name by which this cultivar has been known is 'Holland Select'.



'Inaba shidare'. Photo courtesy of Oregon State University Archives, Corvallis

'Inazuma'

MATSUMURAE—red

The name means "the thunderer." Although this cultivar is sometimes listed in the Dissectum Group, the individual lobes are not doubly dissected as commonly expected in dissectums.

The leaves are of a rich, deep purple red in the spring and early summer. As they mature, they turn a dark purple-tinged green tone. The veins are green when the leaves carry the purple colors. Bright red-crimson tones appear after fall frosts. It is one of the outstanding cultivars for fall color. The seven lobes are long, ovate-lanceolate, separated widely, and divided almost entirely to the leaf base. The leaves are up to 9 cm long on vigorous plants, and leaf spread is 12 cm. The edges are shallowly serrated. The reddish petioles are about 5 cm long.

This hardy cultivar is vigorous without being leggy. The result is a tall, rounded shrub or tree, up to 10 m high and 5–6 m wide. The foliage is somewhat pendulous, but not with the cascading habit of the dissectums. This cultivar has been known under the names 'Dissectum Inazuma' and 'Pendulum Inazuma'.

'Irish Lace'

DISSECTUM—green

The outstanding feature of this green dissectum is the bright pink young foliage, which becomes green with pink then bronzed edges and tips. This coloration, added to the pleated and ruffled leaf lobes, gives the plant a charm of its own. The pink new growth overlying the older green leaves continues throughout the growing season. The relatively small seven-lobed deeply dissected



'Inazuma'. Photo courtesy of Oregon State University Archives, Corvallis

leaves are 7–8 cm long and 8 cm wide. Each lobe is 12–18 mm wide at the broadest point and narrows to little more than the width of the midrib at the lobe junctions. The lobes are also dissected to within 1–3 mm of the midrib with slender, hooked, sharply pointed teeth along the margins. The lobes often become folded and rumpled. The long, slender reddish petioles are up to 4 cm long. 'Irish Lace' grows into the typical dissectum cascading mound up to about 2.5 m tall at maturity.

'Iso chidori'

DWARF – *green*

The small leaves of this cultivar are classed as five lobed. However, on many leaves two very small basal lobes appear and clasp above the petiole attachment. Usually these are very small or absent. The middle three lobes are quite large for the leaf, and the two basal lobes (when the leaf is five lobed) are tiny, giving the leaf almost a three-lobed appearance. The margins are prominently double serrated. The lobes are oblong and separated two-thirds of the way to the leaf base. They gradually taper to a sharp point. As the leaves mature, the margins often take on a wavy nature, and the points of the lobes curl slightly downward. Some leaves are quite convoluted. The leaves measure 4–5 cm long with a spread of 5–6 cm. The petioles are slender but stiff and are often almost as long as the leaf. The leaf color is a light to medium green, sometimes a yellowish green. The texture is firm but not thick. Fall colors are in the yellows and golds.



'Iso chidori'. Photo courtesy of Oregon State University Archives, Corvallis

This stubby-growing plant matures into a shrubby cultivar up to 2 m tall. It has been in cultivation a long time but is not widely known. There are references to it in K. Uehara's book (1961) and in an 1882 maple list. 'Iso chidori' is the name of a beach plover with a zigzag walk.

'Issai nishiki'

DWARF – *green*

This dwarf form of 'Nishiki gawa' has extremely rough bark. It develops the bark characteristics within a year of propagation, becoming rougher with each season. The bark and leaf characteristics are described under 'Nishiki gawa'. Contrary to previous assumptions, this maple is a cultivar, and it can be found listed in Japan together with its Japanese characters. *Issai* indicates that the characteristic that follows (in this case, *nishiki* or "rough bark") develops within a year or a short period of time. This cultivar is also known in North America under the name 'Issai nishiki momiji'.

'Italy Red'

PALMATUM – *red*

This plant is very similar to 'Bloodgood' in leaf and habit, except that it is slower growing and only reaches half its size. 'Italy Red' is very sturdy, tolerates wind and sun, and eventually forms a small upright tree up to 3 m tall. It is worth considering for gardens in which 'Bloodgood' would be too large. The original plant is growing at Mountain Maples Nursery, Laytonville, California, run by Don and Nancy Fiers, who obtained it from Maplewood Nursery. It is thought to have been received from an Italian source, hence its name. This cultivar has also been misspelled 'Haly Red'.

'Japanese Sunrise'

PALMATUM – *green*

This cultivar is very similar to 'Sango kaku' and possibly a seedling from it. It is known for its colorful winter shoots which are a lighter red than those of 'Sango kaku' on the upper exposed side and yellow orange on the lower sheltered side. Its leaves are typical of the Palmatum Group and, like those of the probable parent, emerge yellow green, becoming a light fresh green for the summer. The fall colors are said to be even better than those of 'Sango kaku' with yellow, gold, and crimson tones. 'Japanese Sunrise' is very tolerant of full sun and grows into an upright, wide, flat-topped tree, up to 7 m tall at maturity.

'Jirō shidare'

PALMATUM – *green*

This green-leaved, cascading form, unlike most cascading plants, does not belong to the Dissectum Group. The bright green leaves have seven or nine lobes, are smallish, and range from 3.5 to 5.5 cm long and from 3.5 to 4.5 cm wide. The lobes are ovate-elliptic, separated almost three-quarters of the way to the leaf base. The margins are clearly toothed. The petioles are not long, mostly 2–3 cm.

As the young plant develops, the shoots are somewhat erect. Then, as the plant ages, the long slender branches tend to droop, weeping back to the ground in some cases. This characteristic results in a round-headed bush which is up to 3 m tall and at least as wide. The leaf nodes, which are spread far apart on the slender, pendulous shoots, form the cascading growth and give a very lacy appearance.

As with many cascading forms with deeply divided leaves, the fall coloration is striking. Brilliant crimson appears as fall temperatures begin to drop. This maple is a nice addition to the larger rock garden. 'Jirō shidare' was imported from Japan. It is reportedly a selected seedling from *Acer palmatum* subsp. *matsumurae*, though this is disputed in *Maples of the World*.

'Kagerō'

PALMATUM – *variegated*

'Kagerō', an outstanding form whose name means "gossamer," is distinguished by having predominantly yellow variegations instead of white as in most variegated palmatus. The leaves have seven lobes, sometimes five,

and measure 4–7 cm long and 6–8 cm wide. The lobes radiate openly and are separated to almost three-quarters of the way to the leaf base. Each lobe is elongate-ovate with a long, tapering tip. The margins are finely and regularly serrated. The two small basal lobes point backward toward the petiole. The stiff petioles are 2.5–3.5 cm long.

The variegation blends in various patterns with the rich green basic color. The light markings may only be a few irregular specks on a leaf, or concentrations of small light blotches, or a coalescing of larger markings into solid areas. Sometimes the colors occupy only half the lobe, separated sharply from the solid green by the midrib. Entirely green leaves occur, and occasionally solid yellow leaves. The variegations are quite variable and irregular from leaf to leaf. This fairly strong- but slow-growing upright type forms a short tree of up to 4 m. It is hardy and not too difficult to propagate. The cultivar has been known under the name 'Yoen'.

'Kagiri nishiki'

PALMATUM – *variegated*

The cultivar name 'Roseo-marginatum' is a synonym of 'Kagiri nishiki'. Unfortunately, confusion exists because the name 'Roseo-marginatum' has been applied to other quite different cultivars, especially 'Higasa yama'.

The leaves are five lobed, sometimes seven lobed. Each lobe is a different shape, and each leaf varies. The typical lobe is elongate-ovate, tapering to a sharp point. Edges are slightly and inconsistently toothed, while some are lightly notched. The lobes are sickle shaped to varying degrees, depending upon the amount of variegation in



'Japanese Sunrise'. Photo by Harry Olsen



'Kagerō'. Photo courtesy of Oregon State University Archives, Corvallis

that segment. Some lobes on the leaf are minute, while others are completely absent. Overall leaf measurements vary from 3 to 5 cm long and 6 cm wide. There is no uniformity in leaf shape. The petioles are slender, 1.5 cm long, and pinkish in color. Basic leaf color is deep green with a bluish cast, never bright green. White margins on all the lobes are present in varying widths, up to and including one-half the width of the lobe. Blended with, or suffused over, all this are markings of pink or rose colors. In the spring, the rose markings are quite distinct. As the summer advances, the rose becomes indistinct and the markings remain cream. The rose and cream areas change into a vivid rose-crimson in the fall.

The plant is somewhat open growing but upright and can reach 8 m high or more as it matures. I saw several 50-year-old specimens of this cultivar in Europe which were round-topped, upsweeping small trees of 4–5 m high. 'Kagiri nishiki' does not grow as twiggy as 'Butterfly'. It has a more upright growth habit, more rose in the leaf markings, and its leaf margins are not toothed as deeply as are those of 'Butterfly'. Other names which have been used for this cultivar are 'Pinkedge', 'Rosa-marginalis', 'Rosa-variegata', 'Roseo-pictum', 'Roseo-tricolor', and 'Roseo-variegatum'. The name has also been misspelled 'Kagari nishiki'.

'Kamagata'

DWARF—green

This plant is a dwarf selection of very delicate appearance. It has, however, been very durable and hardy, tol-



'Kagiri nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

erating winters of -18°C . Even in exposed positions with full sun, and on very dry sites, it has performed excellently.

The leaves are mainly five lobed and usually measure 4–5 cm long and 6 cm wide. On older wood, the leaves are very dwarfed and only 1.5 cm long and wide. Often, some leaves have only three lobes, widely separated, with side lobes almost at right angles. The lobes are falcate or downward-curved at the tip, curve gently upward at the sides to form a trough shape, and tend to twist slightly, giving the entire plant a lacy delicate look. Each lobe is long and narrow, about 5–7 mm wide at the base and rarely as much as 10 mm in the middle, tapering gradually to a sharp point. The margins are toothed. The lobes separate outward like extended fingers and join only about 1 cm from the base of the leaf. The petioles are very thin but stiff, 2–3 cm long, and are green with one side red.

As the leaves unfold in the spring, the edges are strongly tinted with red to rusty red. The early summer foliage becomes a bright, light green. The fall colors are brilliant in shades of yellow and orange, with an occasional touch of red. The leaves remain on the plant well into late fall and thus extend the color period. The shoots are thin and delicate looking but quite durable. Of a bright green color, they grow up to 25 cm long on young plants. The second period of growth, however, forms much side branching which is quite lacy and



'Kamagata'

makes the plant denser. It forms a small, round-shaped bush. After eight years a plant at Maplewood was about 1 m high. As it becomes older, the plant thickens and does not become leggy.

'Kamagata' is one of two cultivars I have chosen to name. Out of many thousands of seedlings grown at Maplewood Nursery, quite a few were selected to grow on and observe. Many of these are rather choice plants but resemble other valid cultivars much too closely to name. This dwarf type, 'Kamagata', performs and appears quite differently from any other cultivar with which I am familiar or can find in the literature.

'Kandy Kitchen'

DWARF – red

This cultivar arose from a witches'-broom of *Acer palmatum* f. *atropurpureum*. It was discovered and named by Joseph Stupka of Stupka Nursery in Poulski, Pennsylvania. 'Kandy Kitchen' forms a compact rounded shrub reaching up to 2 m tall and wide. It is ideal for containers, and is similar in growth, leaf shape, color, and size to 'Elizabeth', another witches'-broom. The lobes appear to be slightly narrower with longer tail-like tips. The new leaves form a bright pink-red bunch at the end of the shoots, contrasting with the purple red of the mature leaves throughout the summer. When shaded, the leaves become a bronze green. The fall color is a very bright scarlet red.



'Kandy Kitchen'. Photo by Harry Olsen

'Kara ori nishiki'

AMOENUM – variegated

The cultivar name refers to a type of brocade used for dancers' garments. The variegated leaves are typically palmate shaped with five or seven lobes. They range up to about 6 cm long and about 7 cm broad. Each lobe is oblong-ovate, separated about two-thirds of the way to the leaf base, and acuminate. The margins of the lobes are serrated and sometimes irregularly but slightly curled. The petioles are dark in color and 3–4 cm long. The spring foliage is reddish, changing to a greenish red in midsummer. The whitish variegations range from indistinct to very bold and sometimes have a pink overtone. When distinct, the light markings will cut in and occupy a large section of the lobe. These variegations are yellowish in midseason. Fall color becomes predominantly crimson in tone. 'Kara ori nishiki' is not a large-growing plant, but matures as a tall bush up to 4 m high. It is not a vigorous cultivar and grows rather slowly.

'Karasu gawa'

PALMATUM – variegated

The most outstanding feature of this cultivar is its new growth which is mostly a bright, light pink. Some leaves are entirely white with pink shading, while others are almost completely pink, but with tiny flecks of bright green or white, or both. The petioles and shoots are also pink. While the plant compares to such cultivars as 'Oridono nishiki' and 'Asahi zuru', the new growth is more spectacular.

Older foliage also has streaks or flecks of pink in the white areas. Sometimes the mottling consists only of pale green areas on the base of darker green. Other leaves have rather large, bold inserts of light colors. In the fall coloration, the white and light green areas become bright rose in contrast with the base color of darker green. The leaves vary from 3 to 7 cm long and wide, but they are rarely large on older wood. The mature leaves are basically five lobed. The lobes are elongate-ovate, terminating in a slender, tapered point. However, when a deep variegation occurs, that portion is sickle shaped while the rest of the lobe is normal. The margins are double serrated.

The growth habit is narrow and upright, somewhat twiggy, but it broadens with age. Older plants rarely exceed 4 m high. This maple is not a vigorous grower and is somewhat tender. It should have a protected spot in the garden and also have protection from strong sun. Al-

though the pale sections of the foliage sunburn in the hottest weather, this tree is well worth the extra care. 'Kagon nishiki' may be a synonym of this cultivar.

'Kasagi yama'

MATSUMURAE – *variegated*

The foliage of this cultivar has one of the most unusual color combinations found in this group. The principal color is brick red, but it varies somewhat, whether in full sun or shade, and depending on the age of the leaf. The tone is very distinctive from other red-leaved cultivars. This unique red is shaded into an undertone of green on the sides of the lobes, blending the two colors. In addition, the veins are of a different tone. The main veins are dark red, almost black, while the side veins are distinct but lighter in tone. This contrast diminishes during the course of the season.

The seven lobes radiate outward, with the two basal lobes almost closing over the petiole. The middle three lobes are larger than the other four. Each lobe is openly separated almost to the leaf base, and is elongate-ovate with a long, tapering, sharp point. The margins are very finely but sharply serrated. The leaf measures 6–7 cm

long and wide. The petioles are red, stiff, and short, only 1 cm long.

This plant grows into an open shrub or small tree, up to 7 m or so tall. It is a rare and very unusual cultivar and quite exciting to watch as the new foliage develops in the spring.

'Kasen nishiki'

PALMATUM – *variegated*

New foliage in the spring is often a surprising pink red or light orange red, which soon matures into variegated greens. Variegation is quite subtle, not bright or garish as in 'Oridono nishiki'. There are irregular and indiscriminate sections of white or cream on many leaves, and these portions are usually sickle shaped. Most leaves have a very light or pastel shading. Speckling and dotting of white, cream, or occasionally whitish green make up the variegation. The coloration is a very soft tone, shading throughout the foliage. It is quite different from most variegated cultivars.

The medium-sized leaves range up to 5 cm long and 6 cm broad. Occasionally, vigorous new fall growth produces leaves which are larger than this. Most foliage on



'Karasu gawa'. Photo by Cor van Gelderen

older wood is smaller. The seven, sometimes five, lobes are separated more than two-thirds of the way to the leaf base. Each lobe is ovate-acuminate, with definite toothed edges. The lobes are often quite irregular in shape, especially where the variegates are present in strong tones.

This small bushy tree may eventually reach 6 m. It is a hardy cultivar and well worth its place in the garden landscape. It has also been known under the name 'Hana izumi nishiki'.

'Kashima'

DWARF – green

This very dwarf form is widely used for bonsai. The tiny rich green leaves are five lobed, with the center lobe the



'Kasagi yama'. Photo courtesy of Oregon State University Archives, Corvallis



'Kasen nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

most prominent. Each lobe is elongate-ovate, terminating in a sharp point. The margins are toothed. The lobes are separated two-thirds of the way to the leaf base. The leaves measure 2–3 cm long and 2.5–3.5 cm wide. On older wood they are always smaller. Vigorously grown plants produce larger leaves. The petioles are very slender and 1–2 cm long. As they open, the new leaves are a very light yellow green, with margins a brick or rust color, thus making the new growth very noticeable. Fall colors are mostly in the yellow tones.

This plant is a very shrubby grower as are all the maples in the Dwarf Group. The size at maturity depends upon fertility and culture, but can reach up to 2 m tall and spread. It can be forced in the landscape or retarded in container culture or bonsai. I've seen an approximately 20-year-old specimen that was more than 1 m high, but have grown the same cultivar in a container for 10 years and it only reached 40 cm tall and wide. 'Kashima' lends itself very well to rock garden culture. It takes well to shaping and pruning, as do other dwarf forms. It is hardy and sturdy, and tolerates some drought when reduced growth is desired. 'Chiba', 'Chiba yatsubusa', and 'Kashima yatsubusa' are very similar to this cultivar.

'Katsura'

PALMATUM – green

This delightful form is quite striking in its spring growth. As the leaves develop, they are a pale yellow orange. The margins shade into a brighter orange. The color is difficult to describe accurately, but it is rather



'Kashima'. Photo by Peter Gregory

bright. As the season progresses, the leaves turn into a light to yellow green. Fall colors are bright yellow and orange tones.

'Katsura' is a small-leaved cultivar with most leaves about 3 cm long and wide. Occasionally, on vigorous new growth, individual leaves reach 4–5 cm. The five lobes are ovate-lanceolate, tapering to a long point, and separated three-quarters of the way to the leaf base. The sides of the lobes are shallowly toothed. The center lobe is always longer, and the leaves tend to turn downwards, giving a distinct appearance to the plant. The petioles are 1–1.5 cm long.

'Katsura' seems to be a small growing form in North America, with the leaf nodes and twigs quite close together so that the foliage is dense. The upright growth quickly broadens with side branching. In Europe, this cultivar seems to grow taller, reaching more than 8 m high. Repeated pruning makes it a more compact plant. It adapts well to bonsai culture. The name 'Katsura' means a "wig" and the plant has been known as 'Katsura yatsubusa'.



'Katsura'. Photo by Peter Gregory

'Kihachijō'

MATSUMURAE – *green*

The sturdy seven- or nine-lobed leaves of this cultivar are a bright green. The lobes are long, ovate-acuminate, with deep double serrations on the margins. The very narrow point of each lobe gives a distinctive effect. The leaves are 6–7 cm long and 8–9 cm wide. They lie flat and are attached with short petioles about 1–2 cm long. Fall coloration develops into a distinct yellow gold with rosy tones. It becomes blended with light orange and reds. The fall color is quite unique. The sturdy branches angle out, thus developing a well-rounded, short tree or tall bush up to 6 m high. The bark is a strong green with an overtone of bluish gray. White streaking is prominent, especially as the bark ages. This good, hardy, sturdy cultivar adds a "different" appearance for landscaping. The name means "from Hachijo Island" and has also been spelled 'Kihatsijo'.

'Kingsville Red'

PALMATUM – *red*

This cultivar was selected by Henry Hohman of Kingsville, Maryland. He was a very observant plantsman and selected outstanding clones of several genera of plants. 'Kingsville Red' is an *Acer palmatum* f. *atropurpureum* selection which is vigorous, hardy, and upright, and grows to about 8 m. The bright red-purple tone holds well in the Pacific Northwest climate into the late summer. It does not seem to sunburn as do some other reds. The large leaves are seven lobed, separated almost three-quarters of the way to the leaf base. The leaves are 6–7 cm long and up to 10 cm wide. The lobes are oblong, tapering to a slender tip. The smaller basal lobes of the pal-



'Kihachijō'. Photo by Peter Gregory

mate leaves tend to cup slightly upwards. The margins are finely double serrated, most prominently on the outer half of the lobe. The petioles are 3–4 cm long and stiff.

'Kingsville Variegated'

PALMATUM – *variegated*

'Kingsville Variegated' is another of Henry Hohman's selections which is worthy of a place in Japanese maple collections. It is assumed that this could be a seedling selection of 'Kagiri nishiki' or 'Butterfly', both of which Hohman had as stock plants. The character is somewhere between the two. However, he did not indicate the parentage.

The basic leaf color is a deep green or blue green. Variations of color patterns are irregular, and the variegation is mostly white. However, there is a noticeable amount of pink, and occasionally on young leaves the pink markings cover almost the entire leaf. The leaf margins are quite different from those of either 'Butterfly' or 'Kagiri nishiki'. Fall color changes the white portions to a brilliant rose tone. The leaves are five lobed and irregular. Each lobe is long and narrow with very irregular dentate margins. The leaves range from 2.5 cm long on some older wood to as much as 5 cm on vigorous young shoots. The petioles are 1–2 cm long.

The growth rate and performance of the Maplewood stock plants indicated mature plants would be like 'Kagiri nishiki'. This has turned out to be the case. The habit is somewhat twiggy on older wood. It is a delightful companion to some of the other variegated forms. In Europe it shows very little variegation, possibly because it is grown in conditions which are too rich (van Gelderen et al. 1994). It would seem possible that 'Hohman's Variegated' is the same cultivar.

'Kinran'

MATSUMURAE – *red*

The leaves of this cultivar are divided deeply, with the seven lobes separated almost to the leaf base. The leaf base is usually truncate. Although occasionally, on new shoots of very vigorous plants, the leaves are up to 9 cm long, they are usually about 5–6 cm long and 6–7 cm wide. Each lobe is long-ovate, broadest in the middle—about 15 mm wide—and narrowing to about 4 mm at the lobe junctions. The tip comes to a long, narrow point. The leaves have an open, lacy appearance. The margins are deeply double toothed.

The spring and early summer coloration is a deep, rich bronze red. The midvein in each lobe is a contrast-

ing bright green and is very noticeable. In late summer the color changes to a deep green shaded with dark red. In the fall, it develops the beautiful gold with overtones of crimson for which it is famous, hence the name which means "woven with golden strings."

This plant is not large growing, only reaching 3 m in 10–15 years. It does, however, broaden out and form more of a round-topped, large bush. It is sturdy and quite hardy, and responds very well to pruning and shaping. It is quite satisfactory grown as a container plant. It can be slowed in its growth to a fine specimen or adapted to a larger bonsai type. This cultivar is not widely known.

'Kinshi'

LINEARILOBUM – *green*

This semidwarf strap-leaved cultivar comes from Japan. Its name, which means "with golden threads," aptly describes the wonderful orange-yellow color of the leaves in the fall. The five- or seven-lobed medium to dark green



'Kinran'. Photo courtesy of Oregon State University Archives, Corvallis

leaves have pointed tips and sparsely shallow-toothed margins when the leaves are fully developed. The leaves are 6–9 cm long and slightly wider, and divided right to the leaf base. Each lobe is 2–6 mm wide. Vigorous, juvenile leaves are long-ovate, up to 1 cm wide and more conspicuously toothed. The slender green petioles vary in length from 1 to 4 cm. 'Kinshi' forms a tidy, compact, upright, semidwarf tree, attaining a height of 2.5 m. It would be at home in most garden landscapes whatever their size, and is perfectly suited for containers. The name has been misspelled 'Ginshi'.

'Kiri nishiki'

DISSECTUM – *green*

Most dissectums appear delicate in foliage, but 'Kiri nishiki' looks more substantial yet not coarse. The nine lobes are not as doubly incised as most dissectums. Each lobe is more regularly incised pinnately, and each pinna is less delicately incised. The leaves vary from 5 to 8 cm long and from 6 to 9 cm wide. The petioles are 2–3 cm long. The basic foliage color is a bright, light green. This strong color stands full sun rather well. In the fall, the intense gold color is excellent, and occasionally it is suffused with crimson and scarlet on the tips.

This full, cascading cultivar is fairly strong growing and hardy. As with other closely allied forms, such as 'Sekimori', it should be planted on a bank or grafted high to realize the full effect of the beautifully cascading display of branches. It reaches 3 m high and wide. 'Kiri nishiki' is listed in maple reference books back to the early 1700s. 'Kire nishiki' may be a misspelling of the name.



'Kinshi'. Photo by Harry Olsen

'Kiyohime'

DWARF – *green*

Although its leaves are quite small, they are slightly larger than are some of the others in the Dwarf Group. On a vigorous plant the leaves can reach 4 cm long and 3 cm wide. Each leaf is five lobed, with the center lobe noticeably longer. The lobes are ovate-lanceolate, tapering back from the widest point to where all the lobes join, three-quarters of the way to the leaf base. The lobes point sharply and tend to turn downward, making a slightly falcate form. The margins are toothed. The petioles are a rich green tinged pink and 1–2 cm long. Early spring leaves are beautiful. The edges are tinged with an orange red, which is lightly and delicately shaded into the center of the light green leaf. The rich green foliage dominates the spring season. Fall colors run into the yellow-orange range, following a summer of rich green.

'Kiyohime' is a sturdy, vigorous plant. Of the several dwarf types, it probably grows more vigorously than other forms. Yet in containers and bonsai culture, it dwarfs down as well as the others. Side-branching ability is good on the shoots, especially with some pinching back of spring growth. For landscaping it is valuable as a dwarf with a little more size and vigor than some others. It is possible to obtain a bush 2 m high in about 10 years. The plant grows densely and forms a roundish bush. Rarely does it put up a strong central leader, but rather it branches and rebranches. This cultivar has also been known as 'Kiyohime yatsubusa'.



'Kiyohime'. Photo courtesy of Oregon State University Archives, Corvallis

'Kogane nishiki'

PALMATUM – *green*

'Kogane nishiki', whose name means "golden brocade," is a full-size palmatum for background or overstory plantings. The five- or seven-lobed leaves are a deep, rich green and typically measure 6 cm long and wide. The lobes are long-ovate with acuminate points, and are separated two-thirds of the way to the leaf base. The edges are very lightly toothed. The early spring foliage tends to have yellow tips as the leaves emerge and then change to a strong green color. The fall colors are a bright golden display. This strongly growing tree probably reaches 10 m in 20 years. It makes a good base plant for landscapes, and the golden fall color can work as a contrast to other plantings. Full sunlight is best. This cultivar has been known as 'Kogane sunago'.

'Kogane sakae'

AMOENUM – *green*

'Kogane sakae', which means "golden prosperity," is an unusual tree notable for its bark coloration. The young shoots and older branches are light green with definite areas of a yellowish tone. These are in striations and irregular streaks running lengthwise on the branches. The variegation carries well into the older trunk, although

it will fade in old trees. It is quite different from the bark colors of other *Acer palmatum* cultivars. The leaves are medium-sized to large, 4–11 cm long and wide. They are strong, seven lobed, and separated halfway to the leaf base, with the ovate lobes widest at the midpoint. Tooth- ing is very fine and on the outer third of the lobe margins. The foliage is a bright green in spring, with reddish tips on the lobes. Fall colors range from pale orange to yellow. This strong, upright-growing tree is of good stature, reaching 10–13 m at maturity. It is a good collector's item.

'Komon nishiki'

PALMATUM – *variegated*

This variegated form has five- or seven-lobed leaves about 3–5 cm long and 4–5 cm wide. The leaves on older wood tend to be even smaller. The lobes join more than two-thirds of the way to the leaf base, are ovate-acuminate, widest in the lower third, and gradually taper to a point. The margins are toothed. The petioles are short, thin, and light green, and 1–2 cm long.

The basic color of the foliage is a bright, pale green, but in the spring the new leaves have a rose-tinted edging which blends almost to the center of the lobes. Occasionally, the new tones are almost pink. As the leaves ex-



'Kogane sakae'. Photo courtesy of Oregon State University Archives, Corvallis



'Komon nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

pand fully in late spring, they take on the variegated character of *sunago fu* (sand-dusted) type of variegation in which very tiny yellow or white specks or spots are dusted onto the leaf. The specks rarely join together to make a larger yellow or white area. This maple has a very subtle and beautiful form of variegation, as reflected in the name which means “small figures on brocade.” The leaves take on bright crimson tones in the fall.

Neither a large-growing plant nor a dwarf, 'Komon nishiki' can attain up to 3 m when planted in a good location in a rock garden. Container-grown, it makes a fine-leaved small plant, and lends itself to bonsai culture. 'Aureo-variegatum' has been considered a synonym of 'Komon nishiki' (van Gelderen et al. 1994). The former, however, appears to grow twice as tall to 6 m, and has leaves with deeper divisions and variegation that is not as marked or attractive.

'Ko murasaki'

MATSUMURAE – red

This cultivar is one of many red-leaved forms in the Matsumurae Group. The leaves are deeply divided at least three-quarters of the way to the leaf base. The points of the lobes radiate outward. The lobes are ovate and come to a sharp point. The edges show a marked, sharp, double serration. The medium-sized leaves are 6–7 cm long and wide and seem to extend laterally from the twigs in most growth and attempt to lie on the same plane. The coloration is a deep purplish red, hence the name which means “deep purple.” The color holds well in the summer heat. Along the center of the lobes, the color shades into a deep greenish red, thus making a contrast to the solid coloration. The fall foliage color is a strong crimson. This hardy, small tree grows about as broad as tall. It probably attains 3–4 m tall and wide after 15 or more years. The cultivar has been known under the names 'Koi murasaki' and 'Noshi'.

'Korean Gem'

PALMATUM – green

This maple was described in earlier editions of this book under the natural variety *Acer palmatum* var. *koreanum*, and in *Maples of the World* under 'Koreanum'. *Acer palmatum* var. *coreanum* was the name given by Takenoshin Nakai in 1914 to this natural form indigenous to South Korea and adjacent islands. However, it was based on an abnormal specimen with petal-less flowers. Thus the name was illegitimate under the 1959 *Botanical Code* and was later absorbed into *A. palmatum* subsp. *palmatum* by

C. S. Chang in 1986. However, there is a well-established form both in cultivation and in the nursery trade. The best-known example is probably the tree growing in the Hillier Gardens and Arboretum at Jermyns (Romsey, Hampshire). Because of the confusion that results from using the Latin name 'Koreanum' or 'Coreanum' for a variable, naturally occurring population with the same name, and because Latin names have been banned for cultivars since 1959, the Hillier clone has been renamed 'Korean Gem'.

This excellent green palmatum has brilliant fall colors ranging from yellows to oranges and occasionally blended with red. The twig coloration is dark red, especially in the fall and winter. The leaves are a bright, light green. The margins have a very narrow and faint red marking in the spring. The five- or seven-lobed leaves, 6–10 cm long and wide, are separated two-thirds of the way to the leaf base, and radiate outward. The lobes are ovate and taper to a sharp point, with the margins finely double serrated. The petioles are red and up to 4 cm long. 'Korean Gem' is strong growing and hardy and forms an upright, round-headed, medium-sized to large tree up to 7 m high. With proper pruning, it can also be made to form a round-headed, short tree.

'Koshibori nishiki'

PALMATUM – variegated

The basic color of this variegated cultivar is light, bright green. The new leaves are edged with orange and red. The *sunago fu* (sand-dusted) form of variegation consists of



'Korean Gem'. Photo courtesy of Oregon State University Archives, Corvallis

extremely fine dots and flecks of yellow on the green. These minute dots are irregularly, indiscriminately, and often quite thickly scattered all over the surface. The five lobes are long-ovate with the tips not extremely sharp. The margins are shallowly toothed. The lobes radiate out from the center, giving a definite palmate appearance. Occasionally, they are irregularly curved. Shoots are crimson. Fall colors graduate through the yellows into the orange tones. The leaves vary from 2 to 2.5 cm long and 3 cm wide on mature foliage of older wood. Some leaves are as much as 5 cm long and 6 cm wide on vigorous young shoots.

This short shrub is of twiggy, slightly cascading habit and makes a dense but lacy plant. It is a cultivar of almost dwarf structure, with small foliage and, for best appearance, should not be overfertilized. It probably reaches 2.5 m or a little more at maturity. It is a desirable small landscape plant and also adapts very well to container culture.

'Koshimino'

OTHER—green

The foliage, fall coloration, and bunchy habit of the old twigs, among other features, are very similar to those of 'Hagoromo'. The leaf shape is basically the same (see 'Hagoromo' for a full description). The two cultivars could be synonymous. However, Japanese nurseries list 'Hagoromo' as slow-growing, rarely reaching 1 m high. I have received material from various sources and 'Hagoromo' never grows as vigorously as 'Koshimino'. The Maplewood stock plants of the latter have reached a height of 5 m very quickly. A 10-year-old tree is about 6 m tall and is slender. Another of the same age is only about 3 m tall but multistemmed and quite broad. The Maplewood plants of 'Hagoromo' show no tendency to be so vigorous. This difference lends weight to the assumption that they are different cultivars. Other authors indicate that they may be synonymous, but comparing plants grown side by side suggests that they are separate cultivars. Another name which has been used for 'Koshimino' is 'Decompositum'.

'Kotohime'

DWARF—green

This dwarf, whose name means "little harp," has one of the smallest leaf forms of *Acer palmatum* cultivars. On mature wood, many leaves are only 1–1.5 cm long and wide. On newer wood, they may reach 3 cm. These leaves have five lobes, although much of the time they appear



'Koshimino'. Photo courtesy of Oregon State University Archives, Corvallis



'Kotohime'. Photo courtesy of Oregon State University Archives, Corvallis

to have only three, as the two basal lobes almost disappear. The center lobe is always prominent, with the two side lobes angling outward. The lobes are ovate, bluntly acuminate, with the margins deeply toothed (for the size of the lobe). The petioles are very short, less than 1 cm, often down to 2 mm. The new leaves often come out a bright rose or orange red. This color is heaviest on the edges of the leaves and shades into the light green of the center. Mature foliage is bright, light green. Fall colors are the light tones of yellow blended with orange.

'Kotohime' is a sturdy little plant for its type. It tends to grow upright with much side branching which rounds out the shape. Each branch sends out further side branches in profusion, so that the plant becomes quite dense. The leaf nodes are spaced very close together, thus giving a dense cover of leaves. This maple is useful planted with other dwarf forms in such special places as alpine gardens. It is also popular with bonsai specialists and can be trained into a very tight bun shape. In bonsai containers, it has a profusion of delightfully small leaves. Other names which have been used for this cultivar are 'Kotohime yatsubusa' and 'Tokyo yatsubusa.' 'Chichibu' and 'Chichibu yatsubusa' are similar if not the same.

'Koto ito komachi'

DWARF – *green*

Of the many thousands of seedlings produced at Maplewood Nursery, including those by hand hybridization, this one is the most unusual. The plant is extremely dwarf. The original was a chance seedling which remained very tiny for the first three years. It was not until the tiny tips were grafted onto vigorous understock that it began to get any size at all. The most growth that it has been possible to force on any one graft in a season was about 15 cm. Most grafts make an annual growth of 5–6 cm. The shoots are sturdy for the size, and the leaf nodes are very close together—often only a few millimeters apart—thus making the foliage quite dense.

The leaves usually have five extremely long, narrow lobes, but many have only three lobes. The margins are not toothed but slightly wavy. Each lobe is only 1 mm at the widest point, and narrows to half that at the base, little more than the width of the midrib. In length each lobe is about 5 cm, and the lobes join at the leaf base. The total spread across the leaves is 11 cm. The leaves do not lie in the same plane, and each one has a different curl to the lobes. The petiole, which is quite fine, is 1.5–2 cm long.

This cultivar seems hardy (it has survived -10°C) and also takes full sun. It is a marvel that it grows at all, since the leaf surface is so small it can manufacture very little food. However, my specimens seem to thrive very well, but they are extremely difficult to propagate, since any scion wood is measured only in millimeters or, at the most, 2 cm.

I was pleased to have Hideo Suzuki of Japan view this plant and suggest the name which we have assigned to it. While he visited Maplewood Nursery, he suggested the name 'Koto ito komachi' which can be interpreted as "old harp string" or "beautiful little girl." The leaves are like harp strings, and this cultivar is Maplewood's "beautiful little girl." The word *komachi* is also a horticultural term for "dwarf."

'Koto maru'

DWARF – *green*

This lovely dwarf is the green equivalent of 'Beni hime', being similar in leaf shape and size and growth rate. New foliage is yellow, with bronzed edges and tips, before turning dark green. The yellow-bronze new growth overlying the dark green older foliage continues throughout the growing season.

The small five-lobed leaves, 2–2.5 cm long and 2.5–3 cm wide, are divided up to two-thirds of the way to the leaf base. Each lobe is broadly ovate, irregular with triangular or bluntly pointed tip, and with toothed margins. As is typical of witches'-brooms, the center lobe is often truncated and occasionally absent. The leaves on



'Koto ito komachi'. Photo courtesy of Oregon State University Archives, Corvallis

more vigorous young shoots are larger, up to 4 cm long and 4.5 cm wide. The short petioles are about 1 cm long.

'Koto maru' forms a dense compact slow-growing bush. An old plant in Savill Gardens, Windsor, England, is only 1.5 m tall and 2 m wide. The name, which means "round harp," has been misspelled 'Koto mura'.

'Koto-no-ito'

LINEARILOBUM – *green*

This cultivar is somewhat between the Linearilobum and Palmatum Groups, with the lobes slightly broader than the usual linearilobum. The leaves have five (or seven) narrow lobes of rich green color. They are lanceolate, gradually tapering to an elongate, sharp point, with margins almost smooth. Their length is usually 5–7 cm, and the radiating lobes spread about 8 cm. On mature wood and small twigs, the leaves are much finer, while on new growth some leaves exceed these measurements and the lobes are much wider. The leaf base is almost truncate with the lower lobes extending straight out. New leaves unfold with crimson tones but soon turn green. Fall colors range through the various shades of yellow. The pet-

ioles are fairly short for the leaf size, about 2–3 cm.

'Koto-no-ito' usually makes a tall shrub of 2 m in 10–15 years. Although an upright-growing form, it does not exceed 3 m in very old plants. As it is densely branched, it can become very twiggy. The bark is a good bright green and the plant is hardy. The name means "harp strings." Another name under which this cultivar has been known is 'Latilobatum'.

'Kurabu yama'

MATSUMURAE – *green*

This little-known cultivar is worthy of more attention. The leaves are seven lobed and separated to the leaf base. Each lobe is long-ovate with the side lobes noticeably narrower. The edges are quite sharply toothed. The leaves are 5–6 cm long and about 6 cm wide. They have a good texture and feel thick to the touch. Spring growth has a reddish brown or deep rusty appearance. As summer develops, the colors change to a deep, rich green. Fall colors appear in yellow, orange, and crimson tones, which makes this a very conspicuous plant in the garden. Not a tall upright tree, it reaches 4 m high and wide,



'Koto maru'. Photo by Corvan Gelderen

yet it is a vigorous grower which broadens with age. It is hardy and useful in the garden landscape for its good fall color. The name has been misspelled 'Kurabeyama'.

'Kurui jishi'

DWARF – green

This delightful cultivar has small deep green leaves with the edge of each lobe tightly rolled upward and inward. The undersides are gray green. The leaf almost appears star shaped. There are seven lobes, but the two basal lobes cup upwards, making the leaf appear five lobed. Each lobe is long and gradually pointed, and gives the appearance of a pointed tube as the rolled edges almost meet in the center. Edges of the lobes are toothed, but this feature is lost because they roll inward. The tips are extremely sharp and often hooked. The lobes join about



'Kurabu yama'. Photo courtesy of Oregon State University Archives, Corvallis



'Kurui jishi'. Photo courtesy of Oregon State University Archives, Corvallis

three-quarters of the way to the leaf base, giving a small center palm to the leaf. The leaves are very similar to those of 'Okushimo' but usually smaller. The deep, rich green turns a delightful yellow in the fall. The petioles are red and 1.5–2.5 cm long. The shoots are red, differing from the green stems of 'Okushimo'.

'Kurui jishi' is more dwarf than 'Okushimo'. It is a slow, upright grower to 2 m high. The leaf nodes are quite close together and make for a very bunched growth habit with a dense cover of leaves. Side shoots develop frequently for a tight growth habit. Normal growth is up to 15 cm per year. This cultivar is a delightful plant for alpine gardens or areas in gardens calling for small to medium-sized upright plants. It can be pruned with excellent results. Japanese gardeners report it as slightly tender. The name has been misspelled 'Korui jishi' in the past. 'Kurui jishi' can be interpreted as "a confused lion."

'Lemon Lime Lace'

DISSECTUM – green

This interesting two-toned dissectum originated as a chance seedling in 1979, was propagated and introduced by Del's Japanese Maple Nursery of Eugene, Oregon, in 1992 and registered in 1996. The very apt name describes the changing colors of the leaves. They emerge a very light lemon yellow, becoming lime green as they mature. This creates a lovely two-tone effect from early summer onwards. The color changes to orange in the fall. The size and shape of the leaves is similar to 'Green Mist', perhaps a shade more finely cut.

The five- or seven-lobed deeply dissected leaves are 9–10 cm long and 10–11 cm wide. The lobes are themselves dissected almost to the midrib, each lobe narrowing to the width of the midrib for the last 1 cm down to the



'Lemon Lime Lace'. Photo by Harry Olsen

lobe junction at the leaf base. The margins are edged with coarse but narrow, sharply pointed teeth, reminiscent of thorny gorse (*Ulex europaeus*). The short petioles are 1.5–2 cm long. This cultivar forms a compact irregular mound with semipendulous branches, not as tidily dome shaped as most dissectums.

'Lionheart'

DISSECTUM – *red*

This unique upright red dissectum introduced by Duncan and Davies Nursery of New Zealand can be described as the red counterpart to the ever-popular upright green dissectum 'Seiryū'. In spring its foliage is similar in color to that of 'Crimson Queen', and it retains this purple red well into the summer, becoming bronzed with green undertones in early fall. It turns a deep crimson in the fall.

The seven-lobed leaves are dissected to the leaf base, and are 7–9 cm long and 9–11 cm wide. The lobes themselves are deeply incised and, with the sublobes, are 1–2 cm wide at the broadest point, narrowing sharply in the lower quarter to no more than the width of the midribs for a distance of 1–1.5 cm to the leaf base. The margins have coarse but narrow, finely pointed double teeth. The red petioles are 1.5–3 cm long with expanded bases. When young the attractive deep red bark is covered in very close-packed vertical glaucous striations.

'Lionheart' is a vigorous small tree, reaching 2.5 m tall in 10 years, and probably attaining a height of 3.5–4 m at maturity. In habit, it is similar to 'Seiryū' when young, growing upright at first. It becomes more spreading with age, the branches growing horizontally with pendulous tips to give an attractive layered and arching effect. This cultivar's name has been misspelled 'Lions Heart'.

'Lutescens'

AMOENUM – *green*

The leaves of this cultivar are of the larger type in the Amoenum Group and are seven lobed. They range from 6 to 9 cm long and up to 10 cm wide, and are divided about halfway to the leaf base. The lobes are ovate but taper to a sharp point and have a toothed margin. The petioles are 4–5 cm long. The new spring growth is yellowish green, which soon changes to a rich green. The leaves are of good substance and are durable. The real glory is the fall coloration, which becomes a very rich yellow or gold. This medium-sized upright tree matures at 7 m or more. It is a good companion for other orange to crimson forms in a larger planting. The cultivar has been known under the name 'Luteum'.

'Maiko'

PALMATUM – *green*

The foliage of this interesting small cultivar is a yellowish green to a bright green. Fall colors are pleasing yellows of different intensities. The leaves are five lobed but decidedly non-uniform. They vary from 3 to 5 cm long and 3–7 cm wide. Some lobes are quite narrow, not more than 4 mm wide, but are up to 4 cm long, with margins deeply and irregularly toothed, even lobulate. Some leaves have this type of lobe combined with the more typically triangular-ovate shape which tapers to an elongate, blunt tip. A few leaves have a typical palmatum shape but with very deeply toothed margins. All these variations can occur on the same plant. The cultivar is similar to 'Mama', but the foliage is smaller and even more irregular. The red petioles are stiff and 2 cm long.

The plant makes an upright shrub up to 3 m tall. After the vigorous growth of the early years, it will broaden and become multibranched as it matures. Propagating material labeled 'Maoka' and 'Maioka' from different sources was grown side by side with 'Maiko' for comparison, and the three appear identical. The names are examples of how misnomers can be created by carelessness in writing labels. 'Maiko' means "dancing doll."

'Mai mori'

PALMATUM – *variegated*

Imported from Japan, this cultivar is an interesting addition to the 'Butterfly' group of variegated palmatus. The leaves are similar in shape to 'Butterfly' but slightly larger with broader lobes. The variegation is light cream to yellow on medium green to dark gray green and oc-



'Maiko'. Photo courtesy of Oregon State University Archives, Corvallis

curs in patches of various sizes and in flecks. The patches sometimes occupy one side of a lobe, causing the lobe to become sickle shaped.

The five- or seven-lobed leaves vary in size from 3.5 to 4.5 cm long and from 4.5 to 5.5 cm wide. The leaf base is usually more or less straight, at least when five lobed. The lobes are ovate, 7–10 mm wide, with tapered tips, and divided up to three-quarter of the way to the leaf base. The margins are distinctly and regularly double toothed. On vigorous juvenile shoots the leaves are larger, up to 6 cm long and 7 cm wide, more regularly palmate and without variegation. The slender petioles vary from 1 to 4.5 cm long.

This plant forms a compact densely branched small tree, more or less as wide as tall. If the soil is too fertile, 'Mai mori' loses its variegation, as do several other variegates.

'Mama'

PALMATUM – *green*

Describing the leaf of this cultivar is very difficult because no two leaves are alike. The translation of 'Mama' is "any which way" or "doing as one pleases." In today's vernacular this could mean "doing your own thing." The foliage does just this.

The bright green leaves are classed as five lobed. There the uniformity stops. Some leaves have seven lobes, or as few as three lobes. The leaves have the following shapes: five long, narrow lobes separated entirely to the leaf base with margins irregularly toothed, and appearing wind-tattered; three broad lobes separated shallowly plus two lobes long, narrow, completely separated, and with very "tattered" margins. Other leaves have all these combinations or any variation conceivable. Each leaf is



'Mama'. Photo courtesy of Oregon State University Archives, Corvallis

slightly and interestingly different. The whole effect is a rather lacy appearance. Leaves may reach a maximum of 7–8 cm long and wide. However, most of them are 3–5 cm. The petioles are 2–4 cm long and are bright red.

The bright green of the summer foliage turns to a beautiful blend of yellow-orange combinations in the fall. This plant is usually well branched, even twiggy. Occasionally, strong shoots develop. The plant matures at 3–4 m as a tall bush form. It is still rather rare in nurseries.

'Mapi-no-machi hime'

DWARF – *green*

This desirable green dwarf is very like the popular 'Kiyohime' with similar growth habit, leaves, and coloring. It is considered by some references to be synonymous with 'Little Princess', a dwarf introduction attributed to the late Jim Russell at Castle Howard in Northumberland, England.

The small palmatum-type leaves are a lovely light yellow green edged with pink orange when they first appear in the spring, becoming light to medium green with a darker bronze-red edging which sometimes persists through the summer. The color changes to orange red in the fall. The five-lobed leaves are 3.5–4 cm long and 4–4.5 cm wide. They are divided to about three-quarters of the way to the leaf base, with the lobes spread out like a star. Each lobe is ovate with a tail-like tip and with clearly double-serrated margins. The short, slender pink-red petioles are 1–1.5 cm long.

This plant forms a small, round densely branched shrub, estimated to reach about 2 m tall and wide when fully grown. It is becoming popular in Europe and is readily available in the trade. Unfortunately, it has not yet been possible to trace its origins, or the true relationships, if any, between 'Chiyo hime', 'Kiyohime', 'Little Princess', and 'Mapi-no-machi hime'. Curiously, the name 'Chiyo hime' means "little princess."

'Marakumo'

PALMATUM – *variegated*

The new leaves on this cultivar show a bright pinkish or light orange coloration, shading from the margins toward the center of the lobes. The basic leaf color is pale green. It is made even lighter by the great profusion of extremely fine dots of white or cream which are sometimes so thick that they merge, forming almost a solid area. A translucent effect results from the very dense, fine stippling of the thin leaves. Fall colors range into yellows and light gold.

The leaves are five- or seven-lobed, 5–7 cm long and 6–8 cm wide. Usually they are the smaller size. Leaf lobes divide at least two-thirds of the way to the leaf base, and are oblong-ovate, tapering to a slender point, thus forming a palmate-shaped leaf. The margins are quite toothed. Leaf texture is rather delicate but not weak.

Because it is not very vigorous, 'Marakumo' forms an upright bush of 3 m rather than a tree. It is somewhat tender and needs at least afternoon shade. It is not easily propagated. Although a very desirable variegated form, it is not widely known. The name has also been spelled 'Maragumo'.

'Margaret Bee'

PALMATUM – *red*

This purple-red cultivar is considered an improvement on 'Bloodgood', and similar in leaf and growth to 'Fireglow' but not as outstanding. It has slightly larger leaves than 'Fireglow' with the lower ends of each lobe narrower, like the neck of a bottle. The large five- or seven-lobed widespreading bright purple-red leaves are deeply divided three-quarters of the way to the leaf base. They measure up to 8–9 cm long and 9–12 cm wide. The broadly ovate lobes with long slender pointed tips are 2–2.5 cm wide in the middle but narrow markedly to 0.5–1 cm at the lobe junctions. The slender purple petioles are 2.5–5 cm long. This plant forms a narrow, upright tree, eventually attaining a height of 5–6 m. It is sometimes found in catalogs as 'Margaret B'.

'Masu kagami'

MATSUMURAE – *variegated*

This variegated cultivar, also named 'Masukaga' in the past, is not widely known. It is one of the most interesting among those which are subtly marked. The leaves are five lobed, sometimes seven lobed, separated openly and deeply, almost to the leaf base. They vary from 5 to 7 cm long and from 5 to 9 cm wide. Each lobe is elongate-ovate with the tip extended to a very sharp point. The margins are prominently double toothed.

The new foliage is crimson when first appearing, occasionally showing strong pink tones. These colors lessen, but the reddish shades persist along the margins into late spring. The mature leaves are a basic green color but are often so heavily marked as to appear almost



'Margaret Bee'. Photo by Harry Olsen



'Masu kagami'. Photo courtesy of Oregon State University Archives, Corvallis



'Marakumo'. Photo courtesy of Oregon State University Archives, Corvallis

whitish green. The extremely fine dots of white and yellow often merge to form more solid areas of light color. The stippling effect is almost lacking in some leaves, but most are very strongly marked, making them appear pale. This cultivar does best with light shade protection. It is a hardy, medium-growing plant which eventually makes a tall shrub 4 m high. The name of this cultivar is sometimes misspelled 'Musa kagami'.

'Masu murasaki'

PALMATUM—*red*

This very intense red cultivar shows best when in full sun. The red does not have the green undertone of many similar cultivars, but shades more toward purple. The color is difficult to describe adequately. When grown close to similar cultivars, its unique color is apparent. In full shade, the leaves have almost a black-red tone with deep green shading in the center of the lobes. The petioles and veins are also bright red.

The leaf has seven lobes separating two-thirds of the way to the leaf base. The leaf is 5–7 cm long and 6–8 cm wide. Each lobe is ovate-acuminate but with an elongated tip. The margins are double serrated. The petioles are 1–2 cm long. This vigorous upright plant grows to about 7 m high eventually. The name is sometimes misspelled 'Matsumurae saki' and 'Musa murasaki'.

'Matsugae'

PALMATUM—*variegated*

This variegate is one of the older cultivars and a very satisfactory landscape plant. Basic leaf color is a deep green, almost a bluish green. The variegation is of several types—*fukurin fu* (along the edges of the lobes), *fukurin kuzure* (irregular), or *hoso fukurin* (shallow margins). The markings are white or cream, but in the spring are overlaid or blended with a deep rose. The colors lessen somewhat in the late summer, but the fall intensifies the deep rose color in all the variegated areas.

The leaves are very irregular, each leaf being slightly different from the next. They are basically five lobed and 3–4 cm long, with a spread across the lobes of 4 cm. The long, narrow lobes are separated about three-quarters of the way to the leaf base, slightly wider halfway to the apex, and terminating in a slender point. Each lobe is 5–10 mm at its widest point. The lobes are sometimes sickle shaped, especially where there is heavy variegation. Occasionally, individual lobes are broad, almost elongate-ovate. The edges are deeply and non-uniformly notched, toothed, or a combination of the two forms.

The two basal lobes tend to point at right angles to the petiole, which is 1.5–2.5 cm long and quite slender.

This cultivar is about halfway between 'Butterfly' and 'Kagiri nishiki'. The general appearance is similar to 'Kagiri nishiki', but close comparison of individual leaves shows minor differences. Also, there is a greater depth of color in 'Matsugae'. It is a little more open and less twiggy than 'Butterfly'. 'Matsugae' grows up to 3–4 m tall. It is a hardy plant, can take full sun, and responds well to shaping. The name 'Matsugae' means "pine branch." This cultivar has also been known under the names 'Albo-marginatum', 'Argenteo-marginatum', and 'Fichtennast'.

'Matsukaze'

MATSUMURAE—*red*

This deeply cut cultivar makes a handsome landscape plant. The spring color is a spectacular bronze red to purple red. The bright green veins add a special effect. The leaves develop a rich green in summer and then turn a rich carmine and crimson in the fall. They are 7–8 cm long and deeply separated with seven long, narrow, elliptic-ovate lobes which taper to long, slender points. The lobes tend to remain together rather than radiate outward, thus making a total spread of only 8–9 cm. The lobes join about 5 mm from the leaf base. The margins are double serrated. The petioles are long and slender, about 4–5 cm in length.

The growth habit of this cultivar is vigorous. While some shoots may be 0.5–1 m on fast-growing young plants, growth on older wood is much shorter. It does



'Matsugae'. Photo by Harry Olsen

not grow upright but soon becomes a broad shrub up to 4 m or so tall, with graceful, cascading branches. This striking addition to the garden landscape is not suitable for the small alpine or rock garden because it needs space to spread in order to display its unique weeping look. The name 'Matsukaze' means "wind in the pine trees," the title of one of the famous Noh plays of Japan from the twelfth and thirteenth centuries. Because of its dissectum-like habit and its very narrow, deeply cut leaves, 'Matsukaze' has also been known under the names 'Dissectum Matsukaze', 'Machi kaze', and 'Pendulum Matsukaze'. It has been misspelled 'Matsukase'.

'Matsuyoi'

AMOENUM – *green*

This medium-sized tree has unusual foliage. The leaves emerge as a pale yellowish green, turning to a light, bright green as they mature. They do not form a flat plane as most forms do, but the lobes bend up or down slightly, or some lobes twist slightly. Some leaves hang down, some flat, some on edge, creating a foliage cover

much like a wind-blown coiffure. The fall coloration is rather bright yellow orange to deep orange. The leaves are fairly large, measuring up to 10 cm long and wide. The seven lobes are long-ovate, separated about halfway to the leaf base. The edges are quite notched with fine toothing between the notches. This shorter type of tree tends to grow rather broad and not strongly upright, reaching 3–4 m high. The total foliage appearance is rather feathery. Another name by which this cultivar has been known is 'Machiyoi'. It has also been sold as 'Myoi' by mistake.

'Mikawa yatsubusa'

DWARF – *green*

The leaves on this little dwarf overlap each other like shingles on a roof. They are a light yellow-green color when first unfolding, the new leaves being bunched up at the shoot tips. The thin-textured leaves become a medium green as they mature. The outer leaves have very bright red tips on the fine red serrations of the margins.

The leaves, which are slightly longer than those of



'Matsukaze'. Photo courtesy of Oregon State University Archives, Corvallis

other dwarf forms, are 4–6 cm long and 5–6 cm wide. The five or seven lobes are separated two-thirds of the way to the leaf base. Each lobe is oblong-ovate, with a long, tapering point. The margins of the lobes are finely toothed. The leaf base is truncate or subcordate, making all the lobes point forward.

The leaf nodes are very close together, and the new shoots are very short and stubby. This makes for a very dense leaf covering on the twigs. The growth is multi-branched, forming a compact little plant. 'Mikawa kotohime' is very like this cultivar and fits the above description very closely.

'Mini Mondo'

PALMATUM – *green*

This semidwarf small-leaved palmatum arose from a chance seedling selected and named by Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania. He originally named it 'Tiny Leaf' but years later changed it to 'Mini Mondo', meaning "small world." The change of name may be because there seems to be a quite different cultivar named 'Tiny Leaf' whose leaf shape is similar to that of 'Ōgi nagashi'. The origins of this latter 'Tiny Leaf' have not yet been traced. The tiny green five- or seven-lobed leaves, 2–3 cm long and wide, turn a deep red in the fall. The leaves are similar in shape and size to those of the dwarf 'Hanami nishiki'. However, it grows twice as tall, reaching 2 m high in 10 years, and forms a small compact but upright shrub.



'Mikawa yatsubusa'. Photo courtesy of Oregon State University Archives, Corvallis

'Mirte'

PALMATUM – *green*

This rather special cultivar has large, deeply lobed leaves. When they first emerge, the leaves are mid chocolate-brown in color with light green veining, and covered with a soft pubescence. They become an unusual dark olive-green by early summer and turn bronze green in late summer and early fall, with lighter green undersides. The fall color is orange yellow. The current shoots are covered in a gray bloom for most of the summer.

The large seven- or nine-lobed leaves are 7–10 cm long and 7.5–11 cm wide. The lobes are deeply incised to more than two-thirds of the way to the leaf base, and are ovate with tail-like pointed tips. Each lobe is 5.5–6.5 cm long and 1.5–2 cm wide at the broadest point in the middle, narrowing slightly to almost 1 cm at the lobe junctions, 2–3 cm from the leaf base. The margins have conspicuous, sharply pointed, hooked teeth. The two small basal lobes are almost at right angles to the petiole. Each petiole is stiff and 3–4 cm long.

This strong-growing upright cultivar reaches up to 8 m tall at maturity and about as wide. It was noticed in a group of seedlings at Firma C. Esveld, Boskoop, Netherlands, in the mid-1980s, and named after one of D. M. van Gelderen's granddaughters.

'Miyagino'

MATSUMURAE – *green*

Fall color is the outstanding feature of this cultivar which turns a crimson color flecked with gold or orange. The green leaf holds good color all summer and is pleasing in the garden landscape. The seven-lobed leaves are



'Mini Mondo'. Photo by Harry Olsen

about 6 cm long and up to 7 cm across with two very small and narrow basal lobes. Each lobe is narrow-oblong, with the base gradually tapering to just the width of the midrib, and the outer end gradually tapering to a long, narrow point. The deeply divided lobes are widely separated right to the leaf base and radiate outward. The petioles are slender and about 3 cm long. This medium strong-growing plant becomes a wide, tall bush up to 4 m tall, rather than a strongly upright tree.

'Mizuho beni'

PALMATUM – green

This very attractive addition to the 'Katsura' group of cultivars has colorful orange-yellow spring foliage. The leaves have a dark pink edging which merges into the orange-yellow background.

The five- or seven-lobed medium green leaves are fairly uniform in shape and color. They are characterized by the large coarse, almost sublobulate, triangular-pointed double teeth around the margins. Each leaf is divided up to three-quarters of the way to the leaf base, with the lobes well separated. The leaves measure 4.5–5.5 cm long

and 5–6 cm wide. Vigorous young shoots produce longer leaves up to 8 cm long and wide. Each lobe is broadly ovate with a pointed tip, 1.5–2 cm wide at the broadest point in the middle, narrowing to 0.5 cm at the lobe junctions. The light yellow-green midribs are very slender, as is the 1.5–4 cm petiole.

'Mizuho beni' is similar to 'Katsura' in leaf shape, size, and color, and in growth habit and vigor, except for the much more conspicuous serrations. However, the important difference is that it comes into leaf at the normal time, some two to three weeks after 'Katsura', and so is less likely to be damaged by early spring frosts and cold winds. This introduction has sometimes been misspelled 'Mitsuho beni'. *Mizuho* is a Japanese girl's name.

'Mizu kuguri'

PALMATUM – green

The spring color of this cultivar is unusual for *Acer palmatum* forms. The undercolor is light green, but the entire leaf has a pinkish rose to a light brick red overshadowing. The effect is not harsh but a rather gentle overall brushing of color. Later in the season, the leaf tones be-



'Mirte'. Photo by Cor van Gelderen

come a deeper green. The leaves are seven lobed and regular in shape, with a truncate leaf base. They measure 5–7 cm long and 6–8 cm wide. The lobes are ovate but taper to an elongated, narrow tip and have fine, sharp-toothed margins. The petioles are 1.5–2 cm long. This cultivar becomes a bushy plant rather than a tall tree form, reaching 3 m high.

'Momenshide'

OTHER-green

The leaves of this cultivar look very much like 'Hagoromo', but the lobes are not deeply incised. Also, 'Momenshide' is a smaller plant.

The leaves have practically no petioles (only a few millimeters long) and are attached almost directly to the twig. They are five lobed, occasionally three lobed, and 3–5 cm long including 1–1.5 cm of bare "petiole-like" base. Each lobe is oblong-ovate, tapering to a blunt point. The lobe base tapers abruptly for the last 1 cm to the width of the main vein, so that it appears to have its own petiole. The lobes do not lie flat but twist slightly on different planes. Each lobe is from 1.5 to 2 cm wide at the broadest point but, with lobes overlapping, the leaves may appear to be only 4–5 cm wide. The entire effect is feathery foliage. The margins are only slightly toothed and irregular. The foliage is reddish in the spring, but soon changes to a deep, rich green. The veins are somewhat prominent and give a slight textured look to the surface. In the fall, the bright yellow colors add to the beauty of the garden.

This cultivar assumes an upright bush shape and will probably not reach more than 3–4 m at maturity. It



'Momenshide'. Photo courtesy of Oregon State University Archives, Corvallis

tends to be twiggy and takes pruning and shaping very well. The Japanese have found 'Momenshide' rather tender. It is regarded as a bud-sport from 'Hagoromo'. It is occasionally found on older plants of 'Hagoromo', starting as a small shoot of new growth. It is difficult to propagate. Another name this cultivar has been known under is 'Yūshide'.

'Mon zukushi'

PALMATUM-green

This cultivar is another of the green-leaved forms of the Palmatum Group. The leaf color is a bright, pleasant green of lighter value. Early in the season it is a light yellow green with reddish hues, and sometimes the veins show a faint red. This soon changes to a solid green. The texture of the leaf is firm but not thick. Fall colors are brilliant orange reds.

The leaf is an open palmate shape with five radiating lobes. Occasionally, the basal lobe produces a small spur lobe. The leaves are 7 cm long and spread about 8 cm. Each lobe is a smooth ovate form, tapering to an elongated tip. The lobes unite two-thirds of the way to the leaf base. The margins are very finely serrated. The stiff petioles are 2–3 cm long. This rather vigorous, hardy plant reaches a height of 5 m.

'Moonfire'

PALMATUM-red

The excellent purple-red, almost black-red, color of this cultivar is almost opalescent. Diffused sun gives it a faint blue overtone similar to that of 'Nuresagi'. The good deep colors last very well throughout the summer and



'Moonfire'. Photo courtesy of Oregon State University Archives, Corvallis

do not bronze out as do many of the red cultivars. The center vein of each lobe is also a deep purple red, and the underside of the leaf is a very deep, rich reddish green. Later, the leaves turn crimson for a delightful fall display.

The large leaves are seven lobed, occasionally five lobed, and separated three-quarters of the way to the leaf base. Leaf size ranges from 7 or 8 cm long on the older wood to 10 or 11 cm or even more on new shoots. The lobes radiate outward to a width of 11 cm. Each lobe is elongate-ovate, gradually tapering to a fine point and with finely double-serrated margins. The red petioles are rather short for the leaf size—1–2 cm long.

This cultivar is a strong upright-growing form of *Acer palmatum* f. *atropurpureum*. New shoots on vigorous young plants grow at least 1 m in a season. It is a fast-growing tree when young, but broadens and slows down as it matures. Older trees assume the upright, rounded canopy of *A. palmatum* and reach about 7 m tall. 'Moon-fire' was selected from seedlings by Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania, and it is a very worthwhile cultivar. It is durable and its long-lasting season of color rivals that of the well-known 'Bloodgood'.

'Muragumo'

PALMATUM—red

This cultivar is an outstanding red-leaved form in the Palmatum Group. The palmate leaves are usually seven lobed and divided almost three-quarters of the way to the leaf base. The leaf has a good texture and measures about 7 cm long and 8 cm wide. The ovate-elongate lobes are wide in the center and come to a strong point. The basal lobes are quite small. The edges are finely double serrated. The petioles are reddish and 2–3 cm long. The early spring color as the leaves unfold is almost crimson and soon becomes a very good, deep purple red. The leaf veins are also red and noticeable. Fall colors range into the good crimson shades.

This upright cultivar is quite hardy and reaches about 6 m tall at maturity. It is valuable in the garden landscape because it retains the red colors well into late summer. The name probably means "a cluster of clouds." An alternative spelling of this cultivar is 'Murakumo'. It has been misspelled 'Muraguma', 'Murakama', and 'Murakuma'.

'Murasaki hime'

DWARF—red

As the name implies (*murasaki* means "purple" and *hime* means "dwarf"), this cultivar is a purple-leaved dwarf. It

grows to a rounded shrub, not exceeding 2 m. The leaves have five or seven lobes divided almost to the leaf base and measure 5–6 cm long and wide. Each lobe is oblong-lanceolate, terminating in a long slender tip. The inner margins are smooth, while the outer margins are sharply toothed, each tooth finely serrated. The color of deep purple becomes green red inside the plant where the leaves are shaded. Color tones vary within the plant. This cultivar seems a little delicate and not vigorous. The name has been misspelled 'Murasaka hime'.

'Murasaki kiyohime'

DWARF—green

Another of the dwarf cultivars, this plant is most desirable but not widely known. The leaves are divided into five lobes which radiate openly from the center. The leaf base is almost truncate. Mature leaves measure 3–5 cm long and 4–5 cm wide. The leaves are often smaller than this, especially in container culture. Each lobe is ovate-lanceolate, tapering to an elongated, sharp tip. The lobes separate three-quarters of the way to the leaf base. The center lobe is very prominent, especially in the new leaves where it is often dominant. The margins are toothed on the outer half of the length and smooth on the inner half.

The new foliage is a very light yellow green but heavily marked around the margins with a broad area of bright purple red. This purple-red coloring is heaviest on the edges, shading gradually into the leaf blade. As the leaves mature, they become a solid green. Often there is a very light speckling of minute white markings



'Murasaki kiyohime'. Photo courtesy of Oregon State University Archives, Corvallis

within the green. Fall colors become gold or blends of orange.

As a dwarf maple, it is not a vigorous grower, although it is hardy. It tends to be multibranched and twiggy, as are most dwarf cultivars. It is excellent for alpine plantings, container culture, and bonsai. It tends to be upright, reaching heights of 1 m as it gets older.

'Mure hibari'

MATSUMURAE – *green*

The leaves of this cultivar are deeply divided into seven lobes which are narrow, elongate-lanceolate, and taper to a long, slender point. Leaf size is about 4–5 cm long and 5–6 cm wide. The lobes separate almost to the leaf base and radiate sharply outward. The edges of each lobe are slightly curved up or trough shaped and prominently double serrated. The reddish petioles are 2–3 cm long. The basic leaf color is light green. Margins of new leaves are tinted with a bright brick red. In the fall, yellow to crimson blends appear. This medium-strong grower forms an upright plant up to 5 m tall. It is quite vigorous and hardy. One Japanese writer described the leaf shape as “like a crystal of snow” and unique. The little-known 'Mure hibari', which means “flock of skylarks,” is indeed a beautiful cultivar.

'Muro gawa'

PALMATUM – *red*

This strong cultivar brings a lot of color to the garden landscape. The spring and early summer coloration is a striking orange red, which shades from light to dark

tones. The veins are a contrasting green and show the tracery of their design for several weeks. As the season progresses, the tones change to a rusty green and then into a deep bronze green by late summer. Fall colors range from orange reds to crimson.

The large seven- or nine-lobed leaves are 8–9 cm long with a spread of 10 cm. The lobes are long-ovate, tapering to a slender point, and divided two-thirds of the way to the leaf base. The edges have a definite double serration which is sometimes a little deep. The green petioles are long, slender, and about 4 cm long.

'Muro gawa' is hardy and a fairly vigorous grower but not totally upright. With age, the side branches become somewhat pendulous and the top slows its rate of growth. The mature tree is round-topped with pendulous outer branches. Old trees grow to 6 m tall and, if not trimmed, spread to 3–4 m.

'Musashino'

MATSUMURAE – *red*

The rich color of this cultivar is a deep purple red. As the new leaf develops in the spring, the surface is covered with a minute, light-colored pubescence which brings out the rich tones of purple. This pubescence soon disappears, but the basic color persists well until the end of the summer. The underside of the leaf is purple red with strong green undertones. At the first frost in the fall, the foliage takes on a brilliant crimson hue.

The bold leaves are 7–9 cm long and 8–10 cm wide, with the seven, or sometimes five, lobes well separated to within 1 cm of the leaf base. The lobes are elongate-ovate, terminating in a long, narrow, tapering point. The margins are sharply serrated. The deep red petioles are



'Mure hibari'. Photo courtesy of Oregon State University Archives, Corvallis



'Musashino'. Photo courtesy of Oregon State University Archives, Corvallis

about 2 cm long. The tree form is strongly upright with a rounded crown, maturing at 7–8 m in 25 years. It is fairly fast growing and not very twiggy.

This very famous cultivar has been grown in Japan for about 300 years. It was listed as an old cultivar in some 1710 horticultural writings. It is still quite popular there and is reported to be particularly beautiful in the fall in Hokkaidō and other northern areas. It is hardy and suitable for cooler areas of the United States.

'Nanase gawa'

PALMATUM – *green*

The leaves are divided into seven, or sometimes five, lobes which separate two-thirds to three-quarters of the way to the leaf base. When young, they are very deeply divided, filling out as they develop. They measure 5–7 cm long and about 8 cm wide. The lobes are ovate and terminate in a long, narrow sharp point. The basal lobes point outward, forming a truncate base to the leaf. The margins are finely double toothed. The petioles are about 2 cm long. This cultivar reaches 4 m tall at maturity and becomes nearly as wide, growing as a tall, spreading bush.

The spring foliage opens with a crimson color which soon changes to purplish red. In early summer, as the green tones begin to develop, the veins turn a contrasting green. By midsummer the entire leaf is greenish. This tree is bright crimson in the fall. It is believed to be named after the Nanase River, the location of which remains a mystery.



'Nanase gawa'. Photo courtesy of Oregon State University Archives, Corvallis

'Naruo nishiki'

PALMATUM – *variegated*

While this is classed as a variegated cultivar, plants from two sources show very little tendency to color. However, they were only a few seasons old which may account for the lack of variegation. In one of the earlier descriptions, the palmate-type leaves are described as first unfolding with a light green color. As the leaves mature, a faint creamy white shading or variegation appears. This upright-growing plant is not fast growing. It tends to form a round-headed tree or shrub up to 3 m high. 'Naruo nishiki' has been misspelled 'Narvo nishiki'.

'Nicholsonii'

MATSUMURAE – *green*

The best feature of this cultivar is its fall color. Spring foliage is a good red, slightly purplish. A deep, rich green color develops during the summer and is followed by the golden yellow to beautiful crimson of the fall.

The leaves are seven lobed and vary from 6 to 8 cm long and from 7 to 8 cm wide. However, the leaf appears longer because the middle three lobes are especially long and narrow. Each lobe is elongate-ovate with a fine point, and narrowed at the base. The lobes join together about 1 cm from the leaf base. The margins are double serrated with sharp points. The petioles are red and about 3 cm long.

'Nicholsonii' is a medium-strong grower that reaches 5 m high and wide, and becomes multibranched. Fritz K. A. von Schwerin first described this fairly hardy cultivar in 1893. It has been known under the names 'Atrodissectum' and 'Digitatum Atropurpureum'.



'Nicholsonii'. Photo courtesy of Oregon State University Archives, Corvallis

'Nigrum'PALMATUM – *red*

This selection is a very dark purple red which, in some situations, can be almost black red. Normally, however, it is a rich purple tone reminiscent of the color of 'Nuresagi'. There is a characteristic fine silvery white pubescence on the very young leaves as they unfold. Late summer tones change into brown-green mixed with dull yellow or bronze. Fall colors come as bright reds and crimsons.

The seven-lobed leaves range from 5 to 7 cm long and wide, although size is variable. The lobes are ovate-acuminate, ending with a sharp tip, and the margins are double serrated. The petioles are sturdy and about 3 cm long. This cultivar is a moderate grower and does not grow as large as 'Bloodgood'. It grows rapidly when young but later slows and thickens, reaching 4–5 m high at maturity.

'Nishiki gasane'PALMATUM – *variegated*

The pattern of variegation is very different from that found in other variegated cultivars. It is the *hoshi fu* (star-like) type. The deep green leaf is speckled and flecked with gold. In most cases the spots occur in varying amounts and concentrate along the margins. Some markings are tiny and separate, while others merge to form blotches. Occasionally, the variegation occupies almost the entire leaf. When they first unfold, the heavily variegated new leaves have an apricot color shading from the edges into the center. This tone soon fades into the clear gold color of the mature leaf.

The palmate leaves have seven, or sometimes five, ovate-acuminate lobes, terminating in a long, slender



'Nishiki gasane'. Photo courtesy of Oregon State University Archives, Corvallis

tip. The lobes are separated two-thirds of the way to the leaf base and radiate openly. The two basal lobes are very small. The margins are coarsely serrated. The leaves measure 5–7 cm long and 6–8 cm wide. On older wood, they tend to be quite closely arranged on the small twigs. The petioles are 4–5 cm long.

This upright-growing tall shrub or small tree matures up to 3 m high. The growth is vigorous at first but slows considerably after the first few years, and the plant begins to thicken and become twiggy. As with many variegated cultivars, 'Nishiki gasane' especially needs protection from hot afternoon sun to prevent severe burning of the gold variegations. The cultivar 'Sagara nishiki' is almost identical. The name 'Nishiki gasane' means "overlapping variegations." This cultivar has also been known as 'Saintpaulianum'.

'Nishiki gawa'PALMATUM – *green*

The rough pinelike bark is the outstanding feature of this maple which is also known by the name 'Pine Bark Maple'. It has been likened to the bark of the Japanese black pine, *Pinus thunbergii*. The older the plant, the rougher the bark. It becomes quite corky with coarse, longitudinal, irregular creases in the thickened bark. This feature does not appear in young propagates but begins to develop in two to three years. In an old plant, the bark becomes very thick and convoluted. This rough bark is much more pronounced than in the cultivar 'Ara-kawa' (synonym 'Rough Bark Maple').

The normal palmate leaf usually has seven lobes. The two basal lobes are very small. The elongate-ovate lobes taper to a long point and separate two-thirds of the way to the leaf base. The margins are strongly toothed for a small leaf such as this which is 4–5 cm long and wide. The spring colors are light green edged with a light shading of red. Mature leaves assume a bright green color and turn to a strong yellow in the fall. This plant is upright but bushy and matures as a bushy tree up to 6 m tall. It has become popular in Japan for bonsai training and lends itself well to frequent pruning and shaping.

'Nishiki momiji'PALMATUM – *green*

This small-leaved cultivar develops strong rich fall colors which are usually associated with the larger-leaved forms. The leaf texture is rather thin with a basic color of pale green. The early spring leaves unfold with a pinkish or orange-red tone which persists along the margins

as the leaves mature and turn to light green. Fall color is an especially brilliant display of crimson to fire red. The leaves typically have five or seven lobes and are separated about two-thirds of the way to the leaf base. In both length and width, the leaf measures 5–7 cm. The long, slender, lanceolate lobes gradually taper to a very sharp point. The margins are double serrated. The thin petioles are 3 cm long. This upright maple forms a spreading crown and reaches a height of up to 5 m at maturity.

'Nomura'

PALMATUM – red

This old deep purple-red cultivar is probably a selection from *Acer palmatum* f. *atropurpureum*. It is very similar to 'Musashino' in leaf size and color all through the growing season, including the light-colored pubescence on emerging leaves, and in the vigor, size, and habit of its growth. In the first edition of this book, 'Nomura' was treated as a synonym of 'Musashino'. In *Maples of the World*, 'Musashino' is treated as a synonym of 'Nomura'. However, the leaves of 'Nomura' seem to be mainly five lobed, not seven lobed, with slightly broader ovate, less deeply divided lobes. Several cultivars, such as 'Beni kagami' and 'Hiūga yama', are said to originate as seedlings of 'Nomura', and both 'Nomura' and 'Musashino' are

still grown in Japan. Hence, it seems prudent to treat them as separate cultivars. Alternative names and misspellings used for this cultivar are 'Nimura', 'Nomura kaede', and 'Noumura'.

'Nomura nishiki'

MATSUMURAE – red

The notable feature of this cultivar is the fall coloration. The combinations of orange and red are very bright and pleasing. In the spring, the leaves unfold a bright red, suffused and shaded with green undertones. As the leaves mature, they become more bronze green. They have five or seven lobes, widely separated almost to the center, and measure 5–6 cm long and wide. The lobes are elongate-ovate with a tapering point. The margins are faintly serrated. The strong petioles are 4 cm long. A 25-year-old tree in Oregon, which came from Henry Hohman, has reached 4 m high.

'Novum'

AMOENUM – red

'Novum' has medium-large leaves with five lobes or sometimes seven. The leaves are 6–8 cm long and 8–10 cm wide. The ovate lobes taper to a slender sharp point, radiate outward, and are separated at least halfway to



'Nishiki gawa'. Photo courtesy of Oregon State University Archives, Corvallis



'Novum'. Photo courtesy of Oregon State University Archives, Corvallis

the leaf base. The red petioles are 2–3 cm long. The spring and early summer coloration is a light purple red. It is a lighter tone than that of such cultivars as 'Blood-good', 'Moonfire', and 'Nuresagi'. The color ranges into bright, almost orange-red tones as summer progresses. In late summer these tones blend with green red. Fall color is an intense scarlet.

This strong, upright-growing type can reach more than 7 m high. It forms a round-topped small tree which is hardy and vigorous. It is widely propagated commercially because it quickly forms a good-sized saleable plant. It is probably better known in Europe under the name 'Atropurpureum Novum' and has also been known under the name 'Roscoe Red'.

'Nuresagi'

MATSUMURAE – red

This excellent purple cultivar, whose name means “wet heron,” has leaves with five or seven lobes which radiate strongly outward. The leaves look like widely spreading fingers and measure 8–9 cm long and 9–12 cm wide. Each lobe is oblong-ovate, terminating in a long, slender tip. The lobes separate to within 1 cm of the leaf base. The foliage appears quite lacy. The bright red petioles are stiff and 2–3 cm long.

The deep, rich black-purple-red tones are unusual. In spring and early summer they appear to have an opalescence, even a bluish overtone, in certain light. The leaves retain the dark purple-red tones into late summer, but occasionally become suffused with a slight, deep green mottling. The veins are a strong red at this time and a noticeable feature. The bark of the twigs and branches is a deep maroon color, but quite overshadowed with a grayish tone. There are fine whitish vertical striations



'Nuresagi'. Photo courtesy of Oregon State University Archives, Corvallis

along the bark which are a pleasant addition. This very hardy cultivar is upright and vigorous. It should not be crowded in the landscape but allowed space for full development. It may reach 5–6 m at maturity.

'Octopus'

DISSECTUM – red

The vigorous long new shoots or “tentacles” of this attractive red dissectum arch outward and downward to give it the name 'Octopus'. The new leaves are pink red with a narrow greenish band down the middle of each lobe, becoming a darker plum red, then a coppery red with a greenish tinge along the midrib as the leaf develops in early summer. The color turns to a bright crimson-red in the fall.

The deeply dissected medium-sized leaves vary from 7 to 8 cm long and from 8 to 11 cm broad. The lobes are 1–2 cm wide and are themselves deeply dissected and conspicuously toothed. The teeth have many sharp-pointed tips. The slender orange-red petioles are 1.5–3 cm long.

Like most dissectums, this strong-growing plant grows into a broad dome with pendulous shoots and foliage, reaching about 2–5 m high and 3–3.5 m wide as it matures. However, because of the uneven growth of the current shoots, varying between 1 and almost 2 m long, the outer circumference is more irregular.

'Ōgi nagashi'

PALMATUM – variegated

This rare variegated cultivar has deeply divided leaves of the Palmatum Group. The small leaves have five lobes and turn a deep yellow color in the fall. Little is known about this plant, which one or two authorities consider



'Octopus'. Photo by Peter Gregory

not worth treating as a cultivar. However, it is available in Japan and occurs in Japanese collections.

'Ogino nagare'

PALMATUM—*green*

The foliage is a light green with indistinct flecks of lighter green scattered over the leaves. These are not the bright variegations of some other cultivars—all markings are subdued. Occasionally, pale spots of cream or



'Ogino nagare'. Photo courtesy of Oregon State University Archives, Corvallis

white appear but these, too, are suppressed. New leaves unfold a light yellow with a tint of rose along the margins, but this tint soon disappears. The fall colors become a little more prominent in shades of yellow and deep gold. The leaves are five lobed and measure 5–7 cm long and 6–9 cm wide. The ovate-acuminate lobes separate two-thirds of the way to the leaf base, and the tips radiate sharply. The margins are double serrated, alternately deep and shallow, making a feathery edge. This strong-growing small tree is delicate in appearance but hardy. It may reach 5 m or more high and has been known under the name 'Ogi nagare'.

'Ōgon sarasa'

MATSUMURAE—*red*

The color combination and leaf shape identify this interesting plant, whose name means "gold calico cloth." Early leaves have a brick-red color which blends over the deep green base color. It is not a sharp marking as in variegated leaves, but appears as if the red has been brushed over the green. Each leaf varies in intensity. Also, the light green midveins are in sharp contrast to the darker lobe color. In midsummer the leaves become a bronze



'Ōgon sarasa'. Photo by Cor van Gelderen

green. The fall colors are bright shades of orange and crimson blends.

Each seven-lobed leaf is 6–8 cm long and 8–9 cm wide, with a truncate base. It looks larger than this because the three central lobes are large and long, and the two basal lobes much smaller. The lobes are elongate-elliptical, gradually tapering to a narrow point. The lobes are joined within 1 cm of the leaf base, and the sides of each lobe curve upward, forming a rounded trough. This plant is not a large growing, but forms a tall shrub up to 7 m tall and 3 m wide. It has also been known under the name 'Ōgona sarasa'.

'Ōjishi'

DWARF – *green*

The well-known cultivar 'Shishigashira' is separated into two types by the Japanese, 'Ōjishi' and 'Mejishi', and refers to the mythical lion of Japanese drama. The rare 'Ōjishi', meaning "male lion," is smaller and more compact than the form 'Mejishi', meaning "female lion," which is better known as the popular 'Shishigashira'. It has similar but larger, bright green, less crinkly leaves. The leaves are more closely arranged on the stem, and the leaf nodes are very close together. The rate of growth is limited, 2–5 cm per year, making a very dwarf, multi-branched, little shrub which grows up to 2 m high. The name has also been spelled 'Yu jishi'.

'Ō kagami'

PALMATUM – *red*

The beautiful purplish red of the new foliage deepens into a shiny blackish red as the leaves mature. It is prob-

ably this shiny, dark color which gives the cultivar its name, which means "the mirror." The very strong color lasts until late summer when green tones blend in. Fall colors brighten to various tones of red and scarlet. The five- or seven-lobed leaves are 7–11 cm long and wide. The lobes radiate markedly, with the two basal lobes overlapping the petiole like a fully extended fan. The lobes are broadly ovate, separated two-thirds or more to the leaf base, and are 1 cm wide where they join. The margins are uniformly serrated. The reddish petioles are 3 cm long. This very desirable color form makes a delightful upright small tree to about 5 m tall at maturity.

'Okukuji nishiki'

PALMATUM – *variegated*

This cultivar is one of the semidwarf tree forms with highly variegated foliage, resembling a smaller compact form of the better-known 'Butterfly'. The leaves are quite variable in shape and strongly variegated. The whitish or cream portions are often curved or smaller than the other lobes. Colors are white to cream on a base of powdery green. The new small leaves may have a tinge of pink on the edges. Often entire leaves of the newest growth are white or cream tones. Fall color appears as rose pink on the whitish areas. The leaf is basically five lobed, 4 cm long and 2.5–3 cm wide, with very thin petioles up to 2.5 cm long. The foliage is rather dense along the twigs.

The tree or tall shrub grows in an upright manner, dense and twiggy. Twigs die out as the plant attains size, which is a self-pruning process. The branches are thin but not brittle. It is not a strong-growing plant or aggressive. It blends in nicely as a companion plant, since



'Ōjishi'. Photo courtesy of Oregon State University Archives, Corvallis



'Ō kagami'. Photo by Cor van Gelderen

the overall color of the foliage is light, contrasting with dark green foliage of evergreen plants. This cultivar has been known under the name 'Okikoji nishiki'.

'Okushimo'

PALMATUM - green

This very desirable cultivar has three outstanding features—odd-shaped leaves, sweeping upright growth habit, and beautiful gold fall color.

The foliage is a rich green color. The five- or seven-lobed leaves are 4–5 cm long and 3–4 cm wide. The lobes are separated at least two-thirds of the way to the leaf base and radiate stiffly outward. Each lobe is lanceolate and tapers to a sharp stiff point. The most noticeable feature is that the margins of each lobe roll upward, almost forming a tapering tube. It makes the leaf look as though it has five or seven round segments for lobes. The margins of the inrolled lobes are slightly and bluntly notched. The ends of each lobe bend inward and upward. The stiff pink red petioles are 3–4 cm long. The shoots are green.

The shape of the tree is unusual—stiffly upright and vase shaped, not the round-headed or umbrella-form of so many other palmatum. It is sturdy, erect, and vigorous, and often reaches 8 m or more at maturity. In young plants, new growth can shoot up 1 m or more in a season. However, it readily fills in with multibranched small shoots which are only 5–6 cm long. It forms compact bunches of leaves and fine twigs. This quality adapts it to

bonsai, and it assumes a compact habit under this culture.

Another feature of this cultivar is its fall color. The intense yellow and gold tones of its foliage seem almost fluorescent at times. In the plantings at Maplewood, the colors seem vivid even when it is almost dark in the garden.

This cultivar is very desirable for landscaping and is popular in the United States. While it can become a larger-sized plant with adequate space, it can also be kept confined to smaller plantings with pruning and shaping. It is unfortunate that some confusion has been created in the nursery trade by applying alternative names. This beautiful tree has been recorded since the early 1700s. As it was introduced into other countries, the Japanese name was not always used. The old taxonomic descriptions placed it as *Acer palmatum* subvar. *crispum* and included the Japanese name 'Okushimo'. Unfortunately, the names 'Crispum' and 'Crispa' were used indiscrimi-



'Okukuji nishiki'. Photo courtesy of Oregon State University Archives, Corvallis



'Okushimo'. Photo courtesy of Oregon State University Archives, Corvallis

nately for this and other cultivars. 'Crested', 'Cristata', 'Cristatum', 'Frost in der Erste', 'Involutum', and 'Okus-tanea' are other names which have been used for this plant. 'Okushimo' has been translated as "the pepper and salt leaf." The name 'Chishio' has been wrongly used for this cultivar. However, 'Chishio' is a very different plant, well known for its brilliant spring foliage color. 'Okushimo' has also been misspelled 'Okishima'.

'Ōmato'

AMOENUM – *green*

This large-leaved maple is similar to 'Ōsakazuki'. With five or seven lobes, the leaves are 6–9 cm long and 8–11 cm wide, and have good substance and texture. Each lobe is ovate-acuminate and gradually tapers to a sharp point. The margins have sharp double serrations. The petioles range from 3 to 4 cm long. Early foliage may have a tinge of orange red, but the large leaves soon take on a rich green color. The color is durable and not very subject to sunburn. Fall colors are brilliant tones of rich red, but are not as intense as those of 'Ōsakazuki'. This strong-growing, round-headed tree reaches up to 8 m tall and almost as wide. It has a good limb structure.

'Omure yama'

MATSUMURAE – *green*

'Omure yama' is an excellent example of the cascading or weeping type of cultivar. As the plant attains the height of a tall shrub or small tree, the pendulous branches become willowy and form a long curtain around the perimeter. This habit is not to be confused with the cascading form of the Dissectum Group which is always a low, spreading shrub.

The leaf consists of seven long, slender lobes which are held closely together. It is 7–8 cm long and 7 cm across. The leaves tend to hang down, and the closed slender lobes emphasize the pendulous effect of the branches. The lobes are lanceolate or elongate-elliptic, tapering to a slender point. They separate almost to the leaf base. The lobes are less than 1 cm wide at the lobe junctions, which makes the leaf appear open near the base. The margins are deeply toothed with fine serrations between. The long, slender petioles are 5–6 cm long. The new, unfolding foliage has a bright orange cast to the leaf edges, but the leaves soon become a uniform brilliant green. Fall colors are quite spectacular gold and crimson combinations.

Young plants are vigorous and upright. Later they show the true pendulous character. The long willowy

shoots start upward, then bend out and down. The leaf nodes are quite far apart on this long, slender growth. At the same time, enough shoots continue upward to give more height. A mature tree becomes quite rounded with long cascading side branches. In 20 years the tree reaches up to 5 m with a canopy spread of 4–5 m. This cultivar has been known under the name 'Pendulum Omureyama'. The name has been misspelled 'Omara yama' and 'Omurayama'.

'Orange Dream'

PALMATUM – *green*

This lovely cultivar, introduced in the late 1980s by the Fratelli Gilardelli Nursery, near Milan, Italy, is one of the growing band of palmatum selected for their refreshing spring-colored foliage. Its young leaves emerge a fresh orange, quickly becoming a lemon-yellow color with orange-tinged margins and tips. It is similar to the popular 'Katsura', but the leaves do not appear as early, so are less likely to be damaged by cold spells in early spring. Also, the leaves retain their bright yellow color for much longer, changing slowly to yellow green until late into the summer, often still with a slight reddish edging to the leaves. They become a bright yellow gold in the fall. The slender shoots are an attractive red to light green with only faint striations.

The seven-lobed leaves are slightly broader than long, 4–7 cm long and 4.5–8 cm broad, and are divided two-thirds to three-quarters of the way to the leaf base. The ovate lobes with short tail-like pointed tips are 3.5–5.5 cm long and 2–2.5 cm wide in the middle, narrowing



'Orange Dream'. Photo by Peter Gregory



'Omure yama'. Whole tree showing the pendulous foliage. Photo courtesy of Oregon State University Archives, Corvallis



'Omure yama'. Photo courtesy of Oregon State University Archives, Corvallis

slightly to 6–10 mm at the lobe junctions. The margins are coarsely toothed. The stiff, red-tinged petioles are 2–4 cm long with swollen bases.

This desirable cultivar becomes an upright bushy shrub, growing slowly at first, but reaching 3 m in 10 years. It is estimated it will eventually reach 3–4 m at maturity. Like most cultivars with light-colored leaves, it is best in partial shade and should not be allowed to dry out as the leaves may shrivel. However, it has proven to be less susceptible to drought than 'Katsura', but seems more difficult to propagate.

'Orangeola'

DISSECTUM – *red*

One of the most outstanding cascading dissectums to be introduced in the 1980s, this cultivar is noted especially for the bright orange-red new foliage in spring. 'Orangeola' manages to keep an orange flush on the leaves as they turn a rich red green through the summer. This coloration is boosted by a second flush of orange leaves in midsummer, and the two-tone summer color ends

with the leaves becoming dark red before turning fiery orange red in the fall, and holding this colorful display later than most.

The large leaves are 6–9 cm long and 7–11 cm wide. The five or seven lobes are deeply incised to the leaf base, where they are barely wider than the midribs. Each lobe is itself deeply incised into broader toothed sublobes. The lobes, together with their sublobes, are up to 7 cm long by 3 cm broad and quite widespreading. The short, slender red petioles are 2–3 cm long and have hooked swollen bases.

'Orangeola', although vigorous, is one of the smaller dissectums, barely more than 3 m high when fully grown. It is more upright and less spreading than most dissectums, forming an attractive cascading mound, usually taller than wide.

'Oregon Sunset'

MATSUMURAE – *red*

This cultivar has graceful and colorful red foliage and forms a small neat, compact, rounded bush, making it



'Orangeola'. Photo by Cor van Gelderen

very suitable for the smaller landscape and for container culture. It has outstanding spring and fall colors. The leaves emerge a soft red, quickly becoming an even plum red and, in the fall, turning a vivid sunset-red color. The five- or seven-lobed deeply divided leaves are 7–9 cm long and wide, with the lobes radiating outward and forward. The elongate-ovate lobes have long, slender tail-like tips and are 12–15 mm wide at the broadest point in the middle, narrowing to 3–5 mm at the lobe junctions which are within 10 mm of the leaf base. The margins are regularly serrated with numerous fine narrow-pointed teeth. The short red petioles are 1–3.5 cm long. The lobe tips tend to curve downwards slightly like, as the Greer Gardens (Eugene, Oregon) catalog so aptly puts it, “a relaxed hand.” ‘Oregon Sunset’ is a good small tree for limited space.

‘Oridono nishiki’

PALMATUM – *variegated*

This cultivar is one of the best variegates in the Palmatum Group. It is much better known in the United States as ‘Orido nishiki’ as it was spelled in the earlier editions of this book. However, the Japanese name of this outstanding cultivar consists of three characters—*ori*, *dono*, and *nishiki*—which mean “the rich-colored fabric of the master.” It has also been misspelled ‘Oridomo nishiki’.

The leaves have five or seven lobes and are separated halfway to two-thirds of the way to the leaf base. The lobes radiate outward. The leaves measure 5–6 cm long and 6–8 cm wide. Very small leaves occasionally occur



‘Oridono nishiki’. Photo by Peter Gregory

on twigs on very old wood. The lobes are ovate with a long tapering point, and with double-serrated margins. The petioles are pink, slender, and 3–6 cm long.

The basic color is a rich, deep, shiny green which holds very well until the fall. The variegations are extremely diverse. The new spring foliage is bright pink, white, cream, or any combination of these, and may include various-sized areas of green. Sometimes new leaves are entirely white or pink. However, the main impression of spring growth is pink. Leaves coming from twigs and branches of older wood have white or cream markings which vary from a single spot to irregular flecks, small areas, blends, half lobes, or any combination in between. Leaf portions which are strongly variegated will curve or be sickle shaped. Many combinations of color occur on the same plant. The bark of new shoots is sometimes pink or pink-striped, which distinguishes it from the similar ‘Asahi zuru’.

This cultivar is more reliable and has far less non-variegated foliage than some other cultivars such as ‘Versicolor’. ‘Oridono nishiki’ is sturdy and vigorous but does not become rangy. It becomes an upright, round-topped tree of 5–6 m in 15–20 years.

‘Ornatum’

DISSECTUM – *red*

The spring foliage is an interesting red color; it is more of a bronze red when compared with other red dissectums, such as ‘Crimson Queen’, ‘Dissectum Nigrum’, or ‘Inaba shidare’. The brilliant tone stands out well in the landscape. During late summer it turns greenish and assumes a prominent crimson-red color in the fall.

The leaves are the typical dissectum combination of seven very long, thin lobes, each of which is divided into deeply dissected side lobes, and each side lobe is itself deeply toothed. The lobes are 6–7 cm long, but the total leaf spread is only 5–9 cm since many leaves do not spread widely as in ‘Inaba shidare’ and ‘Palmatifidum’. The greenish petioles are 3–4 cm long. Very old plants may reach 3 m or more high, but create a mounded shape with a crown spread of 3–4 m.

This very old cultivar from Europe has been popular because of the rather distinctive foliage color tone. However, as other selections of deeper tones were made, which retained their color better, its popularity waned somewhat. It still makes a good color contrast in the landscape and is hardy. It has been known under various names such as ‘Aka washi-no-o’ (in part), ‘Amatum’,

'Dissectum Atropurpureum', 'Dissectum Ornatum', 'Ornatum Purpureum', and 'Spiderleaf'.

'Ōsakazuki'

AMOENUM – green

This very famous cultivar is best known for its intense crimson fall color. Some claim it has the most intense color of all the maples. In addition, it has relatively large palmate leaves and is a hardy, sturdy grower. It has been listed in catalogs since the mid-1800s.

The seven-lobed leaves are usually about 9 cm long and 12–14 cm wide. On very vigorous young shoots the leaves may grow to 12–13 cm long and 17–18 cm wide. The large leaves do not make the tree coarse looking but instead lend an air of orderliness. Each lobe is broadly ovate, terminating in a narrow tip. The lobes are separated about halfway to the leaf base. The two small basal lobes cover the petiole. The margins are uniformly serrated. The petioles are sturdy and about 6 cm long. For most of the growing season the leaf color is a good rich green. The leaves do not burn easily and have a durable

texture. Fall coloration has been likened to a burning bush. More aptly, though, it is described as an intense crimson. Even at dusk, the color seems to glow.

The trees grow rapidly for the first few years and then begin to slow down. They become more branched and form a round-topped, small tree that does not exceed 8 m high even in extreme old age. Since the leaves sometimes “cup” at the base, this cultivar is termed a “saki-cup-like leaf,” or 'Ōsakazuki'. There are two ways to write the kanji form for this name. 'Taihai' is the other. Therefore, 'Taihai' is considered a synonym of 'Ōsakazuki', but Cor van Gelderen has observed that whereas the whole crown of 'Ōsakazuki' changes color suddenly in the fall, the crown of 'Taihai' changes in patches over a longer period. 'Ōsakazuki' has also been spelled 'Oh sakazuki' and is sometimes called 'Septemlobum Osakazuki'.

A companion cultivar, occasionally called a sister seedling, is 'Ichigyōji'. It is just as intense a yellow or gold in the fall as 'Ōsakazuki' is crimson. These two cultivars planted together make a brilliant fall display.



'Ornatum'. Photo courtesy of Oregon State University Archives, Corvallis

'Oshio beni'

AMOENUM—red

The coloration is more of an orange red than the purple red of similar red cultivars. The new growth is very bright, but as the season advances it becomes bronze and then a dull reddish green. It does not retain the bright colors as well as 'Bloodgood', 'Moonfire', and 'Nuresagi' do. It also tends to burn in hot sun. The fall color becomes a bright scarlet.

The leaves are seven lobed and of a medium texture, and measure 7–8 cm long and 8–10 cm wide. The lobes are broadly ovate, terminating in a long, sharp point, and divided to about halfway to the leaf base. The margins are finely toothed. The petioles are red and 3–5 cm long. This sturdy upright-grower matures at 6–8 m high and has a spreading canopy. It is a good companion tree with other cultivars for color contrast.

'Oshio beni' has been popular in the United States for many decades. However, there may have been some dilution of this cultivar name. The name is very similar to 'Ōsyū beni', which has an entirely different leaf form and

is widely recorded in early literature. 'Oshio beni' is mentioned in the 1898 catalog of the Yokohama Nursery, Japan.



'Oshio beni'. Photo by Peter Gregory



'Ōsakazuki'. Green foliage in the spring. Photo courtesy of Oregon State University Archives, Corvallis



'Ōsakazuki'. The most brilliant of all cultivars in fall coloration. Photo courtesy of Oregon State University Archives, Corvallis

'Ōshū beni'PALMATUM—*red*

The leaves of this cultivar are separated into seven, or sometimes nine, lobes that are divided about two-thirds of the way to the leaf base. The leaves measure 5–7 cm long and wide, occasionally slightly larger. The lobes radiate forward, with the leaf base almost truncate. Each lobe is elongate-ovate, almost lanceolate, and terminates in a slender, sharp tip. The margins are only faintly toothed, slightly more so toward the tip. The slender petioles are greenish and 3–4 cm long.

The early foliage is a bright red, soon changing to a maroon red. In shade the foliage tends to be greenish. In midsummer the mature leaves become bronze or a green red. Fall color develops well and is a bright red.

This cultivar forms a short, round-topped small tree of 3–4 m as it ages. It is hardy and not difficult to propagate. It is very different from 'Oshio beni'. Other spellings are 'Oshiu beni', 'Oshyu beni', and 'Ō syū beni'.

'Ōshū shidare'MATSUMURAE—*red*

This old and famous cultivar has long been a favorite in Japan. It is attractive as a small, round-headed tree with cascading form. Pendulous branches form on the outside of the plant and descend gracefully to the ground. Mature trees reach up to 5 m high and width.

The foliage is a strong purple red or maroon, with a greenish cast to the undersides in the summer. Fall color is a strong crimson. The leaves measure up to 7 cm long and 9 cm wide. The lobes radiate markedly and are sep-



'Ōshū shidare'. Photo courtesy of Oregon State University Archives, Corvallis

arated almost entirely to the leaf base. Each is elongate-lanceolate, narrow at the base and tapering to a long, slender tip. The margins are finely double serrated. The petioles are supple and 3 cm long.

This interestingly shaped cultivar is comparable to other pendulous forms, such as the green 'Omure yama'. It does not, however, have the type of cascading growth found in the Dissectum Group. Other spellings for this cultivar are 'Oh shiu shidare', 'Oh siu shidare', and 'Oh syū shidare'.

'Oto hime'DWARF—*green*

This strong dwarf cultivar has a vigorous and desirable nature. There is a fable about a queen named Otohime who reigned at the bottom of an ocean kingdom. This plant seems to be a queen of the Dwarf Group.

The leaves emerge in the spring as a bright, lively yellow green with narrow reddish edging and tips, a color maintained through the summer. Fall colors are not particularly strong but a pleasant yellow through a range of orange tones. The leaves are of the typical five-lobed palmate type and small, mostly 3–5 cm long and wide. The lobes are separated two-thirds to three-quarters of the way to the leaf base, and radiate out in a star-shaped manner. Each lobe is ovate-triangular, broadest at the bottom, and tapers to a sharp point. The margins are uniformly and finely toothed. The long, thin petioles are about as long as the leaf. Internodes on the stem are fairly close together, making for dense foliage cover.

This shrub is not rangy but tight and dense in habit, becoming much broader than high. A 10-year-old plant at Maplewood reached almost 0.7 m tall and 1.3 m wide, without pruning or shaping. It lends itself to bonsai work in an admirable fashion. The growth habit seems denser than that of the bonsai favorite 'Kiyohime'. In garden landscapes, the bush becomes rather flat-topped.

'Otome zakura'PALMATUM—*red*

This semidwarf tree has brilliant spring leaves which are of two kinds, large and small, on the same tree. The large leaves sometimes form on new vigorous shoots and are of the five- or seven-lobed palmatum shape. The lobes radiate strongly outward and are separated two-thirds of the way to the leaf base. The center lobes are rather large with the side lobes much smaller. Each lobe is generally ovate with an accentuated long, sharp point. The margins are lightly toothed. Leaves on older wood and

less vigorous shoots are entirely different, having long, narrow lobes with almost parallel sides, only slightly broader in the middle. The edges are shallowly but strongly notched. The large palmate leaves measure 7 cm long and wide, while the small narrow-lobed leaves are 5 cm long and wide. The petioles are as long as the leaves.

The color is a striking bright flame to pink flame as the spring leaves emerge. This color holds well for several weeks, then changes into a maroon red. As summer progresses, green tones blend in as an undershading. Fall colors develop some pink tones, blending with the fading colors of summer.

This short tree may have very strong, long shoots when young and under high cultural pressure produces mainly palmate-shaped leaves. The more unusual foliage occurs primarily on the older or less vigorous wood. This cultivar is most outstanding and attractive. The name has been misspelled 'Otome zakure'.

'Palmatifidum'

DISSECTUM - *green*

This cultivar differs from others in the green Dissectum Group in the shape of the leaf lobes. These have margins

which are less deeply double dissected. The lobes are just as long and narrow, but they are not as deeply dissected into sublobes. The effect is a leaf which appears a little sturdier but is just as beautiful.

The rich green leaves have seven long, narrow, incised lobes separated entirely to the leaf base. The leaves are



'Palmatifidum'. Photo courtesy of Oregon State University Archives, Corvallis



'Otome zakura'. Photo by Cor van Gelderen



'Palmatifidum'. The green foliage changes to a rich gold fall color, contrasting with 'Crimson Queen' and 'Garnet' in the background. Photo courtesy of Oregon State University Archives, Corvallis

7–9 cm long and 12–14 cm wide. The lobes splay outward, giving a cascading effect to both the leaves and twigs. The slender petioles are 3–5 cm long. The foliage is a good green tone in spring and summer. Yellow, gold, and orange blend together for a very colorful fall display.

The growth is sturdy, durable, hardy, and strongly cascading. Occasionally, vigorous new shoots extend upward before cascading. 'Palmatifidum' makes a beautiful mound-shaped plant. Older plants are often wider than they are tall, up to 3 m high and more than 4 m wide.

Old literature refers to 'Palmatifidum', and the Japanese name 'Washi-no-o', which means "eagle's tail," can be found in the literature prior to 1880. 'Palmatifidum' originated as a cultivar in the early 1800s. The name 'Paucum' was commonly used for this maple in parts of Europe. There is a magnificent old plant of this cultivar at the Trompenburg Arboretum, Rotterdam, Netherlands. The name has been wrongly spelled 'Palmatifidium'. Other names for this cultivar are 'Dissectum Palmatifidum', 'Dissectum Paucum', and 'Paucum'.

'Peaches and Cream'

PALMATUM – variegated

This very pretty but delicate selection belongs to the variegated Palmatum Group. The spring foliage emerges with a cream to greenish cream color over most of each leaf. Blended into this is a soft rose red, covering about one-quarter of the leaf, especially at the lobe tips. The leaf remains pink-edged throughout the summer. The veins are conspicuous and of a contrasting deep green color. In the fall, the color pattern of the leaves ranges from yellow to buff with darker tips.

The five- or seven-lobed, sometimes nine-lobed, medium-sized leaves are divided about three-quarters of the way to the leaf base and are 7–8 cm long and 8–9 cm wide. The lobes are ovate with tapered, sharply pointed tips, up to 5 cm long and 1.5 cm wide at the broadest point in the middle, narrowing to 5 mm at the lobe junctions. The margins are very coarsely toothed. The teeth have sharply pointed tips and point in various directions, causing the margins to be wavy and slightly crinkled, like a prickly holly leaf. The short, stout green petioles are about 2–3 cm long. The slender shoots are a light green.

The color patterns of this cultivar are reminiscent of 'Shigitatsu sawa' which was the seed parent, with the red form 'Aka shigitatsu sawa' as the pollen source. The lobes are more deeply divided than are those of either

parent, and the margins are more crinkled with sharper, more pointed teeth. It forms a small tree or shrub about 3 m high and wide. Arnold Teese of Monbulk, Victoria, Australia, selected this cultivar in 1976 and then evaluated and registered it after several years of observation.

'Pendulum Julian'

DISSECTUM – red

The leaves of this red dissectum are not quite as finely serrated on the deeply cut lobes as they are on some other dissectums. In fact, some of the older wood produces leaves with lobes which are almost lanceolate, and with deeply cut margins, making this cultivar approach the green form 'Palmatifidum'.

The young emerging leaves are bronze green with green veining, becoming deep purple red in the summer. This color holds well into the summer, gradually changing to a rusty green with a reddish undertone. In the fall, the crimson-orange combinations are quite vivid. Leaf size is about average for a dissectum, being 7–10 cm long and wide. The seven lobes radiate outward in good fashion. The petioles are firm and 2–3 cm long.

This plant is quite pendulous, and young plants must be staked early to reach the required height. The cascading is outward and then downward. It is a very hardy form. Older plants have survived -18°C and heavy coverings of ice. Henry Hohman had this cultivar in his collection for many years. He may have bought it from Yokohama Nursery, Japan, in the early 1930s. The name has been incorrectly spelled 'Pendula Julian'. The plant has also been known under the name 'Dissectum Pendulum Julian'.



'Peaches and Cream'. Photo by Peter Gregory

'Pink Filigree'DISSECTUM—*red*

This cross between 'Ornatum' and 'Stella Rossa' originated at Fratelli Gilardelli Nursery, Milan, Italy, and has unusual spring foliage color and delightful summer color. The leaves emerge in the spring a unique rose pink with conspicuous yellow veins. They become a purple-red color for the summer, making a pleasing background to the bright rose new foliage appearing throughout the summer. The leaf coloring is at its best in full sun and is not damaged by it. The fall color is orange red, but not as brilliant as that of 'Ornatum'.

The medium-sized leaves are similar in shape and size to those of 'Stella Rossa'. Each leaf has five or seven lobes, is deeply divided to the leaf base, and is 8–10 cm long and 9–11 cm wide. Each lobe is itself divided into sharply toothed sublobes, the base of the main lobe narrowing to little more than 1 mm. The reddish petioles are 3–3.5 cm long. The new vigorous shoots grow upward and outward at first, becoming pendulous to produce a broad cascading mound. The plant assumes the same shape and size as 'Ornatum', reaching about 3 m high at maturity.



'Pink Filigree'. Photo by Cor van Gelderen

'Pixie'DWARF—*red*

This cultivar is reputed to be a sport from 'Bloodgood' and is similar in almost every respect but with more deeply cut lobes, and it does not grow taller than 2 m. The leaves emerge a bright pink red, becoming a deep red on the upper surface which lasts well into late summer, while the undersurface is a contrasting bronze green. Like 'Bloodgood', it turns a fiery scarlet in the fall. The deeply cut five- or seven-lobed leaves are 7–8 cm long and 8–9 cm wide, with widely spreading lobes. The broadly ovate lobes are widest about the middle, with long pointed tips, and are deeply divided to within 5 mm of the leaf base. The small basal lobes are angled backward and outward. The margins are coarsely but regularly toothed. The slender stiff pink petiole is 2–3 cm long. 'Pixie' is very vigorous when young but slows down to form a dense many-branched round-topped bush up to 2 m tall and no wider.

'Purple Mask'LINEARILOBUM—*green*

This cultivar has almost straplike, seven-lobed leaves which tantalizingly border on the *Matsumurae* and *Linearilobum* Groups and could be placed in either. It originated from a sport on the same *Acer palmatum* f. *atropurpureum* plant which yielded 'Beni shi en'. Harold Johnston of Johnnie's Pleasure Plants Nursery, Tallassee, Alabama, discovered it.

The small leaves have seven deeply divided lobes and are 4–6 cm long and 4–5 cm wide. Each lobe is lanceolate to long-ovate, ranging in width from 3 to 10 mm, but mostly about 5 mm, at the broadest point in the middle or outer third of the lobe, and narrowing to 1 mm at the



'Pixie'. Photo by Peter Gregory

lobe junctions. The odd lobe is often curved inwards or outward from the base to cross one or two others. The margins are irregularly toothed, mostly on the outer half of the lobes.

The leaves emerge purple and revert to dark green in the summer, changing back to purple in late summer before becoming yellow orange in the fall. Unlike 'Beni shi en', this cultivar has no variegation and is much more uniform in its appearance. The 1- to 2-cm long slender petioles are green and attached to green shoots. This moderately vigorous plant forms an upright rounded bush or tree. The original plant reached 2 m high in seven years. Its estimated mature height is 2–3 m with a width of 2 m.

'Purpureum'

PALMATUM – red

This old British cultivar has medium-sized leaves which are a deep purple red when they first appear. The leaves hold their color well into the summer, becoming a bronze green in late summer through to fall, and then turn a bright scarlet to finish the season.

The seven-lobed leaves are divided two-thirds of the way or more toward the leaf base and are 7–8 cm long and wide. The lobes are ovate with pointed tips, 4–5 cm long and 1.2–1.5 cm wide at the broadest point in the middle, narrowing slightly to 1–1.2 cm at the lobe junctions. The distance of the lobe junctions is uneven, with the side lobe junctions nearer the leaf base than the central lobe junctions. The leaf margins are evenly double toothed. The small basal lobes are held more or less at right angles to the petioles. The strong red petioles are 2.5–3.5 cm long.

'Purpureum' is a slow-growing, upright cultivar, with a dense round-headed crown, reaching 5 m high in 15 years, and about as wide. It has been known under the name 'Purpureum Superbum'.

'Red Autumn Lace'

DISSECTUM – green

This outstanding dissectum from the Fratelli Gilardelli Nursery near Milan, Italy, is noted for the varying tones of green of the summer foliage with bronzed and red-tinged new leaves at the shoot tips. The new leaves



'Red Autumn Lace'. Photo by Cor van Gelderen

emerge a reddish bronze, quickly changing to a bright green of different shades as they mature. The fall color is rather special as the green leaves change through yellow to orange to a vivid red. The seven-lobed deeply divided leaves are 9–12 cm long and wide, the lobes themselves divided into coarsely toothed sublobes, and narrowing to about 1 mm at the leaf base. The green petioles are 3.5–4 cm long. This cultivar forms a broad cascading mound up to 3–4 m tall with a spread of 4–5 m.

'Red Dragon'

DISSECTUM—*red*

This deep purple-red dissectum, selected at Duncan and Davies Nursery in New Zealand by Graham Roberts, keeps its deep color, in sun or shade, better than any other red dissectum such as 'Dissectum Nigrum', 'Garnet', 'Inaba shidare', and even 'Crimson Queen'. Though the young foliage of 'Tamuke yama' is an even darker shade, it does not hold its color as well as 'Red Dragon'. The young leaves of this cultivar are a bright scarlet in the spring, becoming a dark burgundy as they develop. This rich coloring is retained throughout the growing season until it changes to an outstanding flaming scarlet again in the fall.

The deeply cut seven-lobed leaves are slightly wider than long, 9–11 cm across and 8–9 cm long. The lobes themselves are deeply incised right to the leaf base and, with the sublobes, are 1–2 cm wide at the broadest point in the middle, narrowing to less than 1 mm—the width of the midrib—toward the leaf base. The sublobe margins have coarse, sharply pointed and hooked double teeth. The slender purple petioles are 2–3 cm long.

The growth habit is like a dwarf form of 'Crimson Queen', a compact well-branched cascading mound, reaching 2.5 m high. 'Red Dragon' needs protection from cold wind and summer drought, but makes an excellent small garden, rock garden, container, or bonsai plant. Although 'Crimson Queen' is probably the standard by which new red dissectum cultivars are judged, 'Red Dragon' may well prove to be the standard in the future.

'Red Elf'

DWARF—*red*

Harold Johnston of Tallassee, Alabama, discovered this interesting red dwarf cultivar as a sport on 'Skeeter's Broom'. It is notable for the irregularity of the lobes, which curve and twist and vary from relatively wide lobes to stringlike lobes similar to those of 'Koto-no-ito'. The

central lobe is sometimes so stunted as to be almost vestigial and appearing to have no top half, dragonfly shaped—up to three times as wide as long. A further interesting characteristic is that the leaf blade is often held at an angle to the petiole.

The leaves have seven, or sometimes only three or five, deeply divided, mainly narrow lobes, varying in shape from long-ovate to straplike, 2–10 mm wide, some cupped upwards from the midrib. The leaves themselves are 2.5–4 cm long and 3–5 cm wide, but they can reach up to 8 cm wide. The teeth on the margins increase in coarseness with the size and width of the lobes. The petioles are 1.5–3 cm long. The leaves are red when given adequate light, the color persisting well into the fall. However, they green up readily in shaded situations.

This cultivar is a bonsai enthusiast's or collector's plant due to its slow growth, curious leaves, and growth habit. A five-year-old plant has reached only 25 cm high with a spread of 20 cm. Its mature height is estimated at up to 1 m, with a similar spread.

'Red Filigree Lace'

DISSECTUM—*red*

The leaves of this outstanding red dissectum must be seen to be appreciated. Description will hardly do it justice. It is one of the most finely cut lace-leaved maples. The uniform color is a deep purple red or maroon. The foliage retains this color extremely well throughout the entire growing season. In the fall, it becomes a bright crimson.

The leaves are seven lobed. However, each lobe is extremely lacy, being more delicately dissected than the type. The lobes are extremely pinnatifid, with the center of the lobe being no wider than the midrib—1 mm or



'Red Filigree Lace'. Photo by Cor van Gelderen

less. The dissected side portions are equally fine and interspersed with sharp toothlike divisions. The sublobes are sometimes 1–2 cm long but still mostly only 1 mm wide. As these interlock, they add to the delicate tracery of the leaf pattern. With these finely double-dissected lobes lying close together, the effect is certainly filigree-like. The leaves measure 6–8 cm long and 7–9 cm wide. The petioles are stiff and 1–2 cm long.

The growth has the pendulous habit of the dissectums and is sturdy in spite of the fineness of some twigs. The overall effect is one of extreme beauty. The rate of growth is not quite as fast as in other dissectums. This cultivar is considered one of the most beautiful and unusual introductions of the Dissectum Group. It was a chance seedling grown by William Curtis of Sherwood, Oregon, from seed of a dissectum in his garden. As a yearling, it was given to William Goddard of Victoria, British Columbia. Goddard cultured and nurtured the plant for a number of years and finally sold it to John Mitsch of Aurora, Oregon. In the late 1980s, the plants and ownership were transferred to Iseli Nursery, Boring, Oregon, which built up stock and distributed it to growers and collectors. Iseli Nursery found stick budding was the best way to propagate this cultivar because of the smallness and thinness of the scion material. It was very fortunate this plant was not lost, for it adds greatly to this magnificent series of cultivars. 'Ruby Lace' is very similar to 'Red Filigree Lace', and it is very difficult to pick out any differences, if any, between them. Another name used for 'Red Filigree Lace' is 'Red Lace'.

'Red Flash'

PALMATUM – red

This cultivar has very vivid red new foliage which turns to a dark purple red and holds its color well throughout the summer, especially in full sun, though the leaves become green-hued by late summer. All new leaves appearing during the summer have the vivid red of the spring foliage and contrast well with the darker red background of older leaves. The leaves have five or seven lobes, are divided two-thirds to three-quarters of the way to the leaf base, and measure 7–9 cm long and 9–10 cm wide. Each lobe is ovate with a pointed tip, and the margins are finely and evenly double toothed. The strong red petioles are about 3 cm long. This moderately strong grower reaches only 4–5 m high so is suitable for smaller gardens. It is often multistemmed and forms a medium-sized upright bush or tree. 'Red Flash' originated at the Fratelli Gilardelli Nursery near Milan, Italy.

'Red Pygmy'

LINEARILOBUM – red

This excellent red cultivar is superior to 'Atrolineare'. The red or bright red-maroon leaves are seven lobed, occasionally five lobed. Each lobe is a long straplike section of the leaf measuring 5–9 cm long but only 2–4 mm wide. The lobes separate entirely to the leaf base. The total spread of the leaf is 10–14 cm. The effect of these delicate leaves is lacelike. The petioles are 2–3 cm long.

On one- or two-year-old wood of a vigorous tree, the leaf size is larger and the lobes broader with toothed margins, while leaves on older wood tend to be quite a bit smaller and almost untoothed. It should be noted that on current-year wood, when the growth is vigorous, the leaves almost approach the typical palmatum form, a common occurrence in many cultivars of the Linearilobum Group. Some people think the cultivar is reverting and prune off this vigorous growth. This is a mistake, for the cultivar will produce its typical foliage in the next season.

The spring and early summer coloration of red maroon holds quite well through the hot weather. In late summer it deepens into a more purplish tone. In direct sun it bronzes with green undertones somewhat late in the season. However, the color holds much better and sunburns less than the color of the older standard cultivar 'Atrolineare'.

Older plants tend to broaden and become round-topped, and are smaller and less upright or rangy than other linearilobums, such as 'Atrolineare'. They reach 2 m high and 1.5–2 m wide after 20–25 years. 'Red Pygmy' makes a delightful contrast in shape and tone when combined with other forms.



'Red Pygmy'. Photo by Cor van Gelderen

D. M. van Gelderen of Firma C. Esveld, Boskoop, Netherlands, initially recognized the value of this form, which he named, propagated, and introduced into the European trade. It was awarded a Certificate of Merit in 1969. The original material came from an unnamed plant in an old garden in northern Italy.

'Red Spider'

LINEARILOBUM – red

This singular linearilobum from Canada has remarkably uniform leaves in shape, size, and color. They are an even robust red which lasts well into the fall, when the color changes to a vibrant sanguine-red. The five-lobed strap-like leaves are 6.5–7 cm long and 7–8 cm wide, with the basal lobes stretched outward to form a flat leaf base or angled slightly forward. The long-ovate lobes are a little “chunkier” than those of most strap-leaved forms, 4–5 mm wide, and are unusual in having numerous fine sharp-tipped teeth along the entire margins. 'Red Spider' forms an upright small tree, reaching 4 m or so high, with horizontal branches whose tips tend to curve down to give a graceful lacy effect.

'Rubrifolium'

DISSECTUM – red

The typical dissectum leaves are a different red from most of the purple reds of the group. It is more brown red or rust red, with the green main veins showing in each dissected lobe. This color is retained well into the summer and then changes to a rich dark green. In the fall, the leaves become a rich gold with occasional crimson edges. The leaves are about normal size for dissectums and typically double pinnatifid. Their length varies from 7 to 10 cm. The petioles are 5–10 cm long and the slender shoots are red. The bark on this cultivar is a powdery green with minute white striations. This fairly strong-growing dissectum develops the typical dome shape to 3 m high. It grows reasonably fast at first and becomes pendulous with maturity.

Although it is one of the lesser-known cultivars, yet it has been known under several names, including 'Adlerschwanz', 'Akashigata', 'Dissectum Rubellum', 'Dissectum Rubrifolium', 'Dissectum Tinctum', and 'Rubellum'. 'Rubrifolium' is preferred to 'Akashigata' (Akashi Bay) because it has been an established name in Western culture for about 100 years. It is also preferred to 'Dissectum Rubrifolium' because Friedrich A. W. Miquel was referring to a wild form when he originally named *Acer palmatum* f. *dissectum rubrifolium*, and so seems unlikely

that it could be the clone Ferdinand Pax named as 'Rubrifolium'. Although Pax attributed the name 'Washi-no-o' to this red dissectum, most older Japanese literature describes 'Washi-no-o' as the green 'Palmatifidum'. 'Dissectum Rubrum' is also included under 'Rubrifolium' because its description is so similar that it would be difficult to differentiate the two. The only observable difference appears to be that the leaves have a greenish tinge with a light edging of red in 'Dissectum Rubrum'.

'Rubrum'

AMOENUM – red

This large-leaved cultivar has seven ovate lobes separated more than halfway to the leaf base. The lobes taper to a sharp point and have slightly serrated margins. The leaves range in size from 9 to 12 cm long and wide. The petioles are about 4 cm long.

The leaves are a dark maroon-red. The color is lighter as they first unfold but assumes the very rich tones in late spring and into summer. In late summer the leaves turn green red or bronze. Fall color is a strong crimson.

This strong-growing, upright tree has a broadly spreading crown as it matures. The branches are sturdy, and it is a hardy cultivar. It reaches 4 m high and more in width. Some early references equate this cultivar with 'Sanguineum', but 'Rubrum' is consistently darker in color. This cultivar has also been known under the name 'Septemlobum Rubrum'.

'Rufescens'

PALMATUM – red

The color of 'Rufescens' is rather distinctive when grown near other red cultivars. The unfolding leaves are quite



'Rubrum'. Photo courtesy of Oregon State University Archives, Corvallis

bright and the rufous (brownish) color becomes strong as the leaves mature. Later in the season, green tones predominate. Good fall colors of orange and crimson develop.

The leaves have nine, or sometimes seven, lobes that separate at least two-thirds of the way to the leaf base. Each leaf is about 7 cm long and 6–7 cm wide. Each lobe is elongate-elliptic, gradually tapering to a slender, sharp point. The lobes are only 1–1.5 cm wide in the middle. The long center lobes tend to hold closely together. The margins are sharply and distinctly toothed. The slender petioles are up to 5 cm long.

This cultivar is not vigorous but makes a tall bush of 4 m after many years. Although described by J. A. Siesmayer in 1888, it is not widely known. Unfortunately, the name 'Rufescens' has been applied to different clones at different times, so there is uncertainty about some specimens in collections.

'Rugose'

MATSUMURAE – *green*

This somewhat peculiar large-leaved cultivar, although it cannot be classed as beautiful, is of interest because it is unusual and because of the dramatic change from an ugly duckling in summer to almost a beautiful princess in the fall.

The leaves are of a dull bronzed army green with somewhat rough and wrinkled (rugose) surfaces for most of the summer, but with contrasting beet-red midveins and petioles. The leaves change to a stunning plum red to bright crimson in the fall. The shoots and branches are almost black. The medium-sized to large leaves are 8–10.5 cm long and 10–15 cm wide. The shape



'Rugose'. Photo courtesy of Oregon State University Archives, Corvallis

of the leaves is decidedly non-uniform. No leaf is the same shape and size. Though mostly five- or seven-lobed, occasionally a leaf may have one full lobe plus two rudimentary basal lobes. Some lobes are almost straplike but many are broad-ovate, 1.5–3 cm wide, with tail-like tips and coarse uneven-toothed margins. Lobes, even on the same leaf, are irregularly incised, mostly almost to the leaf base but varying from 4 to 20 mm or even further from the base. The sturdy petioles are 3.5–6 cm long. Like the leaves, the shoots can also twist and do strange things.

Shrubby and upright in habit, this plant has an interesting way of twisting both the stem and branches as it grows—not enough to be called "tortuosa" but enough to notice. This cultivar was selected and named at Maplewood Nursery. The original seedling, now about 20 years old, is growing at Mountain Maples Nursery, Laytonville, California. It has been in a container all its life and is about 2 m tall. 'Rugose' has been misspelled 'Rugosa'.

'Ryūmon nishiki'

PALMATUM – *variegated*

The green foliage of this variegate has white or yellowish irregular areas composed of small markings. The new growth in the spring develops with reddish or pinkish tones. Sometimes the new growth (including new shoots) is quite pink, but less so than with certain other cultivars. Later, the leaves tend to become dull and the variegations are not as pronounced. The medium-sized leaves are flat-surfaced and usually about 5 cm long and broad. The lobes are five or seven, rather irregular, and not uniformly separated or divided, so that they vary somewhat in size. This upright-growing small tree or tall bush probably does not exceed 3 m at maturity. The growth is rather twiggy and multibranched.

'Ryūzu'

DWARF – *green*

This delightful dwarf is a compact little shrub which is popular for bonsai as well as for the rock garden. The leaf nodes are closely spaced on the twigs, and it forms a multibranched structure, reaching little more than 2 m at maturity. The leaves are tightly spaced, overlapping, and bunched, giving rise to the name 'Ryūzu', which means "ornamental dragon's head." This cultivar has also been known under the name 'Tatsu gashira'.

The new leaves have a faint shade of pink overlying the pale green. The pink soon disappears and the mature leaf is green. The margins are very prominently serrated.

rated. The tips of these serrations are often bright brick red, but the color does not come into the leaf. The foliage turns a stunning fall color of warm orange yellow. The texture of the leaf is rather thin.

The leaf has five (or seven) lobes which radiate openly. When the leaf is seven lobed, the two basal lobes are very small. Each lobe is ovate, but gradually tapers to a long, sharp point. The edges of the lobes bend slightly upward, almost making a shallow trough. The leaf measures 3–4 cm, occasionally up to 5 cm long and broad. The stiff petioles are only about 1 cm long. Billy Schwartz of Downingtown, Pennsylvania, an expert on witches'-brooms and dwarf maples, describes the leaves as ironed out 'Shishigashira' leaves, and the plant shape as a flattened globe.

'Sagara nishiki'

PALMATUM – *variegated*

The foliage of this beautiful cultivar has variegations of pale yellow in the light green base color. As the new leaves unfold, there is an overshading of pink on the yellow



'Ryūzu'. Photo by Peter Gregory



'Sagara nishiki'

margins. This soon fades as the leaf matures. The pattern is much the same as on the leaves of 'Nishiki gasane'. The leaves usually have five lobes, rarely three or seven lobes, and are 5–7 cm long and wide. The lobes are separated about two-thirds of the way to the leaf base and are broadly ovate acuminate with slender tips. The margins are double toothed. The petioles are 4–5 cm long.

'Sagara nishiki' forms a compact shrub or small tree up to 2–3 m tall. It needs semishade to protect the beautiful variegations during summer, as the leaves are easily burned in strong sun. This cultivar is very similar to 'Nishiki gasane', except for the lighter variegations, more truncate leaf base, and more broadly ovate lobes. The plant size, shape, and growth rate are the same. 'Sagara nishiki' has also been known under the name 'Yamato nishiki'.

'Samidare'

AMOENUM – *green*

The large leaves of 'Samidare', whose name means "early summer rain," are of heavy texture and firm to the touch. When first unfolding in early spring, the tiny leaves are almost pink. Quite soon they turn a rich green with margins a light reddish tone. During summer the deep green holds well without burning, even in full sun. In the fall, a gold-green center develops, with the lobes turning purplish. Other combinations of gold and crimson blend in different leaves.

The leaves have seven lobes, occasionally five lobes, and measure 6–8 cm long and 8–12 cm wide. The lobes radiate sharply outward and are strongly ovate, terminating in a blunt tip. They join less than halfway to the leaf base, making a large palm-shaped leaf. The margins are very finely toothed, almost smooth, with the outer third slightly larger toothed. The petioles are slender, firm, and 3.5–7 cm long.

This hardy cultivar has thick and stiff twigs and young branches. It grows rapidly and upright at first but soon makes a short, broad tree as it slows down. It eventually reaches up to 6 m high and broad. It is a very durable garden plant which adds good color.

'Sango kaku'

PALMATUM – *green*

The brilliant coral color of the bark is the outstanding feature of this maple and gives it its name which means "coral tower." At times the color becomes almost fluorescent. The younger the wood, the stronger the color. It has long been a popular cultivar in the nursery trade, and

the demand is due mainly to this striking coloration. The brilliant tones brighten in the fall and then intensify as winter approaches. It is especially striking in snow.

The foliage is typical of the Palmatum Group. The leaf has five or seven ovate-acuminate lobes which taper to a sharp point. Most leaves are 4–5 cm long and 4–6 cm wide. The margins are double serrated. On the strongest-growing new shoots, the leaves are at least 1 cm larger in each dimension.

Leaf color is a bright tone of green. The edges of the new leaves have a strong reddish tinge which fades as the

leaves mature. This early red margin tone gives the entire tree a striking appearance during the spring. As summer approaches, the foliage becomes a lighter range of green. The leaves have a rather thin texture. The color changes to yellow-golden tones in the fall, with a strong blend of apricot and light red. Some Japanese writers have referred to this cultivar as dull during the fall season, but in the Pacific Northwest and in Europe it is quite showy almost every fall.

This upright-growing tree gradually spreads at the top as it ages. It tends to become quite twiggy inside, but



'Sango kaku' in full fall coloration. Photo courtesy of Oregon State University Archives, Corvallis



'Sango kaku'. The winter bark coloration is an attractive feature of this cultivar.

Photo courtesy of Oregon State University Archives, Corvallis

retains leaves well on the small twigs. It makes a fine-shaped specimen for landscaping since it attains a height of 8 m or more and broadens to about 6 m. As an accent tree, it offers size, good form, interesting seasonal foliage changes, and outstanding bark coloration in winter.

Young plants grow quite fast for the first few years and then take on a multibranching and thickening habit of growth. Planted near the contrasting green-barked cultivar 'Aoyagi', the red-barked 'Sango kaku' makes a striking color combination for winter accent.

This cultivar used to be well known by the name 'Senkaki' which is a synonym of 'Sango kaku'. It has also been known under the names 'Cinnabarinum', 'Cinnabar Wood Maple', and 'Coral Bark Maple'. In some areas the name 'Corallinum' has been applied to this maple because of the bark color. This is unfortunate and should be dropped because the name 'Corallinum' rightfully belongs to an entirely different cultivar noted for its brilliant pink-red spring foliage.

'Sanguineum'

PALMATUM – red

This name has been applied so variously by authors during the nomenclatural history that its proper use is clouded and impossible to unravel. Primarily, it has been applied to a selection of *Acer palmatum* f. *purpureum* with blood-red or orange-red spring color rather than the darker or maroon-red tones. Since Charles Lemaire described it in 1867 as a "blood-red selection," some commercial nurseries have apparently propagated different forms, for variations under the name 'Sanguineum' are found in collections. Hence, the name should no longer be used, especially as there are several excellent red palmatum cultivars available. This cultivar has been known as 'Latifolium Purpureum', 'Rubro-latifolium', and 'Septemlobum Sanguineum'.

'Saoshika'

AMOENUM – green

The star-shaped bright green foliage of this cultivar is of a rather thin and delicate texture. When backlit by the sun, it appears almost transparent. The leaves are held out horizontally, making a layered effect in older portions of the plant.

The new foliage is a bright yellow green, with the tips of the lobes tinged in red or carmine. This color is prominent for the first few weeks, and then the leaves gradually change to a uniform light green. As summer advances, the tones darken. The fall color is a striking

golden yellow. The leaves have five or seven lobes and are about 5 cm long and 7–8 cm wide. Each lobe radiates outward in a star-shaped pattern. The lobes are strong ovate, terminating in a sharp point. They are divided up to midway toward the leaf base. The margins are lightly serrated. The short petioles are 1.5 cm long.

This plant does not have a strongly upright habit but makes more of a tall, bushy shrub. When mature, it reaches up to 3 m high and wide. Since the twigs are angularly branched in habit, 'Saoshika' makes a multibranched type plant. The older twigs have a bright green bark. This cultivar was also known under the name 'Ogashika'.

'Saotome'

PALMATUM – green

This small-leaved cultivar forms a semidwarf bush-shaped plant, maturing at 2.5–3 m tall. The leaves are a pale yellow green with a rather thin texture and a slight hint of rusty red on the extreme edges. They measure about 4 cm long and 4–5 cm across. Each leaf is divided three-quarters of the way to the leaf base into five lanceolate lobes which terminate in long, slender, sharp tips. The two basal lobes often have tiny spur lobes. The lobe edges bend slightly upwards, and the margins are irregularly toothed. The name 'Saotome' means "rice-planting girl."

'Satsuki beni'

AMOENUM – green

This strong upright tree is full sized and has a good fall color. The foliage gives a sturdy appearance, being al-



'Saoshika'. Photo by Peter Gregory

most circular in effect. With a broad center, the seven short lobes only separate up to one-third of the way to the leaf base. Each lobe has an acuminate tip. The edges are almost smooth but with extremely fine notching. The leaves vary from 5 to 6 cm long and from 7 to 10 cm wide, and are of a strong texture. Curiously, the name means “the red month of May,” but the spring color is a vigorous green which does not darken much in mid-summer. Fall is the significant time when the tree becomes brightly colored with flame and crimson foliage. ‘Satsuki beni’ makes a good background tree in the garden landscape or a shade-producing cover tree for alpinists. It probably reaches 8 m in 20 years. The name is sometimes spelled ‘Satzuki beni’.

‘Sazanami’

MATSUMURAE – green

The sharp-pointed leaves create the unusual impression of this plant. The leaves are seven lobed and rather small, 3–4 cm long and wide. The lobes are separated three-quarters or more to the leaf base which is truncate. The margins are distinctly and sharply toothed. The petioles are 1.5 cm long. The spring color is an interesting light orange red, with the center veins a contrasting very light green. The color becomes a rich green during late summer. Fall colors are strong gold blends.

This rather slow-growing but hardy cultivar forms a large, compact bush, eventually reaching 5–6 m tall and half as wide. ‘Sazanami’, whose name means “ruffles,” is not common in collections but is a charming plant be-

cause of the effect of the leaf shape. The Japanese point out that the shade pattern of the leaves on the ground is most delightful.

‘Seigai’

PALMATUM – red

The brilliant scarlet foliage in the spring is the most attractive feature of this cultivar. The leaves are palmate and five lobed or sometimes seven lobed. Each lobe narrows rapidly to a sharp point, and the margins are toothed. The small leaves are mostly 5 cm long and 4 cm wide. In older, twiggy growth, the leaves are at least 1 cm smaller. The lobes divide two-thirds of the way to the leaf base.

The buds open with a brilliant show of bright crimson. This color remains for about a month. During early summer, the leaves change to a bronze tone and continue into the green of late summer. Bright colors become prominent again in the flame-red tones of the fall season.

This hardy cultivar eventually makes a small upright tree or large shrub up to 4 m tall. It occasionally puts out strong, upright shoots when in good culture. The predominant growth, however, is multibranched with short internodes. Because of its tendency to produce short, twiggy growth, this cultivar is quite popular for bonsai. It tends to be difficult to propagate.

‘Seigai’ is identical to ‘Akaji nishiki’ and is listed under both names in early literature. It was recorded as early as 1710 by Itō in *Zōho Chikinshō*. Because ‘Akaji nishiki’ is



‘Sazanami’. Photo courtesy of Oregon State University Archives, Corvallis



‘Seigai’. Photo by Peter Gregory

sometimes confused with the similarly named 'Akikaze nishiki' (it is not variegated, as the word *nishiki* implies) and because Japanese nurserymen usually use 'Seigai', the latter name is to be preferred. 'Seigai' has had many unfortunate misnomers in the United States. References can be found equating it with 'Chishio', 'Corallinum', 'Crispa', 'Crispum', 'Cristata', 'Cristatum', 'Okushimo', and 'Sanguineum Seigai'. This cultivar is better known in the United States as 'Bonfire'. The very similar name 'Seigen' represents a separate cultivar, which is dwarfier with daintier leaves turning yellow in the fall.

'Seigen'

DWARF – green

'Seigen' is among the most popular cultivars of the group which develops bright crimson foliage in the spring. The new leaves range into the bright fire-red tones which last for several weeks and are reminiscent of the popular 'Corallinum'. They then develop a light green color for summer turning yellow to persimmon in fall. This cultivar is one of the first in the 'Corallinum' group to leaf; hence it is susceptible to cold winds and spring frosts.

The small five-lobed leaves appear dainty, are 3–5 cm long and wide, and are held close together on the short branches. The lobes are divided more than halfway to the leaf base, and the margins are lightly toothed. The tips are not acutely sharp. The petioles are stiff and 2–3 cm long.

This dwarf plant is similar to 'Tama hime' and 'Kiyohime'. It forms a small, rounded bush up to 2 m high. 'Seigen' is very popular for bonsai in Japan because it is

dwarf and multibranched. The crimson spring foliage gives added value to the bonsai plant. This cultivar has also been known under the name 'Seika ha' and, more recently, 'Carmineum'.

'Seiryū'

DISSECTUM – green

It is unusual to see an upright-growing form in the Dissectum Group. Almost all other dissectum cultivars are of the cascading or weeping form. This green lace-leaved maple offers a pleasing contrast when planted in the company of other, more conventional dissectum forms.

The foliage is a pleasing bright green. Each leaf is lightly tipped with reddish tones as it unfolds in the spring. The color soon changes to a uniform light green, though later in the summer on exposed leaves, the reddish tones reappear on the margins. Fall colors are quite spectacular and range from strong gold to light yellows with a suffusion of crimson in most leaves. The leaves are slightly smaller than are those of most other green dissectums. They range from 4 to 5 cm long and are slightly wider. The seven lobes are pinnately dissected into sublobes. The lobes are not as finely cut as those of typical dissectums, but more so than the lobes of 'Palmatifidum'. The short stiff petioles are 1.5–2 cm long. The bark is a dark brown-green.

The upright growth is quite strong but not overly vigorous. The new shoots are stiff, not willowy, and grow as much as 50 cm per year. Young vigorous plants exceed this rate. A more mature tree becomes multibranched and gradually thickens without becoming excessively twiggy. Older plants may reach 5–7 m tall and 3–4 m



'Seigen'. Photo by Harry Olsen



'Seiryū'. Photo by Peter Gregory

wide in fertile locations. The name 'Seiryū' means "blue-green dragon."

'Sekimori'

DISSECTUM – *green*

The leaf shape and color set this cultivar apart. Also, the bark is a delightful green which lasts quite well on the older branches and limbs. The green has a faint whitish dusting and distinct lengthwise, white striations. The fall color is one of the best bright yellow-gold combinations of the green dissectums.

The deep green leaves have seven or nine lobes and are of medium size, 7–9 cm long. They tend to hang down slightly and fold together, so the leaf spread is only 8–9 cm. Each of the lobes is deeply but uniformly pinnatifid, but not as finely or unevenly cut as those of the typical dissectum. This feature gives the leaf an appearance of more substance. It does not have the coarse cut of 'Palmatifidum'. The basal quarter of each lobe is little more than the width of the midrib. The lobe develops the dissected portion on the outer three-quarters of the way to the leaf base. The lobes look more feathery, while other green dissectums look lacier. The petioles are 5 cm long.

'Sekimori' is a strong, hardy plant. Growth on young plants can be vigorous, forming a nicely shaped bush in a short time. It reaches a height of 3–4 m and a width of 4–5 m at maturity. The cascading branches go out and down. The top shoots can be trained to give the plant more height from which to cascade more beautifully. Planting this cultivar on a slope enhances its beauty.



'Sekimori'. Photo courtesy of Oregon State University Archives, Corvallis

'Sekka yatsubusa'

PALMATUM – *green*

As with other yatsubusas, the leaves of this cultivar are quite small—in this case 3–4.5 cm long and wide. 'Sekka yatsubusa' differs from the others in having narrower lobes. The five lobes are long-ovate with gradually tapering tips, 3–4.5 cm long and 1–1.2 cm wide at the broadest point in the lower third. The lobes are separated to within 1 cm of the leaf base. The margins are very lightly serrated, and the tiny tip of each serration turns slightly upward, giving the lobe edges a slightly crinkled appearance. Sometimes the two basal lobes are so small that the leaves appear only three lobed. The red petioles are slender and 1–3 cm long. The leaves have a shiny, deep green color. The new growth is edged with a rust color. This small plant takes full sun quite well. The fall colors range into the yellow tones and have been reported to last for up to six weeks.

The leaf nodes are close together and the foliage is rather bunched. New growth is fine but not willowy, short, and multibranched. The plant reaches 3 m when mature. It is hardy and offers the choice of another small shrub for rock gardens, bonsai, and small plantings. A strange feature is that many of its leading shoots are flattened (van Gelderen et al. 1994). 'Sekka yatsubusa' is not widely known or easily propagated. It has also been known with the name reversed, 'Yatsubusa sekka'.

'Semi-no-hane'

MATSUMURAE – *green*

This vigorous tree of medium size and spreading habit has large and variable foliage. The leaves on young wood



'Sekka yatsubusa'. Photo courtesy of Oregon State University Archives, Corvallis

are often quite large, up to 15 cm long and 18 cm wide, while the leaves on older wood may be only 10 cm long and wide. However, even the largest leaves are not massive in appearance due to the feathery nature of the lobes. They are separated almost entirely to the leaf base, and are long-ovate with a long, tapering tip. Each distinctly separated lobe is double toothed on the margins to give a delicate edging.

The leaf color is a strong, light green. New growth has an overblushing of rusty red which is quite variable, depending on the degree of exposure to full sun. In shade, the green takes on a yellowish cast. In midsummer a darker green predominates. Fall colors are strong and vary from yellow to burnt orange.

Although it becomes an upright tree, 'Semi-no-hane' has a tendency to spread and become a broad, medium-sized plant. It is a vigorous but not an aggressive tree. The texture is pleasant in the landscape and gives a different effect. The name has been misspelled 'Seme-no-hane'.

'Shaina'

PALMATUM-red

This compact upright round-leaved cultivar concentrates its dark maroon-red leaves in dense tufts or clusters at the ends of the short shoots. Its deeply divided leaves emerge a bright red in the spring, become a dark purple red for the summer, and turn bright crimson in the fall. It holds its deep color well throughout the summer and early fall. The five-lobed leaves are deeply divided to within 1 cm of the leaf base, into narrow long-ovate lobes with pointed tips, except many of the center lobes are shortened with rounded tips—a characteristic of many cultivars originating from witches'-brooms.

The shoots are vigorous in young plants, but become shorter and thicker when established. The side shoots average 1–2 cm long and terminal shoots no more than 5–10 cm. The plant eventually forms a dense, globe-shaped shrub up to 3 m or more and is ideal for container culture and rock gardens.

'Shaina' originated as a witches'-broom which was reputed to come from 'Bloodgood', although the leaves are



'Shaina'. Photo by Peter Gregory

somewhat different, being much narrower and even more deeply cut. In fact, Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania, discovered a witches'-broom on a 100-year-old 15-m tall *Acer palmatum* f. *atropurpureum* in the early 1980s, propagated and named it. It has proved to be very reliable and popular.

'Sharp's Pygmy'

DWARF – green

This outstanding dwarf must be one of the smallest *palmatum* cultivars possible. Jimmy Sharp first noticed it as a chance seedling in the early 1980s and propagated it at his nursery in Oregon. The green leaves turn a deep orange to scarlet in the fall.

The small five-lobed leaves are 3–4.5 cm long and 2–3.5 cm wide on older plants, though they may reach up to 6 cm long and 4.5 cm wide on young vigorous shoots. The narrow lobes, almost straplike, are deeply divided to within 5–7 mm of the leaf base, broadest in the lower third. The margins have coarse broad teeth. The center lobe is always much longer than the others. The three middle lobes are close together and point forward, while the small basal lobes are held more or less at right angles to the petiole, so that the leaf is distinctly longer than wide. The lobe tips tend to turn down. The slender green petioles are 1.5–2.5 cm long. The shoots are also green.

'Sharp's Pygmy' forms a densely foliated, compact, low-spreading tree which is unlikely to reach 1 m high. It needs no pruning or training to give it a bonsai-like appearance. It is a truly remarkable dwarf.

'Sherwood Flame'

MATSUMURAE – red

The beautiful leaves of this cultivar are a rich reddish purple color approaching burgundy. The color remains very strong until the end of the summer, fading but very little to the red-green tones. It holds its color better than most similar cultivars of the *Matsumurae* Group.

The leaves are seven lobed and measure 7–8 cm long and about 8 cm wide. The lobes are divided almost to the leaf base and tend to hold together slightly so that the leaf appears longer than wide. The lobes are elongate-ovate, quite narrow at the lobe junctions, with the outer end tapering to a very long, sharp point. The margins are deeply and regularly toothed. The petioles are red and 4 cm long.

This vigorous, small tree makes a pleasant round-topped form and reaches 4–5 m tall at maturity and up

to 4 m wide. Young plants grow rapidly at first, and then begin to broaden slightly and branch out. It is an excellent specimen tree for the landscape, adding color in the spring and retaining the deep tones throughout the summer.

'Sherwood Flame' is almost identical to 'Burgundy Lace', but has slightly smaller leaves and the deep color does not fade or turn greenish brown or bronze in mid-summer. By midsummer the contrast is quite noticeable in the large specimens of each cultivar growing side by side at Wil-Chris Acres, Sherwood, Oregon. It was here that William Curtis selected and developed 'Sherwood Flame', reportedly a seedling selection of 'Burgundy Lace'. 'Sherwood Flame' has been mislabeled 'Sheerwater Flame'.

'Shichihenge'

PALMATUM – red

This red cultivar is almost identical to 'Musashino' which is propagated more often. The color of the foliage is a deep purple red and is especially bright as the leaves unfold. The color keeps well into the summer, but gradually fades into a deep green-red tone. Fall colors are various shades of red.

The seven lobes are strongly ovate, separated three-quarters of the way to the leaf base. They are held more closely together than in 'Musashino', almost overlapping at the base, and terminate in a long, sharp point. The two basal lobes extend almost at right angles to the petiole. The margins are serrated. The leaves are about 8 cm long and 11 cm wide, with petioles 4–5 cm long.

This strong-growing, upright tree matures as a round-



'Sherwood Flame'. Photo courtesy of Oregon State University Archives, Corvallis

topped specimen. It is a good maple for the large garden. A large tree in the Tosho Gu shrine in Nikkō on Honshū, Japan, was about 5 m high and wide, with a trunk 40 cm in diameter in the mid-1970s. The alternative spellings 'Schichihenge' and 'Hichihenge' have been used for this cultivar.

'Shidava Gold'

DWARF – *green*

This highly desirable dwarf was discovered as a witches' broom on the well-known 'Aoyagi' and was propagated and named by Raraflora Nursery, Berry, New South Wales, Australia. It is a miniature replica of its parent, with bright yellow-green leaves contrasting with the pea-green bark.

The five-lobed palmatum-type leaves are divided more than two-thirds of the way to the leaf base and are slightly smaller than those of 'Aoyagi', 4 cm long and up to 5 cm wide. Otherwise, the leaf shape, toothed margins, and coloring through the seasons is the same. Also, it has the same upright growth of 'Aoyagi' but shorter and more compact.

One of the original plants reached 1.8 m tall and 1.2 m wide in seven years under Australian conditions. However, as John Emery of Raraflora Nursery rightly points out, the growth of Japanese maples in New South Wales is probably much faster than that in many parts of Europe and North America. Hence, 'Shidava Gold' is unlikely to reach 2 m tall under most conditions. The name has been misspelled 'Shidaba Gold'.

'Shigarami'

PALMATUM – *green*

The name of this cultivar means "posts in a river or stream to which boats are tied." The spring foliage is a bright green, with the tips of the lobes a light purple which shades a short distance back along each margin. The contrast is quite noticeable. As the leaf matures, the outer half of each lobe becomes purple. Later, in summer, the leaf becomes solid green. Fall colors are rich yellow and orange suffused with red.

The seven-lobed leaves are 4–6 cm long and 6–8 cm wide. The lobes radiate stiffly outward, with the two very small basal lobes angled back along the petiole. Each lobe separates two-thirds of the way to the leaf base and has a long-ovate shape with almost parallel sides in the lower part, tapering gradually to a sharp tip. The sides of the lobes tend to turn upwards from the midrib, forming a slight trough. The margins are almost smooth with

only a very fine serration. The leaves are held stiffly in a horizontal plane by the stiff petioles which vary from 2.5 to 5 cm long.

This small tree grows in an upright manner. However, the side branching grows horizontally as it matures, and the horizontal branches give it a layered appearance. After many years it reaches a height of 4 m.

The close similarity of 'Shigarami' to 'Tana' has created a slight confusion between the two cultivars. The narrower, parallel-sided lobes and deeper divisions in the leaves of 'Shigarami' distinguish it from 'Tana' which has broader triangular lobes and divisions to about half-way. This cultivar has also been known under the name 'Saku' which may not be synonymous.

'Shigitatsu sawa'

AMOENUM – *variegated*

The leaf of this cultivar is reticulated with a network of prominently green-colored veins and light yellow to yellow-green interspaces. For this characteristic the cultivar has been known under the names 'Greenet' and 'Reticulatum'. Other names used in the past are 'Marginatum', 'Marmoratum', 'Shigitatsu', and 'Striatum'.

In the spring and early summer, the contrast is obvious. The unique marking is bright and holds well, especially when the plant has protection from the hot sun. In midsummer, the leaf darkens and the yellowish interspaces become greener, while the network of veins becomes an even darker green, sometimes with reddish main veins. In the fall, the leaves change to a red or rich red-green tone, which is quite different from other cultivars.



'Shigarami'. Photo courtesy of Oregon State University Archives, Corvallis

The leaves can vary in size, depending upon the fertility, vigor, and location of the plant. They are 6–10 cm long and 9–14 cm wide. Each leaf is inclined to cup slightly upwards from the leaf base while the lobes radiate sharply outward. The leaves have seven or nine lobes which join about halfway to the leaf base. The lobes are ovate, tapering to a long, sharp point. The margins are sharply and quite regularly toothed.

This fairly hardy plant is not as tough and vigorous as some other old cultivars. It appreciates some protection from the hottest sun, which tends to burn the leaves. It is a medium-sized, upright grower, reaching 5 m tall and up to 4 m in spread. The Japanese consider it tender, dwarf, and best grown in containers. In the Pacific Northwest, it is a vigorous small tree suitable for gardens.

The name appeared for the first time in an old publication called *Seki Hin Binran*. It has appeared many times in the literature since the early 1800s. Hideo Suzuki wrote that the name means “snipes, quacking, flying up from a swamp.” The poetic beauty of many cultivar names is fascinating and adds to the joy of the study. ‘Shigitatsu sawa’ is also the name of a place in Sagama-Ōiso. In the Genroku era (1688–1704), the poet Michikaze Oyodo lived there and called it Shigitatsu Sawa. Quoting from an old poetry book by Priest Saiygo, “In the evening, in the fall at Shigitatsu Sawa, even a person whose heart is vacant feels sad.” A magnificent plant!

‘Shigure bato’

MATSUMURAE – green

The beautiful leaves of this cultivar are seven lobed, with the two basal lobes very small and angled backward to-



‘Shigitatsu sawa’. Photo courtesy of Oregon State University Archives, Corvallis

ward the petioles. Each lobe is narrowly elongated, broadest in the middle, but gradually tapering to a very long tip. The lower quarter of the lobe quickly narrows to 2–3 mm as it almost reaches the leaf base. The tips of the lobes tend to curve down. The margins are deeply and irregularly double toothed. The lobe shape approaches that of the green dissectum ‘Palmatifidum’. Although the leaf is of the Matsumurae Group, it aspires to be a dissectum, but does not quite make it! The leaf has a lovely feathery appearance and is 4–6 cm long and 5–6 cm wide. The slender petioles are 2–4 cm long.

The new foliage emerges with a brilliant red tone which lasts into late spring. During the early summer the leaves turn green, but the tips and edges remain tinged red. The green is lighter under shade. Fall colors range from gold to crimson.

‘Shigure bato’ is not a rapid-growing cultivar. Although it forms an upright bush, it only attains up to 3 m high at maturity, spreading its branches outward so that it may be as wide as tall. It is tender and not easily propagated. The name ‘Shigure bato’ means “late fall rain.”

‘Shigure zome’

MATSUMURAE – red

This cultivar is not widely known even though it has been listed since the early 1700s. However, it is still being propagated in Japan. It has also been known under the name ‘Shigure zono’. The medium-sized leaves are seven lobed, separated to within 1 cm of the leaf base, and are 4–5 cm long and 6 cm wide. Each lobe is strongly ovate but ends with a long taper to a sharp tip. The margins



‘Shigure bato’. Photo courtesy of Oregon State University Archives, Corvallis

are smooth to faintly serrated. Leaf color starts in the spring as a bright purplish red. However, the leaves do not keep this color for long, becoming greenish with reddish tones as the summer progresses. The fall colors are good reds. The reddish brown petioles are about 3 cm long. The small branches are a brown red. This hardy plant forms an upright tree, reaching up to 4 m tall at maturity.

'Shikage ori nishiki'

PALMATUM – *red*

The purple-red leaves have a brownish overtone which helps distinguish this cultivar. The indistinct brown tones are often suppressed by the purple red in new foliage, then later become apparent, although never strong. The brown tones become a dull brownish green color in late summer, changing to orange in the fall.

The leaves are seven lobed, occasionally five lobed, but the two basal lobes are very small and sometimes lacking. Each lobe is oblong-ovate and terminates in a long slender point. The lobes are divided about three-quarters of the way to the leaf base. The upper half of the lobe has deeply serrated margins, while the lower half is almost untoothed. The leaf is 7–8 cm long and 9–10 cm wide. The red petioles are 3 cm long.

This cultivar is fairly hardy and strong growing, and matures as a broad bush up to 4–5 m tall. It is not widely known. 'Shikage ori nishiki' has been known since the early eighteenth century, though Gen'ichi Koidzumi later used the name 'Kageori nishiki'. The latter name has been confused with 'Kagiri nishiki', a quite different variegated cultivar.

'Shime-no-uchi'

LINEARILOBUM – *red*

The long lobes of this cultivar are deep red or purple red in the spring and early summer. They gradually turn a reddish green or bronze green. Crimson color tones dominate in the fall. The leaves do not hold their red color as well as those of 'Atrolineare'. They have mostly five lobes, occasionally three or seven lobes, and are 5–7 cm long and about 6 cm wide. Each lobe is up to 6 mm wide and has slightly serrated margins. The petioles are about 3 cm long.

This cultivar grows more slowly than 'Atrolineare' does and has slightly broader lobes. The Japanese state that 'Shime-no-uchi' rarely exceeds 1 m high, but it has been found to reach 2.5–3 m high in the West. It has an upright but twiggy growth habit. In the past the name of

this cultivar has been spelled 'Schime no uchi'. 'Aka shichi gosan' and 'Aka shime-no-uchi' are very similar to 'Shime-no-uchi'. 'Aka shime-no-uchi' could be a synonym.

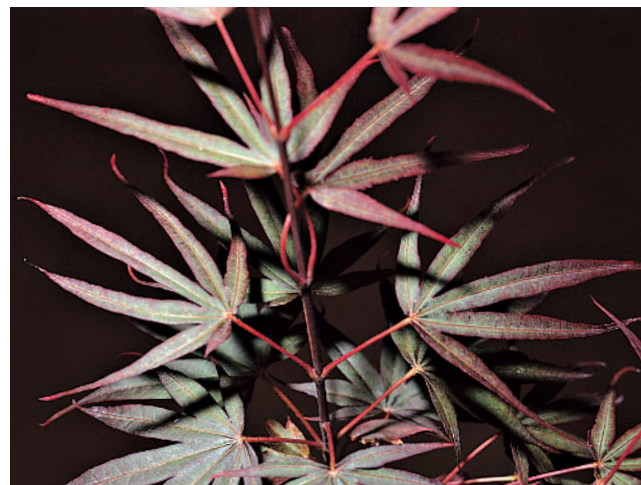
'Shin deshōjō'

PALMATUM – *green*

Shin means "new," indicating that this cultivar is a later improved selection of the well-known 'Deshōjō'. In spring it is one of the most brilliant foliage plants in the Maplewood collection or anywhere else. Some refer to the leaf color as fire-engine red. Flaming scarlet or crimson scarlet is a better description. The leaf color is considered by many to be brighter than that found in similar spring foliage plants, such as 'Chishio', 'Deshōjō', and 'Seigai'. The new foliage retains this color during the first month or more of spring. As midsummer arrives, the color turns to a pleasant reddish green. Occasionally, leaves are found with minute flecking of light cream or white. However, it is not strongly marked. In the fall, the colors become blends of reds and oranges.

The small five- or seven-lobed leaves are in the Palmatum Group and have very small basal lobes. They are 3–5 cm long and wide in older wood, and up to 6 cm long and 7 cm wide on vigorous newer growth. The lobes unite two-thirds of the way or more to the leaf base. They are strongly ovate, tapering to a point. The margins are serrated, the teeth having sharp tips. The slender petioles are red brown to purple red and 2–4 cm long. The young shoots are also reddish brown to dark purple red.

This maple is not a tall cultivar but forms a shrub up to 3 m high and 2 m wide as it matures. Young plants produce vigorous new shoots, but in later years the



'Shime-no-uchi'. Photo courtesy of Oregon State University Archives, Corvallis

growth becomes twiggy. 'Shin deshōjō' is an excellent container plant for patio display. It is also popular as a bonsai plant. With proper care, the rate of growth and leaf size can be reduced without harming the plant. The name has been misspelled 'Shinideshiojo'.

'Shinobuga oka'

LINEARILOBUM—green

The leaves are shaped in the long, slender form of the Linearilobum Group. They have mostly five lobes, sometimes three or seven lobes, and are 6–9 cm long and up to 8 cm wide. Each lobe is straplike and not more than 5–10 mm wide. The lobes tend to hang down, giving a cascading appearance. The margins may be smooth or lightly toothed. Juvenile leaves have ovate broader toothed lobes of the deeply divided matsumurae type. The petioles are 2–4 cm long. The bright but dark green foliage holds its color well all season. As fall approaches,

the color changes to a pleasant yellow. This upright-growing plant attains 3–5 m in height and rebranches readily to form twiggy growth. It is well adapted to container growing for the patio, as it is a shrub type which is easily shaped. It also provides interesting effects when used in bonsai culture.

Synonyms, alternative names and spellings, and misspellings are numerous and include 'Fingerlobe', 'Lineare', 'Linearifolium', 'Scolopendrifolium', 'Scolopendrifolium Viride', and 'Sinobuga oka'. 'Ao shichigosan' and 'Ao meshime-no-uchi' are so similar to 'Shinobuga oka' that they are also included here with their alternative and misspellings—'Ao hichi gosan', 'Aome-no-uchi', 'Aono-hichi gosan', 'Ao-no-shichi gosan', and 'Ao shime-no-uchi'—although these cultivars have pink fruits, according to Cor van Gelderen (pers. comm.), as does 'Linearilobum'. 'Linearilobum' might be identical to 'Shinobuga oka' (van Gelderen et al. 1994). Thus, to avoid confusion with the group name and the cultivar name, it seems best to include the cultivar under 'Shinobuga oka'.

'Shinonome'

MATSUMURAE—red

The spring foliage of this cultivar is a bright orange red and turns a deeper red as it matures. These are very noticeable color tones when compared with other red cultivars. Later in the summer, the leaves become green with a deep red overtone. This pattern accentuates the green of the midribs. The pink to orange-red second growth contrasts well with the bronze green of late summer.

The seven-lobed leaves are 5–7 cm long and 7–9 cm wide, and deeply divided at least three-quarters of the way to the leaf base. The lobes are elongate-ovate, broad-



'Shin deshōjō'. Brilliant spring foliage. Photo courtesy of Oregon State University Archives, Corvallis



'Shinobuga oka'. Photo courtesy of Oregon State University Archives, Corvallis

est in the middle, narrowing drastically toward the lobe junctions, and with the outer ends tapering to elongated, sharp points. The inner third of the lobes has smooth margins, while the outer two-thirds are markedly toothed. The slender, deep red petioles are 3–4 cm long.

The young branches of this upright plant grow vigorously, with the leaf nodes spaced well apart. With age, the shoots become shorter and more branched. 'Shinonome' has an open habit of growth and reaches up to 4 m high. It is not a well-known cultivar but offers a nice contrast when used in large plantings. Well-grown container plants make a fine display. The name has been misspelled 'Shioname'.

'Shiraname'

MATSUMURAE – *green*

Although this cultivar is mentioned as far back as 1710, it is not well known or widely distributed. The medium-sized leaves have five or seven lobes and are deeply divided to less than 1 cm from the leaf base. The leaf is 7–8 cm long and about the same wide, with the lobes radiating outward. Each lobe is elongate-ovate, narrowing at the base, and with the outer end tapering to an elongated point. The margin in the lower half of each lobe is almost smooth, while the upper half is sharply toothed. Each lobe has a slight longitudinal upward roll from the midrib. The petioles are 1.5–2 cm long.

Spring foliage is bright red with green undertones, gradually changing to green during the summer. The fall colors are tones of yellow. 'Shiraname' is not a rangy-growing plant but forms a tall bush with lateral branch-



'Shinonome'. Photo courtesy of Oregon State University Archives, Corvallis

ing to a height of 3–4 m. This cultivar has also been known under the name 'Shiranami'.

'Shishigashira'

PALMATUM – *green*

The name means "lion's head" or "lion's mane," referring to the mythical lion of Japanese drama, and was given to this cultivar because of the shape of the bunched-up, heavily curled leaves at the end of short, stout shoots. There are two forms of this cultivar in Japanese horticulture. 'Mejishi', which means "female lion," is the designation of the more widely distributed form better known as 'Shishigashira'. 'Ōjishi', meaning "male lion," is a dwarf cultivar with slightly larger leaves.

The compact growth of this cultivar makes it very popular for small gardens, container culture, and bonsai. The outstanding feature is the close-packed arrangement of the leaves on the twigs, and the close arrangement of the twigs. The bright green foliage is quite crinkled, which adds to the stubby growth effect.

The small leaf is 3–5 cm long and almost as wide. Each leaf has five or seven lobes with the two basal lobes much smaller. The lobes divide up to three-quarters of the way to the leaf base. Each lobe is ovate and tapers to a point. The sides are curled upward, occasionally convoluted, and in most cases forming a V-shaped trough. In addition, most leaves are further crinkled along the edges of the lobes. The margins are coarsely but irregularly toothed. Most of the crinkled leaves display the veins prominently, providing an almost rugose-appearing surface. However, some leaves do retain a smooth appearance. The petioles are short and stiff and 1.5–3 cm long.

The deep green foliage is of a heavy substance and firm to the touch. Color is maintained very well during summer, even in hot sun. There is very little sunburn on vigorous plants. The fall coloration is a striking combination of gold suffused with rose and crimson tones. The entire plant takes on a different appearance during the seasonal change, making it quite prominent.

Usually a slow-growing plant, 'Shishigashira' can eventually reach 5 m or more in height. The size of the tree can easily be controlled by the amount of fertility available. It should always have enough nutrients to keep the good green tones in the foliage. However, it stays quite short and dense if not overfertilized. Training and pruning this cultivar to accentuate the shrubby tufts of growth on the branches can emphasize the plant's character. The effect is outstanding.

This unique cultivar always attracts attention. It has been in cultivation more than 120 years and is popular around the world. Japanese literature lists it before 1880 and indicates its wide use both in the landscape and in bonsai. Other names under which it has been known are 'Mejishi' as explained above, 'Cristatum', 'Minus', 'Ribes-cifolium', and 'Ribesifolium'.

'Shishio hime'

DWARF – green

This dwarf shrub has small leaves of the palmatum type which have red edges and tips when young, becoming an



'Shishigashira' lengthens the color season in fall. Photo courtesy of Oregon State University Archives, Corvallis

even medium green for the summer and changing to a bright yellow to gold in the fall.

The five-lobed leaves radiate outward, are divided about two-thirds of the way to the leaf base, and measure 4–4.5 cm long and 4.5–5 cm across. Each lobe is ovate with an acuminate tip, 10–15 mm wide in the middle, narrowing to 5–8 mm at the lobe junctions. The margins are deeply and evenly double toothed. The long, very slender petioles are 1.5–3.5 cm long.

The growth habit is similar to that of 'Murasaki kiyohime' but smaller, forming a low, dwarf-spreading shrub. It is densely foliated and slow growing at first, reaching 0.8 m tall and 1.2 m wide in 10 years, although young juvenile shoots may be 10–12 cm long in the early years, but become much shorter with age. It eventually becomes one of the more vigorous dwarfs. It is an excellent plant for container culture and bonsai.

There is some doubt about the correctness of the name 'Shishio hime' and whether it should be spelled 'Shishi hime' or 'Chishio hime'. It does not appear to be of Japanese origin. This maple is widely available in northwestern North America as 'Shishio hime'.

'Shishi yatsubusa'

DWARF – green

This cultivar is one of the excellent dwarf shrubs with dense foliage. The five lobes radiate out and are separated to about halfway to the truncate leaf base. The lobes do not radiate in a star-shaped manner as strongly as do those of some other similar dwarf cultivars, such as



'Shishio hime'. Photo by Harry Olsen

'Mikawa yatsubusa', which gives the plant a softer look. The lobes are ovate with strong acuminate points and very light toothing on the margins. The leaves lie very close together on the stubby nodes resulting from short annual growth twigs. The color is a good, strong green which holds well during the entire season and does not seem too prone to sunburn. Fall colors range through the yellow tones.

'Shishi yatsubusa' is a strong but stubby-growing shrub which develops an angular limb structure with age. It is reported to be popular with bonsai hobbyists and is of fairly easy culture. However, propagating wood is always limited, which is understandable with the small annual growth produced. The name means "a small lion or lion cub." Other names under which this cultivar has been known are 'Chishi yatsubusa' and 'Dwarf Shishi'.

'Shōjō'

MATSUMURAE – red

This deep colored cultivar has very deep purple-red foliage, almost black red. The color holds well into late summer, especially if the plant is given afternoon shade. In the fall, crimson tones dominate.

The five- or seven-lobed leaves are 7–8 cm long and 8–9 cm wide, with the lobes spreading openly. The leaves are rather thin in texture. The lobes are elongate-ovate, terminating in a slender point, and they divide to within 1 cm of the leaf base. The margins are regularly and lightly serrated. The slender red-brown petioles are 4 cm long.

The leaves are spaced openly along the shoots, giving the appearance of less foliage than normal. The growth



'Shōjō'. Photo courtesy of Oregon State University Archives, Corvallis

is upright and vigorous when the plant is young. It branches laterally and at maturity becomes a wide, tall tree of at least 4 m high.

Shōjō is the name of the red-faced orangutan character in many Japanese dramas, and is used in several cultivars to signify the color red. This cultivar has also been known under the names 'Syojou' and 'Syjo'.

'Shōjō-no-mai'

PALMATUM – variegated

'Shōjō-no-mai', whose name means the "dancing red-faced monkey," is one of the best of the 'Beni shichihenge' spring-color group of variegated palmatus. The basic leaf color is medium green to gray green with attractive deep pink edging and tips, sometimes extending more than halfway toward the leaf base. The variegation causes the lobe tips to bend outward, creating a delightful windblown effect.

The mainly five-lobed irregular-shaped small leaves divide three-quarters of the way to the leaf base and measure 3.5–4.5 cm long and 4–5 cm wide. The long-ovate lobes often have curved sharp-pointed tips. The margins are distinctly coarse toothed. The petioles are short and slender, up to 2 cm long.

This cultivar is very similar to 'Beni shichihenge' in all aspects of growth, habit, and leaf. 'Beni shichihenge' differs in having brownish tones in the pink variegation, whereas 'Shōjō-no-mai' is a pure pink, even deeper and more intense than the pink 'Beni shichihenge', especially in the spring. This cultivar was found and named by Edward Rodd of Raraflora Nursery, Kinterfield, Pennsylvania.

'Shōjō nomura'

MATSUMURAE – red

This little-known cultivar, whose name means "beautiful red-faced monkey," is a distinct color form of the 'Shōjō' and 'Nomura' cultivar types. In early spring, its foliage is a good light bronze red to purple red. As the leaves mature in the summer, there is an undertone of green, but it is strongly overshadowed with a bright orange red. These tones are both solid and mottled and give the plant a distinctive appearance.

The leaf is divided almost entirely to the leaf base into seven lobes which radiate strongly. Each narrow lobe is oblong-ovate, constricted at the base, and tapering to an elongated, sharp tip. The margins are finely toothed. The leaves measure 5–7 cm long and 6–9 cm across, with the red petioles 3 cm long.

This cultivar has also been known under the name 'Sioiou nomura' (misspelled 'Soiou nomura' and 'Syoiou noumura'). The description given here does not fit plants sent to the Netherlands from Japan under this name, or those exhibited by the Japanese at an Amsterdam exhibit (van Gelderen et al. 1994). All these sources agree with the description of the well-established 'Shōjō'. Hence, this is a nomenclatural problem still to be resolved!

'Shōjō shidare'

DISSECTUM – red

The basic color of the leaf is a deep maroon, brightest in the new foliage and darkening as the leaf matures. A dark, rich green tone is suffused down the center of each lobe and sublobe. The two-tone color combination gives this plant a unique appearance. The petioles are deep maroon, as are the young twigs and branches.

The leaves have seven or nine lobes and are pinnately dissected with irregular toothing on the sublobes. Some sublobes are long and slender. The leaves are 4–7 cm long and 5–7 cm wide. On leaves of new wood, the lobes are occasionally restricted between the sublobes to only the width of the midrib. The sublobes, in turn, have minute extensions for 1–3 mm. The petioles are slender but firm and are 2–3 cm long.

This cultivar has the cascading form typical of dissectums and forms a tall dome up to 3 m high. To see the beauty of the cascading form, it should be grafted high or staked up for a few years. It is very beautiful but little known, possibly because it is a little tender and not easily propagated. 'Shōjō shidare' has also been known under the name 'Nomura shidare', which may be synonymous. It has been misspelled 'Syojo shidare'.

'Skeeter's Broom'

DWARF – red

This maple originated from a witches'-broom on 'Bloodgood' and was found and named by Edward Rodd of Raraflora Nursery, Kinterfield, Pennsylvania. It is similar to several other dwarf red cultivars derived from witches'-brooms on 'Bloodgood' but has longer leaves than most. Whereas these often have the central lobe truncated, 'Skeeter's Broom' may have any of the other lobes short and rounded. Occasionally, the central lobe can be almost absent.

The seven-lobed, occasionally five-lobed leaves are doubly divided to within 7 mm of the leaf base, well separated, and spread out. They are 3.5–5.5 cm long and 4.5–7.5 cm wide. Each lobe is ovate with a long, pointed

tip. The lobes are 8–12 mm wide at the broadest point in the middle, narrowing to 3–4 mm at the lobe junctions. The margins are strongly double toothed. The maroon petioles are slender and 1.5–3 cm long.

The young leaves are a bright red when first emerging and become a deep purple red for the summer. Like its parent, 'Skeeter's Broom' holds its color very well. It forms a narrow, upright dwarf shrub, reaching about 2 m high when fully grown.

'Spring Delight'

DISSECTUM – green

A chance dissectum seedling with 'Viridis' as a possible parent, this cultivar is very pretty in the spring as the young leaves appear. Its emerging light green leaves are attractively edged in red, a color combination which lasts through spring and into early summer. In all other re-



'Skeeter's Broom'. Photo by Harry Olsen



'Spring Delight'. Photo by Harry Olsen

spects, it is very similar to 'Viridis' in leaf appearance, vigor, and growth habit. 'Spring Delight' was selected, named and propagated by Talon Buchholz of Buchholz and Buchholz Nursery, Gaston, Oregon.

'Stella Rossa'

DISSECTUM - red

'Stella Rossa' is one of the earliest selections of the Fratelli Gilardelli Nursery, near Milan, Italy, from the late 1960s. It has very attractive pink-red young foliage, becoming a dark purple red which lasts very well throughout the summer and early fall, before turning a bright red in the fall. The foliage coloring is similar to that of 'Dissectum Nigrum', but the deep red color is retained even longer.

The seven-lobed deeply and finely dissected leaves are 9–12 cm long and wide. Each lobe narrows markedly to the base, the lower 1–1.5 cm consisting only of the midrib. The upper three-quarters of the lobes are themselves deeply divided into relatively broad, flat sublobes with delicate fine saw-toothed margins. The petioles are red

and 2–5 cm long. This vigorous pendulous dissectum forms a mushroom-shaped shrub up to 3 m tall and 4 m wide.

'Sumi nagashi'

MATSUMURAE - red

This large-leaved cultivar is one of the best of the red Matsumurae Group. The seven-lobed leaves (two extra very tiny lobes sometimes appear on the largest leaves) are 7–9 cm long and 9–12 cm wide, and deeply divided almost to the leaf base. The lobes are elongate-ovate, 1–1.5 cm wide at the broadest point in the middle, narrowing to 2–5 mm at the lobe junctions. The outer end tapers gradually to a thin, sharp point. The lobes are well separated. The outer margins are double toothed, the teeth with sharp, hooked tips; the inner margins are smooth. The petioles are red and 2.5–4 cm long.

The spring color is a bright purple red. In early summer, the leaves darken to become almost black red or very deep maroon. From midsummer to fall, the color gradually changes to a deep green red or brown red. The



'Stella Rossa'. Photo by Cor van Gelderen

leaves hold the early summer color better when given afternoon shade. Fall color is crimson. This vigorous, strong-growing, semi-upright cultivar reaches 6 m tall. It is an excellent tree for the garden landscape.

'Sunset'

DISSECTUM – *green*

'Sunset' is a dissectum of typical mounded shape, but with non-typical leaves and colors. It possesses the same cascading growth habit of most dissectums and grows at the usual rate. The leaves have a neat appearance since they are held on a common plane and do not twist as is typical of many dissectums. The lobes are distinct in that they are dissected only once, ranging both sides of each midrib, and are not doubly dissected as in more widely known dissectums. This gives a saw-tooth effect to the foliage. The leaves are mostly a uniform 6 cm long and 8 cm wide, with a fairly short petiole of 2 cm.

The color is the second outstanding feature after the saw-tooth appearance. The base color is a bright green, rather light, but with an overall tinting of rust on mature leaves. Those leaves in full sun show a very marked rusty to burnt orange tinting, while those in more shade have the tinting only on the edges or tips. Young foliage and some of the full-grown leaves in full exposure lack green and are predominately yellow in color. This cultivar stands out in the landscape as quite different in both the leaf texture and the dominant rusty appearance.

'Taimin'

AMOENUM – *red*

This red-leaved cultivar has been known in Japan since very early days. It was, apparently, not an outstanding

selection and did not become widely used. However, a much sought after variegated selection, 'Taimin nishiki', originated from this clone. The old cultivar 'Taimin' has almost disappeared from cultivation and does not appear to be propagated now. Although 'Daimyō' is not the same clone, it appears to be similar in all respects and is treated as synonymous.

'Taimin nishiki'

AMOENUM – *variegated*

This red-variegated form has medium-sized leaves 6–7 cm long and slightly wider. The five or seven lobes are shallowly separated to about halfway to the leaf base, and are ovate-acuminate with the margins slightly serrated. The red petioles are 2–3 cm long.

There are different descriptions of this cultivar in old Japanese literature. One has the new foliage unfolding a bright red color. Then, as the leaves mature, pink variegations appear which gradually change to brick-red markings. Another description gives the color as dark purple when the leaves open in the spring, with vermilion spots appearing and no green areas. Still another writer mentions the variegation turning brown on a reddish background.

Young plants in the Maplewood collection did not go through any of these changes. Instead, they remained solid colors of purple red. Other variegated clones sometimes take a few seasons for the markings to become evident. 'Taimin nishiki' appears to be variegated in Japanese collections; it is unknown if any plants in the West are variegated. Also, old references indicate that the variegation tends to disappear when plants are grown with too much fertility. This is true of other variegates which



'Sumi nagashi'. Photo by Harry Olsen



'Sunset'. Photo courtesy of Oregon State University Archives, Corvallis

have been forced. Withdrawal of fertilizers has brought them back in later seasons. Perhaps this is also true of 'Taimin nishiki'.

All references mention difficulties in propagation. 'Taimin nishiki' is classed as a very tender plant and is rare in nurseries. It originated from an old red-leaved cultivar 'Taimin', which seems to have almost disappeared from cultivation, and in itself is not worth perpetuating.

Earlier editions of this book indicated 'Daimyō nishiki' was a synonym of this cultivar. However, different Japanese characters have been used in a list from Japan since then, and a photograph shows the former is very different. It has smaller more deeply divided leaves of the *Matsumurae* Group.

'Takao'

PALMATUM – *green*

This ancient cultivar has references going back to 1690 and 1710. The species *Acer palmatum* was called *takao momiji* in Japanese. The plants with especially beautiful leaves were called *takao*. This cultivar has also been known as 'Oh momiji', 'Takao momiji', and 'Takawo momiji' and has been misspelled 'Tokao'. Old literature describes it as being a green-leaved, seven-lobed form, with the leaves 6–6.5 cm long and a little wider. The leaves of plants imported from Japan into the Netherlands are reported to be five lobed. The lobes are oblong-lanceolate with the ends tapering to a long, sharp tip. The margins are toothed. 'Takao' is known for its bright yellow to gold fall colors. It forms a vigorous upright round-topped tree, growing up to 9 m high at maturity.

'Taki-no-gawa'

MATSUMURAE – *green*

This cultivar is mentioned in several early references, including some with clear illustrations. It is a fairly hardy plant which makes a round-headed tall shrub, up to 5 m high at maturity.

The colors of the seven-lobed leaves are distinct. The new foliage has a bright brick-red or rust color as a strong overtone on the light green leaf. This color develops best in the sun. The foliage of heavily shaded plants remains a light green. The foliage color stands out in contrast with other cultivars. During the summer the intensity diminishes. In the fall, the colors take on a mottled pattern, and the reds become stronger.

The leaves are 7 cm long and 8–9 cm wide, and extend horizontally instead of hanging down. The leaf base is

truncate. The lobes separate almost entirely to the leaf base and are elongate-ovate, terminating in long, narrow tips. The margins are finely serrated. The short, stiff petioles are 2 cm long.

'Tama hime'

DWARF – *green*

'Tama hime' is a good dwarf for fall color. The tiny leaves are a light green as they unfold, soon becoming a rich, shiny green. This color holds well into the fall, when red, crimson, and some yellow leaves appear. The five-lobed leaves are 3–4 cm long and wide, and of thin texture. The lobes are ovate, terminate in a short tip, and are separated to about two-thirds of the way to the leaf base. The margins are prominently toothed. The red petioles are quite short—1–2 cm long.

This compact-growing, upright, vase-shaped, multi-branched dwarf is strong growing when young but does not exceed 2 m high or width. It is popular for bonsai. The leaves can be reduced to less than 1 cm with repeated pinching and other bonsai cultural techniques. The name 'Tama hime' means "a small globe." Another name by which this cultivar has been known is 'Yatsubusa tamahime'.

'Tama nishiki'

PALMATUM – *variegated*

The bright green foliage is marked with white or yellow combinations in irregular and varied patterns known as the *sunago fu* (dust) type of variegation. These are not



'Tama hime'. Photo courtesy of Oregon State University Archives, Corvallis

bold markings but rather subdued under most conditions. In the fall, the markings become brighter with rose tones coloring the white and yellow portions.

The seven-lobed leaves are divided almost three-quarters of the way to the leaf base. They are small—3–4 cm long and wide—though larger—5 cm or more—when there is no variegation. The lobes are long elliptic and narrow, ending in a long, sharp point. Each lobe is irregular in shape where the variegations are strong and becomes sickle shaped or curved in these areas. The margins are serrated. The short petioles are 1–2 cm long.

This slightly delicate, upright shrub reaches 2–3 m high. It is a little-known cultivar, not widely distributed, but mentioned in Japanese catalogs from 1930 into the 1960s.

'Tamaori nishiki'

PALMATUM—*variegated*

This medium-sized tree has leaves basically of the variegated Palmatum Group with five strong lobes. They radiate outward and are separated to about two-thirds of the way to the leaf base. Each lobe is ovate with a long, tapering point and toothed edges. The leaves vary from 5 to 7 cm long and wide.

The basic color is a clear green. When variegation occurs, it is in sectional portions of the lobe or leaf. The white or cream color predominates with occasional pink tones occurring, never very strong. Often the portions of the leaf containing the white sections are curved or sometimes stunted. Not all leaves are variegated, and the balance between variegated and unvariegated leaves varies from year to year. Fall colors produce orange and red tones on the unvariegated foliage, while the variegated sections turn to a pale rose.

This maple seems to be a twiggy but not very strong grower. It becomes a medium-sized tree as it matures. Like so many variegated cultivars, it too is affected by overfertilization, which results in too rapid growth and causes an increase in the non-variegated green proportion of the foliage.

'Tamuke yama'

DISSECTUM—*red*

This cultivar has the multidissected leaves of the Dissectum Group, but the pinnatifid cuts are not as deep as they are in such forms as 'Crimson Queen' and 'Dissectum Nigrum'. The center of the lobe is a little wider, making each lobed appear slightly bolder. The seven or nine lobes radiate outward, terminating in an extremely

fine tip. The leaves are 7–9 cm long and up to 11 cm wide. The stiff, red petioles are 3–4 cm long.

The new foliage is a deep crimson red when unfolding, but soon changes to a very dark purple red. It is an excellent color tone which holds very well through the summer. In Oregon, it holds its color better than any other cultivar does. Growers in the eastern United States report that it holds up extremely well in the combination of high heat and humidity. Fall color is a bright scarlet. The bark of the twigs and young branches is a deep maroon red, overcast with a whitish tone. This hardy plant is strongly cascading. It is an old cultivar, having been listed as early as 1710. The Japanese record plants 50–100 years old reaching up to 4 m tall.

The leaf shape, coloration, and growth habit of a plant called 'Takiniyama', growing in the Maplewood collection, were identical to those of 'Tamuke yama'. As it matured, its characteristics indicated it was the same as 'Tamuke yama'. No records have been found of 'Takiniyama'. Other names under which 'Tamuke yama' has been known are 'Chirimen kaede', 'Chirimen momiji', and 'Dissectum Tamuke yama'.

'Tana'

AMOENUM—*green*

The name 'Tana' means "shelves" and refers to the layered effect of the branches and foliage characteristic of this cultivar. The beautiful foliage is a light to yellowish green. Each lobe is tipped in a distinct purplish red, similar to that of 'Shigarami' but not as deep a color. This color shades back from the tip and down along the mar-



'Tamuke yama'. Photo courtesy of Oregon State University Archives, Corvallis

gins for a short distance, gradually blending into the solid green color of the leaf. In new leaves this marking is quite bright. As the leaf ages in the summer, the purple disappears. In the fall, the colors become a bright combination of gold and red which dominate the landscape.

The medium-sized leaves have five or seven lobes which radiate sharply outward. They measure 4–6 cm long and 6–8 cm wide, but leaves on vigorous juvenile shoots are much larger. The lobes are separated up to halfway to the leaf base, and are broadly ovate, tapering to a sharp point. The margins are very lightly serrated and curl slightly upwards. The stiff petioles are 4 cm long.

The leaves and the new shoots are held horizontally, and the branches grow laterally, thus forming the characteristic layered effect of this plant. 'Tana' is a strong-growing, upright cultivar which reaches 6 m high in only a few years. There is little further upward growth; instead it becomes round-topped with a broad canopy.

The similarity of the purple-tipped leaves and growth habit of 'Tana' with 'Shigarami' has caused some confusion. Both cultivars form a single-stemmed tree. However, the much deeper divisions of the leaf easily distinguish 'Shigarami'. The similarity of name has also caused confusion between 'Tana' and 'Tanabata', which is a red-leaved cultivar with the leaves deeply divided almost to the leaf base.

'Tanabata'

MATSUMURAE – *red*

Because of the similarity of name, this cultivar has occasionally been confused with 'Tana'. However, the two maples are very different. 'Tanabata' has red, deeply divided leaves of the Matsumurae Group, whereas 'Tana'



'Tana'. Photo by Harry Olsen

has green, shallowly divided leaves of the Amoenum Group.

The leaves of 'Tanabata' are seven lobed and almost completely divided to the leaf base. They measure 5–6 cm long and are very slightly wider. The lobes are elongate-elliptic, terminating in a long, narrow tip. The base of each lobe is extremely narrow, and the margins are serrated. This bright purple-red maple becomes redder as the leaves mature in the summer. The fall colors are strong, varied reds.

This plant is a fairly strong grower which starts upright, but as it becomes older develops slightly pendulous outer branches. It reaches 5 m high and wide at maturity.

'Tatsuta'

AMOENUM – *green*

This old cultivar, mentioned in the literature of 1710, is valued for the beauty of its fall color. The leaves are spaced openly on the small branches and so display the scarlet fall color to good advantage. As one Japanese reference described it, "The sun shines on all the leaves and makes the fall foliage more beautiful."

New leaves unfold as a very light yellow green which soon changes to a light green. The seven-lobed leaves are slightly thin in texture and measure 5–6 cm long and 7–8 cm wide. The lobes are separated more than halfway to the truncate leaf base. They are long elliptic, with sharp tips and slightly serrated margins. The petioles are long for the leaf size, 3–4 cm, and flexible.

This plant grows to a medium-sized shrub of up to 4 m tall, with open branches and a rounded top. It has also been known under the names 'Tatsuta gawa' and 'Tatsuta kaede'.

'Tennyo-no-hoshi'

PALMATUM – *variegated*

This medium-sized shrub of upright, twiggy habit eventually reaches about 4–5 m high. Its chief attraction is the unusual, lightly variegated foliage. The small leaves are 5 cm long and 3–4 cm wide. The lobes are extremely narrow, broadest in the middle, and they are separated up to three-quarters of the way to the leaf base. The edges are wavy with the outer half very finely toothed.

The base color is a strong green with the variegation a cream or light cream green. The markings are almost entirely confined to a fine edging entirely around each lobe, with light tones reaching up to a quarter of the area of the lobe. With the occasional stronger color break,

the lobes develop a curve or twist. From a distance, the entire effect is a delicate cloudlike appearance. The fall colors, while not strong, turn to a pleasant mixture of pale reds and rose.

This cultivar is a strong grower and seems sturdy in the garden landscape. With age, it becomes more densely covered on the outside and self-prunes on the inside. The overall texture makes it appear delicate, and it blends in well with a background of heavier foliage. It grows well in full sun where the variegation has pink tones.

'Tennyo-no-hoshi' was selected and registered by Maplewood Nursery. 'Ao kanzashi', a later cultivar imported from Japan, appears to be very similar in habit, leaf shape, and variegation. The name 'Tennyo-no-hoshi' means "angel's star." This cultivar has been known under the names 'Tanyo-no-hoshi' and 'Teyono hoshi'.

'The Bishop'

PALMATUM – red

This maple is one of the late Henry Hohman's selections. Hohman's ability to select outstanding plants for propagation was one of his well-known attributes. 'The Bishop' has seven-lobed, fairly deeply divided purple-red leaves balancing between the Palmatum and Matsumurae Groups. The leaves measure 6–7 cm long and 7–8 cm wide, with slender petioles 4–5 cm long. The lobes extend outward and are divided about three-quarters of the way to the leaf base. Each lobe is oblong-ovate, gradually tapering to a long slender point. The margins are uniformly and finely serrated. The purple red is bright in the spring and does not bronze until late summer. The fall color is an excellent crimson. This upright-growing tree is vigorous and hardy, and reaches 4 m at maturity.

'Tobiosho'

PALMATUM – green

This otherwise normal green palmatum comes alive in the fall with its vivid scarlet coloration. It was selected in 1982 by Milt Tobie, production manager at Iseli Nursery, Boring, Oregon, and named after him. The small five-lobed typical palmatum leaves are divided up to three-quarters of the way to the leaf base and are slightly longer than wide, 5–5.5 cm long and 4–5.5 cm broad. The ovate lobes with tail-like tips are 12–14 mm wide at the broadest point in the middle, narrowing slightly toward the lobe junctions. The margins are distinctly double toothed. The stiff, slender red petioles are 3–4 cm long. 'Tobiosho' grows into an upright, wide-topped medium-sized tree.

'Toyama'

DISSECTUM – red

This very old name in Japanese literature has 'Sotayama' as a synonym. 'Toyama' is sometimes referred to as a synonym of 'Ornatum' but, although the growth, habit, leaves, and color are similar, 'Ornatum' is believed to be of European origin. 'Toyama' would seem to differ in the manner and timing of the change of color to crimson red in the fall.

'Toyama nishiki'

DISSECTUM – variegated

The basic leaf color is purple red to greenish red, variegated to a greater or lesser degree. Some leaves lack variegation; others are completely pink as they first open in the spring. Most markings are pink or white and insert into portions of the lobes or blend into the leaf in endless variation. Each leaf has a different pattern. When the plant is grown in shade, its colors are more intense



'Tobiosho'. Photo by Harry Olsen



'Toyama nishiki'. Photo by Cor van Gelderen

and hold better into the heat of summer. The leaves sunburn easily.

The leaves are typical of the dissectums with seven or nine lobes, double-dissected, pinnatifid, and lacy. However, these finely divided leaves appear to droop more than other dissectums do, because slight distortions occur at or near the variegated areas. The leaves are 6–8 cm long and wide, and the petioles are 3–4 cm long.

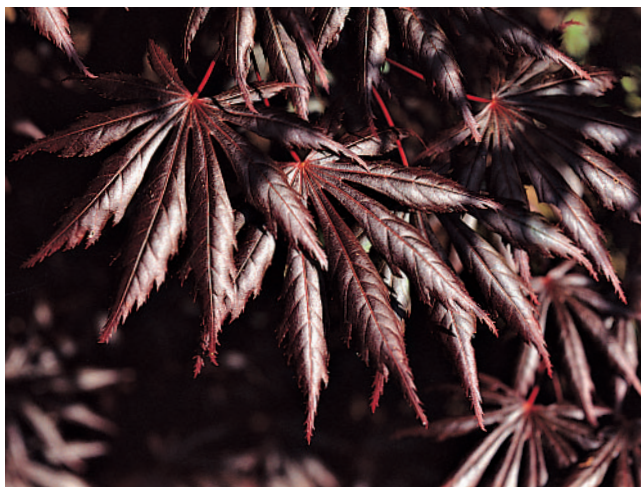
This rather tender and not very robust maple needs considerable care and attention. It should be grafted high or staked when young to get more height. It is difficult to propagate and is not common in collections. The following are also considered synonyms, alternate spellings, or misspellings of this cultivar—'Sotoyama nishiki', 'Toya nishiki', and 'Yamato nishiki'.

'Trompenburg'

MATSUMURAE – red

This outstanding cultivar was a chance seedling selected by J. R. P. van Hoey Smith at the Trompenburg Arboretum, Rotterdam, Netherlands, and introduced by Firma C. Esveld, Boskoop, Netherlands. It is popular wherever it is grown.

The unusual leaves have seven or nine lobes and are 6–8 cm long and 9–12 cm across. The lobes separate deeply to within 1 cm of the leaf base. They radiate laterally and evenly, giving the appearance of fingers extended from a hand. Each lobe is oblong-ovate. However, the edges roll down for three-quarters of the way, almost forming a tube. The remaining quarter flattens to display the deeply serrated margins. The tips of the lobes turn slightly down on mature leaves. This extraordinary leaf



'Trompenburg'. Photo courtesy of Oregon State University Archives, Corvallis

gives an unusual and pleasing effect to the whole tree. The stiff petioles are 2–3 cm long and a good red color.

The foliage color is also an outstanding feature. It is a rich, deep purple red and lasts exceptionally well into late summer. Even in full sun the leaves do not burn but later change to a deep reddish green and bronze. The fall coloration of crimson completes a colorful year.

This upright-growing cultivar—strong but not unruly—reaches 6–8 m high and 4–5 m wide. The parent plant at the Trompenburg Arboretum shows a tendency to broaden as it grows older. The branches begin to extend laterally, with the fingerlike leaves reaching outward and down. This cultivar has become a favorite for landscaping.

'Tsuchigumo'

PALMATUM – green

The name means “ground spider.” This delightful semi-dwarf cultivar has small leaves of the Palmatum Group. When the new growth first unfolds, the leaves are a rust red, soon changing to bright green. This color holds well all summer and does not burn in full sun. Fall color is bright gold, with crimson edging blending into the gold tones.

The interesting leaves have five or seven lobes separated to about 1 cm from the leaf base. The leaves are 2–4 cm long and wide on old wood, to 5 cm long and wide on vigorous new growth. On old plants the twigs are closely spaced. The lobes are elongate-ovate, tapering gradually to a sharp point, and they radiate outward. The



'Tsuchigumo'. Photo courtesy of Oregon State University Archives, Corvallis

margins of the lobes turn slightly upwards and are conspicuously serrated. The ends of some lobes turn slightly downward, while others curl completely under. These leaves compare with those of 'Shishigashira' but are not quite as convoluted. The stiff petioles are 1–2 cm long.

This excellent small tree reaches up to 4 m at maturity. It grows slightly faster than 'Shishigashira' at first but does not grow as tall and, although the stems are sturdy, they are not as stubby or thick. One Japanese reference claims that "this cultivar is not seen in Japan in these days." Apparently it is one of those lost when horticulture was interrupted during World War II, but has now been reintroduced.

'Tsukomo'

DWARF – *green*

This delightful dwarf is stubby and upright. Even young plants grow only 5–10 cm per year, while the leading shoot of older plants grows 5 cm or less. The leaf placement is very thick since the buds are closely arranged on the shoots. It is multibranched and makes a dense, dwarf mound reaching 1–1.5 m high and wide. The stems are very stiff and upright.

The new leaves unfold a bright, rusty red. As the leaves develop, they become a light red green, maturing to a rich, deep green. This effect is quite beautiful as the shoots develop and all these color phases appear from the top of each shoot to the base. In the fall, the yellow-gold colors are very strong.

The bright green leaves are five lobed, some with very



'Tsukomo'. Photo courtesy of Oregon State University Archives, Corvallis

tiny pairs of basal lobes. The leaves vary from 3 cm long and wide to as much as 6 cm. On young plants, the large leaves form on the lower half of the current growth. Leaves on the older wood are always smaller. The deeply divided leaf lobes are ovate and gradually taper to an elongated tip. The margins are sharply double serrated and conspicuous. The entire leaf tends to stick out stiffly sideways. The stiff, green petioles are 1–2 cm long.

This very choice and delightful dwarf, unlike most of the Dwarf Group, tends to grow upright. It is extremely difficult to propagate, and new grafts grow very slowly. The name has been misspelled 'Tsukumo'.

'Tsukubane'

PALMATUM – *red*

The red leaves of this cultivar have seven lobes which are divided two-thirds or more of the way to the leaf base. In the center, the lobes hold close together but radiate at the ends. The leaves range from 4 to 8 cm long and from 5 to 9 cm wide. The vigorous growth of newer shoots can produce even larger leaves. The thin leaves are almost translucent, and the leaf base is mostly truncate. The lobes are broadly ovate and taper to a long, slender point. The edges are regularly and delicately serrated. The petioles are 3–4 cm long.

The spring foliage is light red with a green cast to the center of each lobe. This color quickly changes to a deeper brick-red tone, maturing as a deep greenish red. The green midveins are quite prominent. By late summer the leaves are a rich green with a slight tinge of dark red. Fall color is a brilliant orange crimson.



'Tsukubane'. Photo courtesy of Oregon State University Archives, Corvallis

A fairly vigorous, tall, upright-growing tree, ‘Tsukubane’ branches sideways and forms a broad-topped tree up to 7 m or so at maturity. The name means “the ridge of Mount Tsukuba.” This cultivar has distinct color tones to add to the garden landscape. It was popular in the 1800s but is not widely known today.

‘Tsukushi gata’

AMOENUM – *red*

This tree attracts attention in any garden. The rich purple-red or black-red leaves are spectacular and hold their color quite well all season, so this remains a dark-foliage tree. However, on the shaded sides and leaf undersides, a green cast develops under the dark tones. The midveins of each lobe are a noticeable green contrast. The beautiful fruits are almost a chartreuse color and seem to sparkle among the deep-toned foliage.

The seven-lobed large leaves are 7–9 cm long and 8–10 cm wide. They appear much longer than broad, however, because the center lobes are predominant. The lobes radiate stiffly and are divided to about halfway to the leaf base. They are broadly ovate, tapering to a sharp point. The appearance is almost star shaped. The light yellow-pink petioles are 4 cm long.

This strong-growing plant forms a medium-sized round-topped spreading tree of 4 m or more tall and almost as wide. It is one of the better dark-toned cultivars but not widely known. The difficulty in translating the first syllable accounts for the numerous spellings of this name—‘Chikishi gata’, ‘Chikushi gata’, ‘Shikishigata’, and ‘Shikushigata’. The cultivar is named for a bay on the Japanese island of Kyūshū.



‘Tsukushi gata’. Photo courtesy of Oregon State University Archives, Corvallis

‘Tsuma beni’

AMOENUM – *green*

The outstanding feature of this cultivar is the lobe tip coloration of the beautiful spring foliage, a feature which gives rise to its name which means “red nail.” The light green lobes have purplish red tips and upper margins, the purple red blending into the light green of the leaf center. This color combination continues well into early summer, then gradually diminishes and matures into a shiny, darker green. Red colors dominate in the fall.

The leaves have five or seven lobes which are separated one-third to halfway to the leaf base. They are 5–8 cm long and slightly broader. Each lobe is ovate, terminating in a narrow tip. The margins are lightly and regularly serrated. The reddish green petioles are 2–3 cm long.

This maple is not a fast-growing plant but more of a rounded bush, reaching up to 3 m tall at maturity and almost as wide. It becomes twiggy and rebranches, is somewhat tender, and is not easy to propagate. The spring foliage always attracts attention. It makes a very pleasant companion plant for dissectums and other shrubs.

‘Tsuma gaki’

AMOENUM – *green*

This cultivar closely resembles ‘Tsuma beni’, with which it is often confused. The spring color phase is quite similar. As the foliage unfolds, it tends to droop from the petiole, adding a softness to the general appearance of the plant. The color at this time is a very soft yellow green. The tips of the lobes are shaded with a blend of tones which are difficult to describe. Colors range from



‘Tsuma beni’. Photo courtesy of Oregon State University Archives, Corvallis

a persimmon red to a light purple-red combination. The summer foliage is deep green. Fall colors are a range of crimson and reds.

The leaves are five lobed, sometimes seven lobed, and measure 6–8 cm long and 7–9 cm wide. The lobes are ovate but taper to a slender tip, and are separated to about halfway to the leaf base. The margins are evenly and lightly serrated.

This maple is not a tall-growing cultivar but forms a round-shaped plant up to 3 m tall and wide. Because of the similarity in name, leaf, and form, 'Tsuma gaki' and 'Tsuma beni' may be confused, but they are distinct cultivars. 'Tsuma gaki' has been misspelled 'Tsuma gari'.

'Tsuru nishiki'

MATSUMURAE—*green*

The interesting leaves usually have seven lobes, occasionally five or nine lobes, varying widely in size from 7 to 12 cm long and from 6 to 11 cm wide. The lobes are widely separated more than three-quarters of the way to the leaf base. They spread slightly and are sometimes twisted at various angles. The lobes are narrow, almost

lanceolate, and terminate in a long, tapering, sharp point. They are less than 1 cm wide. The margins are conspicuously and roughly toothed, and the teeth have fine-pointed tips. The petioles are 4–6 cm long.

The leaves are a deep green with a light tinge of red on the margins. They become darker during the summer.



'Tsuru nishiki'. Photo courtesy of Oregon State University Archives, Corvallis



'Tsuma gaki'. Photo by Cor van Gelderen

The fall colors are quite brilliant with yellow, orange gold, and crimson blended together. The leaves have a firm texture and are not easily sunburned.

The twigs and branches develop an angular framework over time. This cultivar is quite hardy and grows to a sturdy, medium-sized tree up to 5 m tall. A different transliteration system from Japanese to English gives this cultivar the slightly different name of 'Furu nishiki'. Other names under which this cultivar was known are 'Amelopsifolium', 'Ampelopsifolium', 'Laciniatum', and 'Septemlobum'.

'Twisted Spider'

PALMATUM – *green*

This cultivar is an intriguing and strikingly unique green plant. It was discovered, propagated, and named by Harold Johnston as a chance seedling at Johnnie's Pleasure Plants Nursery, Tallassee, Alabama. The name 'Twisted Spider' aptly describes many of the narrow-lobed, sometimes almost spiral leaves of this unusual plant.

It has a combination of fine, narrow and coarse wide-lobed leaves, with most leaves having five, or sometimes seven, deeply cut, almost linear lobes with uneven teeth. These lobes are irregularly twisted and curved. The leaves are 3–5 cm long and wide. Each lobe is 4–8 mm wide at the broadest point at the lower end. The larger coarser leaves are fewer in number but are more broadly ovate and with much coarser irregular toothing. These leaves are 6–8 cm long and 4–6 cm wide. Each lobe is 1.5–2.5 cm wide at the broadest point in the middle. Though the leaves are mostly five lobed, occasionally one or three of the lobes may be absent. The short, slender petioles are 1–2 cm long.

The foliage is medium to dark green and turns a yellow orange in the fall. The petiole and shoots are green. 'Twisted Spider' is vigorous with an upright, slightly pendulous habit. It has reached 2 m high in six years, and its estimated mature height is 3–4 m with a spread of about 2 m.

'Ueno homare'

PALMATUM – *green*

This small-leaved bright green cultivar has five-lobed leaves which are divided more than two-thirds of the way to the leaf base. They measure 4–5 cm long and wide. Each lobe is elongate-ovate and terminates in a long, slender tip. The lobes do not extend uniformly but are on different planes, which gives an irregular appearance to the foliage. The margins are deeply double toothed, with

inner serrations between giving a feathery appearance to the leaves. The stiff petioles are 3 cm long. 'Ueno homare' is one of the bright spring-color group. The young leaves emerge a deep yellow with orange-red edging, changing to yellow green or medium green for the summer. In the fall, they become a bright yellow orange. This little-known cultivar forms a small tree up to 4–5 m tall. It has been known under the name 'Ueno-no-homare'.

'Ueno yama'

PALMATUM – *green*

This medium-sized, upright tree has outstanding colored foliage in the spring. It is one of the 'Katsura' group of spring-color maples, but deeper and brighter orange than 'Katsura'. The medium-sized leaves are five lobed and 5–7 cm long and wide. The lobes are deeply separated to almost three-quarters of the way to the leaf base, and radiate outward in typical palmatum fashion.

'Ueno yama' is one of the first cultivars to leaf out in the spring. The intense orange color dominates the landscape for several weeks and makes quite a splash. As spring progresses, the tones gradually shade into the greens which have quietly blended with the orange. Summer shows a good bright green. The fall colors return to the yellow-orange series.

This good, vigorous tree is hardy and of upstanding habit, although long side branches broaden it with age. It is an excellent accent plant for medium-tall landscape needs and for early spring color.

'Ukigumo'

PALMATUM – *variegated*

The name means "floating clouds" and refers to the subtle variegation of the leaves which gave rise to the ex-



'Ueno yama'. Photo by Harry Olsen

pansion of its name to 'Ukigumo nishiki'. Among the variegated cultivars, this is one of the most outstanding forms. The pastel tones blend in subtle combinations, unlike others which are bolder.

The basic leaf color is light green. The least-variegated leaves have a faint shading of pink on the edges, made up of very minute dots. Most leaves are marked in varying degrees by white or pink spots, sometimes merging into large areas. Other leaves are totally white or light pink. None of the coloration is garish—it is soft. The five-lobed leaves measure 4–6 cm long and wide. The lobes radiate openly and separate three-quarters of the way to the leaf base. They are long-ovate ending in a sharp tip. The lobes that are highly colored do not lie flat but may curl downwards or sideways. Often they are twisted and undulate. The margins are finely and regularly toothed.

This plant is not a rapid grower. The twigs are rather short and slightly multibranched, forming a semidense plant. 'Ukigumo' becomes a tall shrub, probably reaching 3 m after many years.

'Umegae'

AMOENUM – red

This small-leaved form has leaves 4–5 cm long and slightly wider, and a truncate leaf base. The seven lobes are separated about halfway to the leaf base and radiate outward uniformly. They are ovate with a tapered, slender point, and fold slightly upward from the midribs. The margins are lightly serrated. The stiff green petioles are 1–1.5 cm long.

New foliage emerges a bright brick red which soon turns into a bright purplish red. The main veins are a prominent contrasting green. Plants grown in full sun have bright red coloration, while those grown in shade

have more purple with green undertones. The undersurface is very shiny. The foliage color lasts well into late summer. The yellow-green fruits make an attractive contrast to the purple leaves. Fall colors are quite good, mostly crimson tones.

This cultivar is not fast growing. It is upright, yet spreading, and forms a round-topped bush that may reach 5 m at maturity. 'Umegae' has been around for more than 100 years and can be found on maple lists of the late 1800s. The name has also been transliterated from Japanese to English as 'Umegai'.

'Utsu semi'

AMOENUM – green

The name means "grasshopper skin," presumably referring to the shiny, bright green of the broad bold leaves which appear heavy in texture. The margins of new foliage are tinted purple or red. Later in the season the green becomes darker, and in the fall crimson and purple dom-



'Umegae'. Photo courtesy of Oregon State University Archives, Corvallis



'Ukigumo'. Photo courtesy of Oregon State University Archives, Corvallis



'Utsu semi'. Photo courtesy of Oregon State University Archives, Corvallis

inate. The seven-lobed leaves are 6–8 cm long and 9–10 cm wide. The lobes separate widely to about halfway to the leaf base. They vary in width. The five central lobes are broadly ovate, tapering to a short point. The two basal lobes are lanceolate with a sharp point and extend outward. The margins are finely serrated, and the stiff petioles are 2–3 cm long. This hardy cultivar forms a short, round-topped tree which spreads rather widely, reaching 4 m tall and wide. It makes a fine landscape tree and adds contrasting spring leaf texture and excellent fall color.

'Vandermoss Red'

MATSUMURAE – *red*

This cultivar, which can also be found under its former name of 'Christy Ann', has deep purple-red foliage similar in color to 'Bloodgood', but the leaf lobes are narrower, more serrated, more deeply divided and feathery. It holds its color very well throughout the summer until changing to deep orange and vivid red in the fall.

The medium-sized to large seven-lobed leaves, measuring 7.5–9 cm long and 9–11 cm wide, are very deeply divided to less than 1 cm from the leaf base. The lobes are long-ovate with long tail-like tips, 1–1.5 cm wide at the broadest point in the middle and narrowing markedly to only 2 mm at the lobe junctions. The margins are distinctly double serrated with numerous sharp-pointed teeth. The slender red petioles are 2.5–4 cm long. This vigorous plant forms an upright wide round-headed medium-sized tree up to 6 m high. It is wider spreading than 'Bloodgood' but not as tall.

'Variegatum'

AMOENUM – *variegated*

The seven-lobed leaf, typical of the Amoenum Group, is 9–11 cm long and 10–12 cm wide. The lobes are well separated to about halfway to the leaf base. They are ovate, tapering to a strong prominent point. The strong petioles are up to 6 cm long. This upright-growing plant attains the stature of a small tree.

Early sources described crimson variegation in the purple-red leaves. I have seen this cultivar in several places and was never strongly impressed with the leaf coloration most of the year. The fall coloring does redeem it somewhat, with scarlet and crimson variegations, more correctly described as mottling. The plants in the Maplewood collection, received from two different sources, show basically a reddish green leaf during most of the year, followed by the good fall tones.

This cultivar is listed as far back as the late 1800s and has been introduced several times. Evidence suggests that several different clones have been given this same designation. This confusion, plus the poor variegation most of the time, suggest this cultivar is not worth perpetuating. It has also been known under the name 'Atropurpureum Variegatum'.

'V. Corbin'

DWARF – *green*

This unusual dwarf dissectum is an attractive low-growing plant discovered in the 1980s by Dr. Corbin of Portland, Oregon. It stands out for its combination of dark green lace-leaved foliage and prostrate growth, only reaching 1 m tall but spreading about three times as wide. The leaves of 'V. Corbin' resemble those of the well-known 'Viridis' in shape and size, hence the V in its name referring to the latter cultivar.

'Versicolor'

PALMATUM – *variegated*

This plant was one of the more widely distributed cultivars of commercial nurseries in the United States. It is a strong-growing, hardy form and makes an upright tree exceeding 7 m in 25–40 years. The top forms a broadened canopy typical of *Acer palmatum*. Young wood has a bright green bark which darkens as the tree matures, and the new growth progressively becomes more multi-branched.

The leaves are typical of the Palmatum Group, deep green in color with a varied pattern and amount of marking. The white portions consist of streaks, flecks, and blotches and are quite prominent on some leaves. Where variegations are large, that portion of the lobe is sickle shaped and curved laterally. Occasionally, pink colors are noticeable, but not in the profusion characteristic of some other cultivars, such as 'Oridono nishiki'.

The leaves have five or seven lobes which are 4–6 cm long and 5–8 cm wide and which are attached to long, thin petioles 4–6 cm in length. The lobes are ovate-acuminate with elongated tips. The margins are double serrated, in most cases quite shallowly.

Many nursery professionals believe this cultivar reverts to normal unvariegated palmatum as it matures. However, there are 40-year-old trees which have not reverted and have held their variegation well. There are also young trees with most of the foliage unmarked. High rates of fertility may cause lack of variegation. Culture factors which encourage extremely fast growth

often adversely affect foliage color, leaf shape, and amount of variegation. This may be especially true in 'Versicolor'. To assure you are using the best propagating wood during the dormant season, it is advisable to tag or mark the outstanding variegated branches while the foliage is present. By selecting the best scion wood, it is possible to perpetuate the best form of the cultivar.

'Versicolor' has also been known under the names 'Albo-variegatum', 'Aokii', 'Argenteo-maculatum', 'Argenteo-variegatum', 'Argenteum', 'Discolor Versicolor', 'Roseo-maculatum', 'Roseo-variegatum', and 'Roseum'.

'Vic Pink'

DISSECTUM—*green*

This interesting Australian dissectum is of unknown origin. However, its characteristics suggest it may have been a seedling from 'Palmatifidum', as the leaf shape is identical though the size is smaller—8–10 cm wide compared to 12–14 cm. Like the lobes of 'Palmatifidum', the lobes of 'Vic Pink' are sturdy and not deeply dissected but are strongly and coarsely toothed. The great asset of this plant is the brilliant scarlet color in the fall compared to the orange gold of 'Palmatifidum'. It also comes into leaf several weeks later than its formidable parent and has beautiful dark red fruits. In all other respects—vigor, growth, habit, and summer color—the two cultivars are very alike.

'Villa Taranto'

LINEARILOBUM—*green*

This excellent cultivar is from the Villa Taranto, Palanza, Italy. It was propagated and introduced by the Firma C. Esveld, of Boskoop, Netherlands.

The leaves are usually five lobed, measuring 7–9 cm long and 8–10 cm wide. Each lobe is long, narrow, and parallel sided, as is typical of the Linearilobum Group. The lobes are rarely more than 5 mm wide, except for foliage on fast-growing new shoots. The center lobes are longest and create a lacy effect. The margins of the lobes are smooth. The stiff petioles are 2–3 cm long.

The leaves emerge as orange crimson, soon becoming green with a light reddish overtone, creating an unusual color effect. The older stock plants in the Netherlands were most impressive for this pattern. The color is unique and is a compromise between green and purple forms. However, all leaves, young and old, are green when grown in shade. In the fall, the leaves turn a pleasing yellow to gold.

This hardy cultivar forms a dome-shaped plant of 3 m

high. Its growth habit is very similar to that of 'Red Pygmy'.

'Viridis'

DISSECTUM—*green*

The term *viridis* has come to mean any form of green dissectum, just as *atropurpureum* encompasses all the red forms. In old literature, the original Latin description was *folia viridia*, from whence came the general term *viridis*. There may have been a form or cultivar specifically named 'Viridis', but now the name has been applied to many good forms of green dissectum, in the same way the name 'Dissectum' is applied.

The foliage is the "type" for dissectums with usually seven or nine lobes. Each lobe separates entirely to the petiole attachment. The lobes are multidissected or strongly pinnate, and extremely narrow with the deeply cut side separations again re-cut. Some descriptions refer to this as "deeply and doubly serrated in pinnate form." Leaves range from 6 cm long and 7 cm wide on older wood to 10 cm long and 12 cm wide on younger wood. While these dimensions are large, the leaf is not "gross" but has the delicate tracery of the typical dissectum form. The petioles are usually about 4 cm long.

The bright green foliage holds color well through the summer. In extremely hot sun, the tips of the leaves may burn. Partial shade keeps the foliage bright all season. In the fall, delightful gold colors dominate with occasional splashes of crimson.

This strongly cascading maple has long, drooping branchlets that form a dome-shaped plant at maturity. It needs to be grafted high on a standard, or staked dur-



'Villa Taranto'. Photo by Harry Olsen

ing the young formative years, so that it can attain some height from which to cascade. Very old trees (75–100 years) may reach a height of 4 m.

Because several outstanding, named green dissectum cultivars are available now, this cultivar name, like the cultivar names 'Atropurpureum' and 'Dissectum', should be dropped as it has become so diluted as to be meaningless.

'Volubile'

PALMATUM – green

This cultivar has small, palmate, seven-lobed leaves. The two basal lobes are quite small. The leaf tends to cup upward from the petiole. The leaves vary from 3.5 to 5 cm long and from 4 to 6 cm wide, with thin 2-cm long petioles. Each lobe is triangular-ovate, terminating in a narrow point. The margins have light prominent teeth.

The leaf color in the spring is a bright yellow green. The tone is variable but not markedly so. The foliage darkens somewhat during the summer and withstands full sun very well. The fall colors are quite brilliant and range from yellow into rusty rose and on to crimson. The twig color becomes a rusty red.

'Volubile' is very similar to 'Aoyagi' in leaf shape, size,

and color earlier in the season, but does not have the beautiful green twigs of 'Aoyagi'. It is an upright-growing tree, but delicately so, and reaches at least 6 m high at maturity. The twigs are unusually dainty. This plant does not grow as fast as the species does. 'Volubile' has been known under several alternative and misspelled Japanese names, such as 'Aoba fue', 'Aoba fuke', 'Aoba-no-fue', and 'Aoba-no-fuye'.

'Wabito'

MATSUMURAE – green

These very unusual leaves have three or five lobes, each a slightly different shape. When the leaf is three lobed, the two rudimentary lobes remain only as tiny spurs at the leaf base. The leaves vary from 3 to 5 cm long and wide. The lobes, separated almost to the leaf base, are shallowly or deeply toothed. These lobes are smooth or serrated, flat or twisted, slender or broad, short or elongate, or any combination of these. The pattern varies from one side of the lobe to the other, as well as between lobes and leaves. The total effect is a pleasing tattered appearance. The petioles are 1–1.5 cm long.

The basic color is green. However, the margins are strongly edged with rose or rusty red, especially on new



'Viridis'. Photo courtesy of Oregon State University Archives, Corvallis

foliage. Summer color remains green, changing to a good scarlet in the fall. This plant usually forms a small shrub up to 1.5–2 m tall, but can reach a height of 3 m. It tends to be fastigiate. It is not a sturdy cultivar and is not easily propagated. It appears in maple lists as long ago as 1710. The name 'Wabito' means "lonely person" and has been spelled 'Wabibito' in the past.

'Waka momiji'

PALMATUM—*variegated*

No description of this plant can be found in the old literature. It has a five- or seven-lobed leaf of the Palmatum Group. The leaves measure 5–6 cm long and 5–7 cm wide, and the lobes are separated to just under three-quarters of the way to the leaf base. Each lobe is oblong, terminating in a long, slender prominent tip. The lobes radiate outward, but the 3-cm middle lobes appear longer. The margins are lightly serrated. The red petioles are 4 cm long.

The foliage has a yellow-green cast. The white variegation may consist of a few flecks to entire portions of



'Wabito'. Photo courtesy of Oregon State University Archives, Corvallis



'Volubile'. Bright fall coloration. Photo courtesy of Oregon State University Archives, Corvallis

the lobe, but is often entirely absent. In spring some new foliage may be pink but not strongly marked. Its variegation intensity is between that of 'Versicolor' and 'Oridono nishiki'. The stems of this cultivar are quite red during the growing season, in contrast to the green twigs of 'Versicolor' and 'Oridono nishiki'. This vigorous, upright, medium-sized tree forms a tall round-topped plant, probably reaching well over 7 m after 25 years.

'Wakehurst Pink'

MATSUMURAE – *variegated*

This large-leaved deeply divided cultivar has greenish leaves which are pink flushed in the spring, becoming greenish bronzed with pink dots and blotched variegation. However, like many maple variegates, the richer the growing conditions, the less the variegation until it disappears altogether. A curious feature of 'Wakehurst Pink' is that, sometimes, on fully developed leaves, the outer lobes are deeply divided to within 5 mm of the leaf base whereas, with the central lobe, the lobe junctions are 1.5–2 cm from the leaf base.

The large-lobed leaves are 8.5–9.5 cm long and 10.5–12 cm wide. They are long-ovate with tail-like pointed tips, and regular sharp-pointed hooked teeth around the margins. The basal lobes tend to spread at right angles to the petioles. The purple-red petioles are 3–4.5 cm long with swollen bases.

The upright growth habit is similar to that of 'Nicholsonii', forming an open-branched tree growing up to 4 m tall and nearly as wide in 15 years. The original plant is growing at Wakehurst Place Gardens in Sussex, England, and was noticed by D. M. van Gelderen and named and

propagated at his Firma C. Esveld, Boskoop, Netherlands, in the late 1980s.

'Waterfall'

DISSECTUM – *green*

The leaves are slightly larger than those usually seen in the green Dissectum Group but otherwise typical. They range from 7 to 12 cm long and from 8 to 12 cm wide. The lobes hold together closely and have a cascading tendency. There are seven or nine multidissected lobes, with each lobe narrowly pinnatifid and re-incised. The distinguishing feature of this cultivar is that the leaves have a longer, more flowing appearance as they cascade down the outside of the mature plants. The petioles range from 3 to 4 cm long. The foliage is a good, bright green which is retained well all season. The plant stands full sun very well. The fall colors are brilliant gold tones suffused with crimson blends.

The branch development is strong and sturdy. Branches on top of the plant slowly add height to the cultivar as it matures. However, young plants should be staked or grafted quite high to attain height. The side branches cascade strongly. This cultivar is hardy and beautiful.

The original plant at the Willowood Arboretum, Gladstone, New Jersey, was 3 m high and 4 m wide in the mid-1970s. Benjamin Blackburn (pers. comm.) discussed the origin of this plant, which was a selected seedling named by Henry Hohman in the 1920s. The beautiful cascading character gave this maple value as a separate cultivar. It has been known under the name 'Dissectum Waterfall'.



'Wakehurst Pink'. Photo by Harry Olsen



'Waterfall'. Photo courtesy of Oregon State University Archives, Corvallis

'Whitney Red'

PALMATUM—*red*

This vigorous tree, with medium to deeply cut leaves, is notable for the intensity of its leaf color. The leaves emerge a deep purple red with purple venation, and retain their color well into late summer when the upper surfaces become a bronze red, while the undersurfaces are suffused with green. The fall color is a vivid scarlet.

Each five- or seven-lobed large leaf is up to 9–10 cm long and 10–12 cm wide, and has a heart-shaped to straight base. The lobes are ovate with tail-like tips, divided two-thirds to three-quarters of the way to the leaf base, 6–7 cm long and 1.5–2 cm wide at the broadest point in the middle. The lobes narrow slightly to 1–1.5 cm at the lobe junctions. The margins are coarsely double toothed on young leaves, becoming more regular and even as the leaf develops fully. The strong, dark red petiole is 2.5–4.5 cm long and has a swollen base.

'Whitney Red' is vigorous with a similar growth habit to that of 'Bloodgood', becoming 6–8 m tall as it matures. An American discovery, it was found as a chance seedling at Whitney Gardens, Brinnon, Washington.

'Willow Leaf'

LINEARILOBUM—*red*

This red linearilobum is similar to 'Red Pygmy' in leaf shape and color, growth rate, and habit. The leaf lobes are slightly shorter and the shoots sturdier. The young leaves are bright orange red, soon becoming a deep purple red, a color which lasts well throughout the summer. The five-lobed straplike leaves are 7–9 cm long and 9–11 cm wide. Each lobe is linear to long-ovate, 5 mm wide, with long tapering tips. The margins are sparsely and



'Whitney Red'. Photo by Cor van Gelderen

finely toothed. The slender red petioles are 2–2.5 cm long. On vigorous young shoots, the leaves are more matsumurae-like with broader lobes up to 1 cm wide and numerous shallow fine-pointed teeth along the margins. 'Willow Leaf' forms an upright, round-headed small tree up to 3 m high, with graceful semipendulous branches and foliage.

'Wilson's Pink Dwarf'

DWARF—*green*

This delightful, upright shrub has tiny leaves which are very colorful in the spring. They are usually five lobed and a bright, light green tone. This is the summer color and the base color of the older foliage. In early spring, however, the entire plant is a light, bright pinkish or pink-red color. It is brilliant, quite noticeable in the landscape, and this color phase lasts for several weeks. As the summer season advances, the base green leaf color increases with the pink to rusty red tones continuing. Under some growth conditions, there is even some mottling.

The new foliage is rather small, 1.5–2.5 cm long and



'Wilson's Pink Dwarf'. Photo by Cor van Gelderen

wide, though the length is usually a little greater due to the long center lobe. The lobes are rather slender, have serrated edges, and vary in shape depending upon the intensity of the coloration. Leaves on older wood are more truly palmate, larger by 0.5 cm, and more uniform in shape.

This fine shrub always attracts attention in the spring. It grows well, is vigorous but not rank, and can develop twiggy. It is a welcome addition to the Dwarf Group and was first selected as a seedling by James Wilson of Peters and Wilson Nursery, Millbrae, California.

'Winter Flame'

MATSUMURAE – *green*

This outstanding New Zealand cultivar was introduced by Duncan and Davies Nursery of New Zealand, and is a dwarf, compact bushy form of 'Sango kaku', but with more deeply divided leaves. It has small to medium-sized seven-lobed deeply divided leaves which are 4.5–6.5 cm long and wide. The three middle lobes are ovate-triangular with tail-like pointed tips, 10–15 mm wide at the broadest point in the lower third, narrowing to 3–4 mm at the lobe junctions which are within 5 mm of the leaf base. The small but distinct basal lobes are angled backward and outward. The slender red petioles are 1.5–3.5 cm long.

'Winter Flame', like 'Sango kaku', has lovely soft lime-green spring foliage contrasting beautifully with the pink red shoots. The leaves become light green through the summer, turning an attractive yellow-orange-red-mottled color in the fall and becoming a light crimson red. It has the same bright coral-red winter shoots as 'Sango kaku', but differs in remaining compact and bushy, reaching no more than 3 m at maturity. This cultivar is an ideal semidwarf compact maple for the small garden with colorful features year-round.

'Wou nishiki'

MATSUMURAE – *green*

The interesting leaves of this cultivar are deeply divided into (five or) seven lobes which are widely separated. The leaves measure 4–6 cm long and 5–6 cm wide. Each lobe is elongate-ovate and separated almost entirely to the center. The leaf base is cuneate. The lobes taper from the center to a long, sharp terminal. The margins are deeply toothed, almost pinnatifid, with light serrations on the larger teeth. The thin reddish petioles are 2 cm long.

The new leaves are a bright, almost yellow, green. The edges are strongly tinted with bright rose to rusty red which shades into the leaf. The center of the lobes usu-

ally remains green. As the summer progresses, the rose tints fade out and the leaves become a bright, light green. They take full sun quite well but bronze in extreme temperatures. The fall color is a variable bright crimson tone.

This upright-growing plant reaches about 4 m high at maturity and tends to be fastigiate, producing many small branches and twigs. It has also been known under the alternative translations 'Nou nishiki' and 'O nishiki'.

'Yasemin'

MATSUMURAE – *red*

This outstanding cultivar from Firma C. Esveld, Boskoop, Netherlands, has large, deeply cut, shiny, red leaves and, like the similar 'Trompenburg', is thought to be a cross between *Acer palmatum* and *A. shirasawanum*. It has very attractive deep red foliage and red fruits. The leaves are a darker color and have slightly flatter and wider lobes with larger teeth than those of 'Trompenburg'. The leaves hold their color well into the summer, slowly becoming a bronze green on the upper surface. The lower surface turns a gray green with light purple bronzing toward the tips in late summer. The bark of the older shoots is a contrasting green.

The seven- or nine-lobed leaves are 9–10 cm long and 8–9 cm wide, with lobes well spread out to produce almost circular leaves. The lobes are long-ovate with sharply pointed tips; the width of the broadest point of the lobe in the outer third is about one-third of the lobe length. The lobes are divided to within 5–10 mm of the leaf base. There are large, coarse saw-teeth on the mar-



'Wou nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

gins of the outer half of each lobe. The lower half is untoothed. The lobe edges have just a hint of being curved downward, but not to the extent seen in the leaves of 'Trompenburg'. The red petioles are 4–5 cm long.

'Yasemin' is a vigorous upright-growing tree to 10 m high. It originated as a chance seedling in a batch of seedlings, and was noticed by Cor van Gelderen at Firma C. Esveld and named after his daughter Mirte Yasemin. Interestingly, the original plant seems to display the influence of several nearby trees—the color of 'Bloodgood', the habit of 'Trompenburg', and the leaf shape of *Acer japonicum* 'Aconitifolium'.

'Yatsubusa'

DWARF—green

Yatsubusa is a general term meaning "dwarf" in Japanese. It can be compared with the general term *dissectum*, embracing all the relations and cultivars of this type. Several plants have been labeled 'Yatsubusa' as a cultivar name in various collections and arboreta. They vary in size of plant, leaves, and rate of growth. Although each is truly a *yatsubusa*, this term should not be used as a cultivar name. There are many named *yatsubusa* clones which are correctly designated with cultivar status, such as 'Hime yatsubusa', 'Sekka yatsubusa', and 'Shishi yatsubusa'.

The *yatsubusas* of *Acer palmatum* may be generally described as having small, palmate leaves with five or seven lobes which are short-ovate and usually separated more than halfway to the leaf base. Each lobe normally terminates in a short point, and the margins are usually distinctly serrated. The leaves measure 2–4 cm long and

about as wide. The center lobe is usually more prominent. The petioles are stiff and 1 cm long.

The basic leaf color is green. The new foliage unfolds with a shading of red along the margins, which is rather typical of many green *palmatum* seedlings. This red soon fades out into the solid green of summer. Fall colors are a mixture of yellows or reds, sometimes on the same plant.

The *yatsubusas* all form small, compact, shrublike individuals. Some selections grow more upright, while others tend to grow laterally. All are popular for bonsai, having the dwarf character as well as the ability to produce large numbers of tiny side branches, thus making a dense plant.

'Yezo nishiki'

AMOENUM—red

This brilliant cultivar has a rich, bright reddish purple spring color which becomes deeper as summer advances. In late summer the leaves become red bronze, but in deep shade are greenish. Fall tones are brilliant crimson and scarlet.

The seven-lobed leaves are of a firm texture, measuring 5–7 cm long and up to 9 cm wide. The leaf base is roughly truncate. The lobes separate to about halfway to the leaf base. Each lobe is ovate-acuminate, with the end tapering to a sharp point. The margins are evenly and finely serrated. The red petioles are slender but not weak and 3–4 cm long.

This upright, widespreading tree reaches 6–7 m high in 25 years. The young plants grow rapidly, then slow



'Yasemin'. Photo by Cor van Gelderen



'Yatsubusa'. Photo courtesy of Oregon State University Archives, Corvallis

and thicken to form a broad arching top with a spread of about 4 m. 'Yezo nishiki' is a hardy, sturdy selection. Other names by which it has been known are 'Ezo nishiki', 'Jedo nishiki', and 'Sinuatum'.

'Yūbae'

MATSUMURAE – *variegated*

This tall-growing, red-leaved cultivar has occasional variegation. After observing it at Maplewood for six years, I named and registered it as 'Yūbae', which means "evening glow." As the original stock plant matured and young grafts were forced, it appeared to become less and less variegated until as a 15-year-old stock plant, the variegation only occurred in small amounts on twiggy wood of older growth. The main foliage is not variegated and seems to increase year by year. Young plants, if forced with fertilizer into rapid growth, very rarely show variegation.



'Yezo nishiki'. Photo by Peter Gregory



'Yūbae'. Photo courtesy of Oregon State University Archives, Corvallis

The leaves usually range from 5.5 to 10 cm long and from 5.5 to 12 cm wide. Extremely large leaves tend to occur on the bold new shoots and may be up to 15 cm long and wide. The lobes separate four-fifths of the way to the leaf base and radiate strongly outward. Each is ovate with a tapering acuminate tip. The margins are slightly and irregularly toothed. The color is a strong, bold dark red, black red, or maroon red. The more exposed to full light, the darker the tones. Leaves inside or shaded by other trees show a strong undertone of dark green. The variegation, where it occurs, consists of patches and blobs of a lighter pink red on the deeper base red.

The foliage is rather pleasant and attractive, even if no variegation is present. 'Yūbae' makes a good dependable red cultivar, but may be a disappointment if grown as a variegated plant, as the variegation cannot be relied upon. It forms a sturdy medium-sized tree reaching 5–6 m high at maturity.

'Yūgure'

PALMATUM – *red*

'Yūgure', whose name means "twilight," is an old cultivar found in the Japanese literature as early as 1710. The new foliage is crimson and later turns to a rust tone. In summer, green tones suffuse into the reddish leaves. The fall color is a variable red-crimson hue. The leaves have seven lobes separated at least two-thirds of the way to the leaf base, and are 6–7 cm long and 8–9 cm wide. Each lobe is ovate, terminating in a sharp point. The inner third con-



'Yūgure'. Photo courtesy of Oregon State University Archives, Corvallis

stricts to only 5 mm wide at the lobe junctions. The margins are lightly serrated. The petioles are 4 cm long.

This hardy, upright form has quite slender branches. Young plants grow vigorously, but as they mature the growth rate slows, and an upright round-topped tree is formed. The tree reaches 5 m or so high at maturity.

Unfortunately, there was confusion about this cultivar. A small-leaved green palmatum type was sometimes wrongly sold under this name. Possibly it resulted from the understock overcoming the original graft. Descriptions in old Japanese literature, as well as illustrations in more recent publications, leave little doubt about this reddish-leaved cultivar.

'Yuri hime'

DWARF – *green*

The foliage of this little cultivar, one of the dwarfest, lies closely over the shrub, due to the short annual growth

and closeness of the nodes and buds. The appearance is like a covering of feathers.

The leaves are small, but of a fair size when considering the tightness of the plant, ranging up to 3 cm long and 4 cm wide. However, the five lobes are very long and narrow and are separated four-fifths of the way to the leaf base. They are very narrowly elongate-ovate and terminate in a very long, tapered point. The delicate edges are finely toothed. Long, thin petioles, equal to the length of the leaf blade, allow the leaves to layer down over one another. Leaf color is a fairly strong but light green which holds well during the growing season but does not produce an outstanding fall color.

This tiny shrub is difficult to propagate since the amount of annual growth is quite limited. Although it is quite small, it seems very hardy and takes full sun and exposure. When available, it is a gem for miniature landscapes, such as alpine gardens.



Acer sieboldianum in fall coloration. Like many other species of *Acer* from Japan, *A. sieboldianum* is as desirable as the “Japanese maple” of the horticultural trade but is not as well known.
Photo courtesy of Oregon State University Archives, Corvallis

CHAPTER 6

Other *Acer* Species from Japan and Their Cultivars



While chapter 5 covers *Acer palmatum* and its cultivars, this chapter includes all other species of *Acer* found in Japan and their cultivars. It also covers *Acer* species that have been cultivated and selected for particular characteristics by Japanese horticulturists. While this latter group of maples is not originally native to Japan, its members have been so widely cultivated that they have been grouped with the Japanese maples in the nursery trade. Two examples are *A. buergerianum* and *A. circinatum*.

Acer argutum Maximowicz (1867)

COMMON NAME: Pointed-leaf maple

JAPANESE COMMON NAMES: Asanoha kaede, Miyama momiji

This delightful small tree makes an excellent companion plant in combined landscaping. It has beautiful foliage and forms a well-shaped, compact tree which matures at 8–10 m high. The small five-lobed leaves are 5–9 cm long and wide, divided about halfway to the leaf base, prominently veined, and covered in fine white hairs beneath. The lobes are broadly triangular-ovate with acuminate tips. The conspicuous, sharp double teeth on the leaf margins give rise to the specific name *argutum*, meaning “sharp toothed.”

Acer argutum is among the most overlooked maples, yet one of the most attractive once you catch sight of the remarkable symmetry of the pretty green leaves with their uniform sharp teeth—highlighted when the foliage turns a clear even yellow in the fall. This species is confined to Honshū and Shikoku Islands in Japan, growing in the upper temperate to lower subalpine mountain forest zones at elevations from 800 to 2000 m above sea level. It grows along moist streamsides and in forests of the lower mountain slopes.

Acer buergerianum Miquel (1865)

COMMON NAME: Trident maple, Three-pronged maple

JAPANESE COMMON NAMES: Hana zakura, Kakunimo, Sankaku kaede, Te kaede, Toyama kaede

This beautiful species is in the small tree class. It matures in the landscape at about 10 m high. Under the most favorable culture conditions, it may exceed 12 m. It has been used in many countries for street plantings since it adapts well to dry conditions and to air pollution from traffic, and has good structural strength. It has an upright growth pattern.

The leaves have a glossy green upper surface with ivy-like texture, glaucous green underside, narrow angled or rounded base, and three forward-pointing lobes—hence the common name. The leaves are 5–10 cm long and 4–8 cm wide, each having a distinctive three-nerved venation, one nerve (or midrib) to the tip of each lobe. The leaves are glossy red when they first emerge. The fall coloration is a spectacular blend of oranges, reds, and purples in interesting and variable combinations. Since the leaves are shiny, the colors are very brilliant. The fall color appears late in the season, with the leaves often not falling until late November or early December.



Acer argutum. Photo by Peter Gregory



Acer buergerianum in fall color. Photo courtesy of Oregon State University Archives, Corvallis

Acer buergerianum is also excellent and widely used in bonsai. It dwarfs well in container culture, and the leaves become quite small as the plant adapts to the training of bonsai methods.

This maple is full of anomalies. It was named from a tree in Japan, yet is native only to eastern China and Taiwan. It was introduced into cultivation in Japan many centuries ago, liked the conditions, and became “native”—rather like the European sycamore in England. This species is included with the maples from Japan because Japanese horticulturists have developed many interesting cultivars from it. These are usually included in lists of Japanese maples in the trade.

One supposed cultivar, ‘Jako kaede’, used to be included in Japanese maple lists for decades as a “musk-scented buergerianum,” and was regarded as a rare form

of maple. Thomas Delendick submitted plant material to the noted authority on leaf venation, Toshimasa Tanai of Hokkaidō University, who identified it as *Premna japonica*, a member of the family Verbenaceae and not a maple at all!

***Acer buergerianum* ‘Akebono’**

This cultivar, whose name means the “day-dawn maple,” is almost exactly like *Acer buergerianum* ‘Goshiki kaede’. It is reported to have slightly more white variegation in the foliage, and when the leaves first emerge they are yellowish with lightly bronzed margins. In Western cultivation, this cultivar is usually treated as synonymous with ‘Goshiki kaede’, because it is almost impossible to tell the difference. However, it is still grown in Japan as ‘Akebono kaede’ and occurs in Japanese collections.

***Acer buergerianum* ‘Eastwood Cloud’**

This pale-colored form has almost pure white spring foliage. During the first few weeks it slowly turns a creamy pink, then progresses into a light green. The green holds well during summer, turning into the excellent red tones of the typical fall coloration of the species. The growth rate of this cultivar is noticeably slower than that of the species. It makes a rounded, small tree. The foliage is larger than that of another white-leaved cultivar, ‘Wakō nishiki’, and measures up to 8 cm long and 5 cm wide. Ron Gordon of Taihape, New Zealand, raised ‘Eastwood Cloud’ from seed. The original plant was selected in 1949. Peter Cave of Cave’s Tree Nursery, Pukeroro, Hamilton, New Zealand, propagated and introduced this plant, and registered its name.

***Acer buergerianum* ‘Goshiki kaede’**

This variegated form of the trident maple has smaller leaves than the species does, ranging from 3 to 5 cm long and wide. The basic color is a rich green with various forms of marking. These variegations range from totally white leaves, through those with half-green and half-white (delineated by the midvein), to those with only small white flecks in the shiny green. Leaves with large white portions are often sickle shaped or distorted.

New growth is often pink to rusty pink in the variegations and later turns to white or cream, often with a yellow sheen. Being so varied in color, this cultivar is called ‘Goshiki kaede’—literally, “five-colored maple.” The growth habit is semidwarf, and it becomes a bushy, shrublike plant. It can be pruned and trained to a single-stemmed, upright, short bush. ‘Akebono nishiki’ and

'Tōyō nishiki' are possibly synonymous with 'Goshiki kaede'.

Acer buergerianum 'Goshiki kosode'

This selection is thought to originate from a chance seedling hybrid of 'Goshiki kaede' and other *Acer buergerianum* cultivars at Maplewood and was originally named 'Sue's Surprise'. It was discovered by Suzanne Olsen, then named and propagated by Howard Hughes of Montesano, Washington. The name 'Goshiki kosode' means "multicolored kimono."

'Goshiki kosode' appears to be similar to the species in vigor and in leaf shape and size, but the leaves are variegated. They do not have the large segments of creamy white variegation as occur in 'Goshiki kaede' but instead offer mottled areas or a dusted mix of cream and green, not unlike that occurring with 'Ukigumo'. This type of variegation has not previously been reported in *Acer buergerianum*. The creamy areas of the emerging young leaves are shaded with pink or red tones.

This cultivar forms an upright small tree and, like most variegated plants, is sensitive to excessive sun and benefits from some shade, especially in the hottest part of the day.

Acer buergerianum 'Iwao kaede'

This cultivar, the "rock maple," is a form of the species whose leaves are slightly larger than those of the type. Each leaf measures 6–8 cm long and 7–9 cm wide with a petiole 3 cm long. The appearance is very broad, since



Acer buergerianum 'Goshiki kaede'. Photo courtesy of Oregon State University Archives, Corvallis

the two side lobes extend sharply at right angles. The leaf base is broadly subcordate. All three lobes are triangular, tapering rapidly to a blunt tip. The three main veins are prominent. New foliage is a dark green red to a bright red, depending upon the amount of shade. It later becomes a very shiny, dark green with a leathery texture. This maple has been known under the name 'Iwao nishiki'.

Acer buergerianum 'Kōshi miyasama'

This strong-growing form makes a densely branched shrubby tree 5–6 m tall. The leathery leaves are 4–5 cm long and wide but are usually larger on vigorous long shoots. The leaf base is rounded and the lobes are short and blunt. This cultivar is similar to 'Miyasama' and was imported to the Netherlands from Japan in 1979.

Acer buergerianum 'Kyūden'

'Kyūden', whose name means "palace," is a very dwarf form of the species. The internodes on the slender twigs are very close together, forming a dense leaf pattern. The leaves are also small, 3–3.5 cm long and 2–3 cm wide, and often distorted. The leaf outline is ovate to triangular-ovate, and the leaf base is cordate. Each lobe is small, irregular, and roundish, with a blunt apex. One or both side lobes may be absent or very small. The petioles are



Acer buergerianum 'Kōshi miyasama'. Photo by Cor van Gelderen

very short. The leaf color is a very shiny, deep green above and glaucous beneath. It has a heavy texture for its size. This rare cultivar is not easily propagated. 'Miyadono' is so like it in size, habit, and leaf that it is often treated as synonymous.

Acer buergerianum 'Marubatō kaede'

The foliage of this form differs from the species in texture and shape. It is bright green in color, firmer, leathery, and not as deeply lobed. The side lobes are short and blunt, and are placed toward the leaf apex. The leaf surface is quite shiny and appears covered with minute pin-point impressions. The leaf base is slightly cordate. The three midveins are prominent in the leaf. The leaves are 5–6 cm long and wide, with the center lobe dominant and gradually pointed. The petioles are sturdy and 2–3 cm long. The fall colors are brilliant, as in the species,



Acer buergerianum 'Kyūden'. Photo courtesy of Oregon State University Archives, Corvallis



Acer buergerianum 'Marubatō kaede'. Photo courtesy of Oregon State University Archives, Corvallis

and are orange red. This upright-growing, small tree is slow to attain its ultimate height of 7–9 m. It forms a multibranched scaffolding and becomes round-topped. It is hardy in most locations.

Acer buergerianum 'Mino yatsubusa'

The very odd leaves of this cultivar are very un-maple-like! They are three lobed, with a long and narrow center lobe. The side lobes are quite short and extend at right angles to slightly pointing forwards. They are situated about a third of the distance or less from the leaf base. The leaf mainly consists of a long, narrow, gradually tapering center lobe which ends in a very sharp point and has irregularly notched margins. The side lobes end in rather blunt points and have mainly plain margins. The sides of all the lobes tend to turn up. The leaves vary in size from 7 or 8 cm long and 5 cm wide on new growth to only 4 or 5 cm long on mature wood. The foliage is a very shiny, rich green, and the texture is firm. The fall coloration is a brilliant combination of scarlet and orange. The shiny leaves have the appearance of being lacquered as the fall colors develop.

This dwarf plant with frequent branching makes a dense, rounded small shrub. New shoots are rarely more than 25 cm long. Leaf nodes are closely spaced on the shoots. Lateral buds occur at the petiole bases and produce tiny new side shoots or small leaf clusters. 'Mino yatsubusa' is hardy, but it is very difficult to propagate and remains one of the rarer forms in cultivation. In many old references, it is included with the *Acer palmatum* cultivars, but that may have been for convenience in grouping it with the Japanese maples. At Maplewood Nursery, we had much difficulty grafting it on *A. buergerianum* stock.



Acer buergerianum 'Mino yatsubusa'. Photo courtesy of Oregon State University Archives, Corvallis

***Acer buergerianum* 'Mitsubatō kaede'**

This form of the species produces a multibranched type of growth because the leaves are placed very close together. The resulting leaf cover is very dense. The foliage is bright green and is a lighter, thinner texture than that of the species. When grown in the shade, the leaves are quite shiny. The leaf forms a distinctive T shape. The long center lobe is twice as long as the two side lobes which extend at right angles to the base. The leaf base is truncate, forming a flat "top" to the T. The two basal lobes measure 4–6 cm across, and the leaf is 4–6 cm long. The margins are notched or lobulate at times. 'Mitsuba kaede nishiki siyou' was imported from Japan in 1975 but cannot be distinguished from 'Mitsubatō kaede', so is treated as a synonym of it. The latter cultivar has also been misspelled 'Mitsuba kaede'.

***Acer buergerianum* 'Miyasama'**

This delightful form of the species has thick, leathery leaves. They are dark green, durable, compact, and glaucous underneath, and measure 3–4 cm long and 2.5–3.5 cm wide. The leaf base is rounded, or approaching cordate. The side lobes are usually short, rounded, and occasionally indistinct as they form an ovate leaf. The center lobe is bluntly pointed. The leaf forms a triangular-ovate outline and has smooth margins. The light green petioles are 2–3 cm long. The fall colors are pleasing tones of yellow and orange. The leaves are persistent, thus prolonging the fall color period.

This form is not as tall growing or rangy as the species. The leaf nodes are close together on the twigs, resulting in a dense placement of foliage. It tends to be a tall shrub, probably not more than about 4 m high. The growth habit is stubby, and it makes a well-rounded shrub. This hardy addition to any landscape is noticeably different. Seed was distributed in early years to many bonsai nurseries, and there are now many old bonsai specimens of this maple.

This cultivar is from the subspecies *formosanum*, indigenous to Taiwan. Prior to the 1940s it was called 'Fushimi kaede'. One of the oldest specimens was in the garden of Prince Fushimi. Now this cultivar is known as 'Miyasama', which means "prince," and is sometimes named 'Miyasama kaede', the "prince's maple."

***Acer buergerianum* 'Miyasama yatsubusa'**

This plant, which is almost identical to 'Miyasama' except for size, is short and stubby and grows only a few centimeters per year. It forms a very dense foliage pat-

tern because the distance between the leaf nodes is only 1–1.5 cm. Since it is also multibranched, the result is a very dense plant.

The leaves are very similar to those of 'Miyasama' and measure 3–5 cm long and almost as wide. Each leaf has three short broad triangular-ovate lobes with short tips, and a rounded to shallowly cordate base. The side lobes are prominent, forming right angles at about the center of the leaf sides. The three midribs are prominent, one in the center of each lobe. The stiff petioles are 2–3 cm long.

The leaves are a bright reddish color as the new foliage develops. As the shiny leaves attain full size, they become the typical bright green. The texture is rather firm, almost leathery. The undersurface is bluish green. Fall colors develop in the yellow-gold tones, with shadings of rose. This delightful dwarf is rather rare in collections and slightly difficult to propagate. It has also been named 'Miyasama kaede yatsubusa'.

***Acer buergerianum* 'Naruto'**

This interesting cultivar is notable for its surprising foliage. Each leaf appears to form a sharp-pointed T. The center lobe is a long triangle, and the side lobes extend at right angles, all being sharply pointed. All three lobes have strongly involute margins, making the lobes appear much narrower. The incurled margins are almost smooth or very lightly toothed. These rolled margins and sharp points accentuate the T shape of the leaf. The leaves are 3–5 cm long and nearly as wide. The petioles are strong and 4 cm long.

The heavy-textured leaves are a deep, rich green. The top surface is shiny, but the undersurface is glaucous, giving a two-toned effect to the foliage. Fall colors are a



Acer buergerianum 'Miyasama yatsubusa'. Photo courtesy of Oregon State University Archives, Corvallis

rich gold, blended with red. This sturdy shrub grows up to 4 m tall and in the early years may grow as much as 1 m in a year. It soon forms a rather dense, twiggy plant. It is a little-known but interesting form of the species, also seen under the name 'Naruto kaede'.

Acer buergerianum 'Nusatori yama'

The leaves of this delicate plant are almost entirely white. As they first emerge in the spring, they have a strong pinkish overtone, which soon turns white or cream. The foliage varies according to the conditions under which this sensitive plant is grown. Leaves are usually 2–3 cm long and wide but may be twice this size under optimum conditions.

The shape of the leaf is triangular, but side lobes are sometimes suppressed into small, rounded portions. Occasionally, the side lobes are entirely lacking, resulting in an ovate leaf. The texture of the leaf is rather thin and delicate. The margins are slightly, bluntly toothed to lobulate. The petioles are short, 1 cm or less, and sturdy. This very slow growing plant reaches about 1 m tall. It rarely forms a long shoot or very strong growth. All twigs and branches are thin.

'Nusatori yama' is extremely difficult to maintain in cultivation. It is also very difficult to propagate. The grafts will heal, but to culture the new graft on into a



Acer buergerianum 'Naruto'. Photo courtesy of Oregon State University Archives, Corvallis

two- or three-year-old plant takes special care and attention. Since the foliage is almost totally lacking in chlorophyll or food-processing tissue, it is necessary to leave a small amount of the understock, which should produce the normal green foliage which in turn helps sustain the cultivar graft, through photosynthetic support.

This cultivar is not particularly beautiful or attractive, but it is of considerable interest to the collector of rare plants. It should be grown in full shade to prevent complete leaf scorch from the direct sun. It also seems quite sensitive to mold or fungi which destroy the buds and leaf tissue.

Acer buergerianum 'Subintegrum'

This maple is hardy and grows into a shrubby tree with leathery leaves which are only slightly three lobed. The leaves are shiny green above, glaucous beneath, and 5–7 cm long and nearly as wide. 'Subintegrum' is similar to 'Kōshi miyasama' but with longer and less obviously lobed leaves. It has also been known under the name 'Integrilobum'.

Acer buergerianum 'Tanchō'

This cultivar is much like 'Naruto' in foliage but develops into a more dwarf shrub. The leaves measure 2.5–4 cm long and wide, and the slender petiole is almost as long. Each leaf is strongly three lobed with the lobe margins rolled tightly involute. The rolled margins are slightly toothed, but this feature is hidden. As the center lobe and the two side lobes are tightly rolled, the leaf appears to be T shaped. The leaf cups upward from the petiole.



Acer buergerianum 'Nusatori yama'. Photo courtesy of Oregon State University Archives, Corvallis

The leaves are bronze red when first appearing, becoming a deep, rich green above, with the lower surface glaucous. Since both sides show on each leaf because of the curling, the foliage appears two toned. The leaves are set closely on the twigs, forming a dense pattern. There is also much side branching at the nodes of the main shoots.

This dwarf maple may grow 8–12 cm per season. Since it is multibranched, it becomes rather dense and shrubby. It is a most unusual and little-known form of *Acer buergerianum*, is not easily propagated, and remains rare in collections. It has also been known under the name ‘Tanchō kaede’.

Acer buergerianum ‘Wakō nishiki’

The tiny variegated leaves of this dwarf cultivar set it apart from all the others. On older wood, they are only 2



Acer buergerianum ‘Tanchō’. Photo by Harry Olsen



Acer buergerianum ‘Wakō nishiki’. Photo by Cor van Gelderen

cm long and 1 cm wide. On younger wood, the leaves are as much as 4 cm long and 3–4 cm wide. The leaves are oblong-ovate in shape, rapidly tapering to a very sharp tip on the center lobe. The two very small, sharp side lobes which extend almost at right angles break the ovate outline. The stiff petiole is about 1 cm long.

The new leaves emerge a light pink. They may become totally white in some growth, but most are a very light green, heavily to almost completely shaded white. The white color is due to the concentration of very tiny dots which merge together and become almost solid. In the leaves with the most white, the three main veins are a distinct, contrasting green. This very slow growing, compact, shrub form of the species is not easy to propagate and requires extra care in cultivation. Nonetheless, it is very popular in Japan.

Acer capillipes Maximowicz (1867)

COMMON NAMES: Hair-foot maple, Red-shoot maple, Red snake-bark

JAPANESE COMMON NAMES: Ashiboso urinoki, Hosoe kaede, Hosoe urihada, O karabana, Urika nishiki

This desirable form of snakebark maple can become a large tree, usually reaching 12–15 m high at maturity in cultivation, though up to 20 m in the wild. The attractive bark is green to gray with light, lengthwise stripes. It turns gray brown with darker stripes and becomes slightly fissured as it ages.



Acer capillipes, showing the striped bark of this snakebark maple. Photo by Peter Gregory

The three- or five-lobed leaves have a characteristic dominant broad triangular center lobe with a narrow, pointed tip and small, sometimes inconspicuous, shallow side lobes. The base is cordate to rounded. The leaves vary in size from 8 to 12 cm long and from 5 to 9 cm wide. The margins are irregularly serrated. The dominant center lobe, numerous hornbeam-like pairs of parallel lateral veins, and curious tiny light-colored bridges or pegs in the vein axils beneath make *Acer capillipes* easily recognizable. The leaves, petioles, and young shoots are pink red to scarlet as they appear in the spring. Although the leaves become a bright green, the bright red persists on the petioles and shoots throughout the growing season.

While this tree is endemic to Japan and is distributed through the main islands of Honshū and Shikoku, it is concentrated in a fairly small area of central Honshū, in the mountain areas around Tokyo, where it is quite common. It is a bold, beautiful tree which is useful in over-story plantings in the landscape.

Acer carpinifolium Siebold & Zuccarini (1845)

COMMON NAME: Hornbeam maple

JAPANESE COMMON NAMES: Arahago, Chidorinoki, Taniasa, Tsubanoki, Yamashibe kaede

The characteristic leaves of this most un-maple-like maple are quite distinct among the genus *Acer* but closely resemble those of *Carpinus*, the hornbeam. They have the same rough-textured surfaces, long ovate-oblong shape, tail-like tip, heart-shaped base, numerous (12–23 pairs) conspicuous parallel lateral veins, and coarse, sharply pointed, double-toothed margins. The pairs of leaves are openly spaced along the twigs, lying



Acer carpinifolium. Photo courtesy of Oregon State University Archives, Corvallis

horizontally. Each leaf is 8–15 cm long and 3–7 cm wide. The short petioles are 1–1.5 cm long.

This large multistemmed shrub or small tree matures at 8–12 m and forms a widespreading mushroom-domed crown with age. It is hardy, durable, and makes an outstanding specimen plant for landscaping. It is a native of Japan and is common in temperate deciduous forests on moist soils in the ravines of Honshū, Shikoku, and Kyūshū Islands, at elevations of 200–1300 m above sea level.

***Acer carpinifolium* ‘Esveld Select’**

Acer carpinifolium is very uniform in its characteristics; hence this unique cultivar is a surprise. It was selected from a batch of seedlings at Firma C. Esveld, Boskoop, Netherlands, in the early 1970s. It is a narrowly fastigate, dwarf form, attaining a height of only 3 m in 20 years. The leaves, which are shaped like those of the species, are only 2–6 cm long and 2–3 cm wide, and turn golden yellow in the fall. This very distinctive plant is difficult to propagate.

Acer caudatum* subsp. *ukurunduense (Trautvetteri &

Meyer) A. E. Murray (1966)

JAPANESE COMMON NAMES: Arahaga, Arahana, Hozaki kaede, O gara bana

This variable-growing plant forms a large shrub or small tree from 7 to 10 m tall. It is often multistemmed. The bark of older trunks is light gray brown and peels off in small, thin flakes. The bark on young twigs is yellow brown and pubescent.



Acer caudatum subsp. *ukurunduense*. Photo by Peter Gregory

The leaves are orbicular in shape but lightly five angled. They measure 7–13 cm long and 8–15 cm wide, and have cordate bases. The green leaf has a light whitish tone above, with a dull yellowish pubescence underneath. The five lobes are ovate-triangular, acuminate, with margins sharply serrated and incised.

The species is endemic to the Himalayas, northern India, Myanmar, and western China. The subspecies *ukuruenduense* is more widely distributed in Japan, Kurile Islands, Korea, southeastern Siberia, and Manchuria. It is closely related to *Acer spicatum*, the mountain maple of eastern North America.

Acer circinatum Pursh (1814)

COMMON NAME: Vine maple

Although *Acer circinatum* is not a Japanese maple, it is included here for comparative purposes because it is a close relative of the Japanese species in the series *Palmata* and, due to this relationship, is able to hybridize with these species to produce new cultivars. It is a native of the Pacific Northwest, the only member of the series *Palmata* occurring naturally outside Asia. All the other closely allied members are indigenous to Japan, China, and adjacent areas. This lends credence to the theory that there was once a land bridge connecting Alaska with East Asia which allowed plants and animals to migrate between the two continents. The close affinity is further demonstrated by success in cross-hybridizing and interspecific grafting of *A. circinatum* onto *A. japonicum* and *A. palmatum* understock. It is also possible to make reverse



Acer circinatum. Fall foliage. Photo courtesy of Oregon State University Archives, Corvallis

grafts successfully, although *A. circinatum* heals too slowly to be more desirable as understock than *A. palmatum*.

The vine maple can form a small tree up to 8 m tall or, more often, a widespreading multistemmed shrub. In its native habitat, under an overstory of large conifers, it becomes a tall, viney-stemmed, slender tree, winding its way up to the sunlight, ultimately reaching a height of 10–12 m. This winding vinelike growth gives rise to the common name.

It is most appreciated in the Pacific Northwest for its beautiful fall colors—a brilliant scarlet suffused with orange and yellow tones. Vine maples growing in the rich coastal regions turn a plain yellow color, whereas those growing in the drier thin-soiled infertile mountainsides turn to flame. This difference has led to suggestions that these intense colors do not develop where abundant moisture and fertility prevent the plant from being under stress. In the spring, the leaves are a bright green. They are orbicular in shape, have seven or nine lobes, and vary from 7 to 10 cm long and from 5 to 9 cm wide. The lobes are shallowly serrated to about one-third of the way to the leaf base and taper sharply to the tip. The margins are distinctly double toothed.

This maple is an excellent trouble-free small tree for the garden landscape where it is a good companion for many types of perennials and shrubs. It is a very useful and tolerant plant for any size or shape of garden. The vine maple is perfectly hardy and grows in most conditions of soil, sun, shade, dryness, or moisture.

Acer circinatum 'Del's Dwarf'

The outstanding characteristic of this dwarf cultivar is the attractive copper-colored foliage in the spring and early summer. It greens out in midseason and changes to yellows, oranges, and reds in the fall. The seven- or nine-lobed circular leaves are relatively large for a dwarf plant—6–8 cm in diameter. The broadly ovate lobes with short-pointed tips are divided about a one-quarter of the way to the leaf base and have coarsely double-toothed margins. The long, stout petioles are 4–6 cm long. This cultivar forms a compact shrub which grows to just under 1 m tall and a little wider in 20 years. The original plant was purchased by Del Loucks, and propagated and introduced by Del's Japanese Maple Nursery of Eugene, Oregon.

Acer circinatum 'Elegant'

This dissected leaf form of the species was introduced by the Dominion Arboretum, Ottawa, Canada, and

listed by Brian Mulligan (1958). It is similar to the well-known 'Monroe' but not quite as finely incised, slightly more vigorous, and openly branched. At maturity it attains a height of about 6 m.

***Acer circinatum* 'Glen-Del'**

The narrow, upright habit and the lightly variegated five- or seven-lobed leaves distinguish this semidwarf form of vine maple. The leaves are variable in size, 3–4 cm long and 4–5 cm wide. They also vary in shape. Some have broad lobes joining halfway to the leaf base with broadly notched edges. Other leaves on newer growth have narrow, long lobes which do not join until almost at the leaf base, giving a fingerlike appearance. The basic color is light green, but there is a subdued variegation of cream green as an irregular margin on each lobe. Occasionally, the plant has shoots which revert to the leaf of the species.

This stubby, upright but slow-growing form occasionally throws up strong shoots. Otherwise the bush is fairly balanced but not as dwarf as 'Little Gem'. This plant was first observed at Del's Japanese Maple Nursery, propagated, named, and registered in 1984 by Del Loucks of Eugene, Oregon.

***Acer circinatum* 'Little Gem'**

This beautiful dwarf has an orbicular leaf with seven or nine, sometimes five, lobes. These are very shallow, separated about one-quarter of the way to the leaf base, and are ovate-triangular with lightly toothed margins. On the smallest leaves, the lobes are hardly more than a toothed margin. Many leaves measure only about 1 cm in diameter. Others are 2.5–3 cm. Occasionally, on strong new growth, the leaves are 3.5–4 cm wide. The following year, however, as the wood matures the leaves will be much smaller. The foliage is a light shade of green with the surface very lightly rugose. Plants color very nicely in the fall in the orange and crimson tones. The leaf nodes are very close together, forming a dense foliage pattern.

The growth is multibranched and forms a compact, rounded shrub up to about 1 m tall and wide. New growth may be as little as 2–3 cm long and up to 8 cm. Occasionally, on young plants, a new shoot develops up to 20 cm long. However, it produces the typical very short growth the following year. Alleyne Cook of North Vancouver, British Columbia, sent the original plant to Maplewood Nursery. It came from a witches'-broom on *Acer circinatum* in Stanley Park, Vancouver. It is a very good dwarf form.

***Acer circinatum* 'Monroe'**

'Monroe' is the first-known true variant of *Acer circinatum* to be described for multidissected foliage. There is one other clone, 'Elegant', which has deeply indented margins and good fall coloration.

The leaves range in size from 6 to 10 cm long and from 7 to 13 cm wide. The five- or seven-lobed leaves are separated entirely to the leaf base. The sides of each lobe



Acer circinatum 'Monroe'. Photo courtesy of Oregon State University Archives, Corvallis



Acer circinatum 'Little Gem'. Photo by Ken Hixson, courtesy of Oregon State University Archives, Corvallis

are deeply incised pinnately, almost to the midrib. These sublobes are further incised or serrated, forming very irregular margins. The inner third of the lobe restricts almost to the width of the midrib. The two basal lobes are usually very small, at times only sublobes, but otherwise completely separate from the other lobes and clasping the petiole. The leaves are reminiscent of, and intermediate between, the leaves of *Acer japonicum* ‘Aconitifolium’ and *A. palmatum* f. *dissectum*. This sturdy plant forms an upright bush to 4 m tall, becoming broad with age. The branches are stiff and upright and occasionally multibranching.

Warner Monroe, a philosophy professor at Warner Pacific College, Portland, Oregon, discovered this plant. It is fortunate for horticulture that Monroe is an observant and persistent person. While conducting a nature study hike with a group of young people, he noted a plant which “looked different.” It was in the deep conifer forests on the headwaters of the Mackenzie River, high in the Cascade Mountains. The 10 years following discovery in 1960 were spent in trying to identify this plant. Meanwhile, Monroe layered a side branch *in situ* and successfully moved the resulting plant to his home. In 1965, he successfully layered another side branch which came to Maplewood in 1970. The original plant remains in the dense conifer forest, almost smothered under low-growing native plants. When I last visited it, it was still a very small weak plant—only 50 cm tall.

I gathered material and made structural and photographic studies of leaves, buds, and blossoms. These were submitted to Brian Mulligan, director emeritus of the University of Washington Arboretum. The original descriptions and taxonomic determinations were subsequently published by Mulligan (1974). The cultivar ‘Monroe’ was registered the following year.

Acer circinatum ‘Sunglow’

This distinctive, small cultivar has pretty, very small, circular leaves, especially in the spring when they emerge a peach to light orange-apricot color. This color lasts for four to six weeks in the sun, disappearing more quickly in shade, becoming a medium green for the summer. In the fall, the color changes to plum red, purple, and crimson. The seven-lobed orbicular leaves are shallowly divided to less than a quarter of the way to the leaf base, and measure only 3–3.5 cm long and 4–4.5 cm wide. Each lobe is broadly ovate with short pointed tips and irregularly toothed margins.

This slow-growing bushy plant forms a small round

ball and reaches a little over 1 m in 10 years. Like other dwarf cultivars of *Acer circinatum* and many other Japanese dwarfs, it is susceptible to mildew attacks. First discovered by Floyd McMullen of Portland, Oregon, ‘Sunglow’ was propagated and introduced by Buchholz and Buchholz Nursery of Gaston, Oregon. It is very different from any other *A. circinatum* cultivar and highly desirable.

Acer cissifolium (Siebold & Zuccarini) K. Koch (1864)

COMMON NAME: Vine-leaf maple

JAPANESE COMMON NAMES: Amahogi, Amako kaede, Amakuki, Mitsude kaede, Mitsude momiji

The trifoliate leaves of this species are similar to the leaves of some of the *Cissus* (grape ivy) species, hence the spe-



Acer cissifolium, showing the trunk pattern of a 120-year-old tree. Photo by Peter Gregory

cies and common names. The foliage also resembles that of the North American box elder, *Acer negundo*, which has three to five leaflets, occasionally nine, and is very closely related. The young leaves emerge a light yellow green, often pink tinged to bronzed, before becoming a light to medium green for the summer. In the fall, they turn yellow with pink tones, finally becoming a fiery red.

The three leaflets are fairly uniform in shape and size. Each leaflet is 7–10 cm long and half as wide, ovate with an acuminate tip, cuneate base, and coarsely toothed outer margins. The long, slender petiole is a bright red and has a broad, swollen base which completely encloses the bud.

Acer cissifolium is a native of Japan, growing in moist conditions in the lower mountain forests from southern Hokkaidō, throughout Honshū, to central Kyūshū in the south. It occurs at elevations of 200–1300 m above sea level. It is perfectly hardy, relatively easy to grow, and enjoys moist situations in cultivation. It forms a small to medium-sized tree with a widespreading mushroom-shaped crown, reaching 10–15 m tall at maturity and about as wide. There are no known cultivars in Western cultivation, but a yellow-variegated form, ‘Gotenba nishiki’, is grown in Japan.

Acer crataegifolium Siebold & Zuccarini (1845)

COMMON NAMES: Hawthorn maple, Uri maple

JAPANESE COMMON NAMES: Ao uri, Hana kaede, Hon uri, Meuri noki, Shira hashi noki, Shira kaede, Uri kaede, Yama kaede

An excellent small tree for landscaping and as a companion plant for flowering shrubs and perennials, *Acer crataegifolium* does not become too large, usually up to 8 m, and is not overly aggressive in root competition with other plants. It is hardy, holds its foliage color very well, and stands full sun.

The resemblance of its leaves to those of the hawthorn (*Crataegus*) requires a little imagination. The small three-lobed leaves are rather distinct in shape—long triangular-ovate with tapering tips and heart-shaped to rounded base. The two very small side lobes have blunt to broadly pointed tips, and are occasionally absent. The margins are irregularly serrated and slightly undulate. The leaves are 5–7 cm long and 4–5 cm wide, with stiff petioles 1–3 cm long.

Leaf color is a pleasing blue-green above, often bronze purple with purplish margins, shiny and purplish green beneath. *Acer crataegifolium* is one of the smallest snake-bark maples with an indistinct patterning, especially on older branches and stems. The bark is green with faint

white to dark gray striations. Young shoots are purple red to green.

This species grows wild in the central and southern regions of Japan, on Honshū, Shikoku, and Kyūshū Islands, preferring dry, sunny situations. Only two variegated cultivars of the hawthorn maple are established in Western cultivation, but several more are grown in Japan.

***Acer crataegifolium* ‘Meuri ko fuba’**

This variegated form has leaves which are slightly smaller than those of the species. The vigor of the plant affects the leaf size, which ranges from 3 to 5 cm long and from 3 to 4 cm wide. The leaf is ovate, terminating in a slender tip. The two side lobes are small and often rounded, or even entirely lacking. The margins are very lightly serrated, and the leaf base is cordate. The petioles are 1.5–2 cm long.

The foliage is a deep bluish green. Variegation occurs rather sparingly, is not constant, and is often entirely lacking. The markings are usually white but occasionally include a faint pink. The variegation is of the *baki homi fu* (brushed in) type. In the fall, the white portions become a rich rose tone. The twigs and branches are green with white striations.

This shrubby, tall bush or short tree is often grown as a multistemmed plant. Branching is generally profuse, forming a dense plant. It reaches up to 4 m at maturity. The original stock received at Maplewood Nursery from a large collection in the eastern United States was mislabeled *Acer crataegifolium* ‘Beni uri’. A cultivar of *A. rufinerve* is named ‘Beni uri’. ‘Meuri ko fuba’ has also been known under the name ‘Meuri kaede no fuiri’.



Acer crataegifolium ‘Meuri ko fuba’. Photo courtesy of Oregon State University Archives, Corvallis

***Acer crataegifolium* ‘Veitchii’**

This variegated form is often quite spectacular in the marking of the foliage. The leaves are about the usual size for the species—5–8 cm long and 3–5 cm wide. They are triangular-ovate, tapering to a slender tip. The two side lobes are small and bluntish but often suppressed or totally lacking. The margins are serrated and often undulate. The stiff petioles are 1–2 cm long.

The base color of the leaf is blue green. The variegation patterns are complex. The white-to-cream markings appear as specks, flecks, “cut-in” sections, or occupy the entire leaf. There are often flecks or streaks of pink intermixed with the white. Also, areas of white overshadowed with green occur, giving a light gray-green tone. Some leaves are entirely marked, while others are totally unmarked. In the fall, the white portions become rose pink to scarlet.

This cultivar forms a tall shrub or small tree, reaching 6 m high. It is often multistemmed but, when grown as a single-stemmed plant, the branching is profuse, thus making a dense twig pattern.

‘Veitchii’ has also been known under the names ‘Albo-variegatum’, ‘Foliis albo-variegatum’, ‘Fuiri kouri kaede’, ‘Hillieri’, and ‘Variegatum’.

Acer diabolicum Blume ex K. Koch (1864)

COMMON NAMES: Devil maple, Horned maple

JAPANESE COMMON NAMES: Kaji kaede, Kiriha kaede, Oni momiji

The scientific and common names arise from the curious hornlike stigmas which persist at the inner junction of the fruit nutlets, resembling the horns of the devil. This strong, medium-sized tree is sturdy in appearance

and reaches 10–15 m tall at maturity. It tends to grow with a fairly broad, rounded canopy.

The five-lobed leaves have a thick texture and are rather large, up to 15 cm long and 16 cm wide. The lobes are divided to about halfway to the leaf base, with the middle three lobes broadly lanceolate-ovate, with short acuminate tips. The two basal lobes are short and small. The margins are irregularly, coarsely, and bluntly toothed. The medium to deep green leaves are glabrous above and have numerous short white hairs beneath.

Though one of the least colorful maples in the fall, it can be one of the most spectacular in flower, particularly the bunches of large red male flowers. A flowering tree has been described as “looking like the smoldering embers of a gigantic bonfire.”

This maple is endemic to Japan, common in the northern areas, less frequent in the south. It is found in open areas on sunny lower mountain slopes from 400 to 1300 m above sea level. A yellow-variegated cultivar, ‘Nagashima’, is grown in Japan, but very little is known about it.

Acer distylum Siebold & Zuccarini (1845)

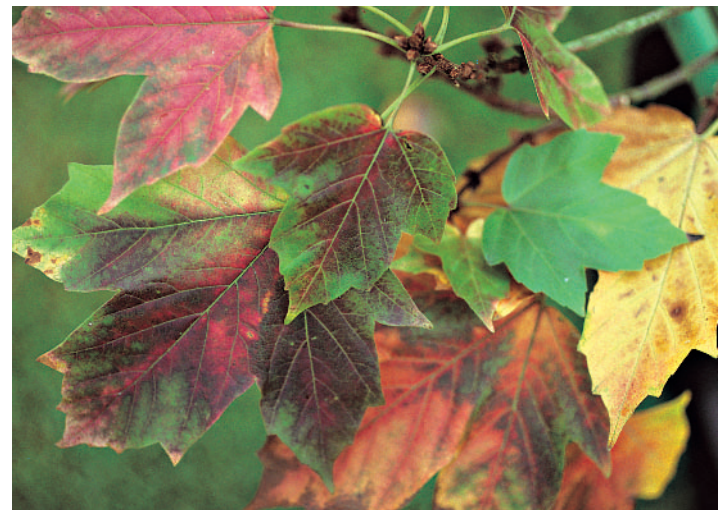
COMMON NAME: Lime-leaved maple

JAPANESE COMMON NAMES: Hitotsuba kaede, Maruba kaede

The unusual, long, heart-shaped foliage makes this a very notable specimen plant. It becomes a medium-sized tree 10–15 m tall at maturity. The lightly furrowed bark is gray to gray brown. The leaf is ovate with a deeply cordate base and a short acuminate-pointed tip. It measures 10–16 cm long and 8–13 cm wide. The margins are very finely toothed, the teeth often crenate.



Acer crataegifolium ‘Veitchii’. Photo courtesy of Oregon State University Archives, Corvallis



Acer diabolicum. Photo by Peter Gregory



Acer distylum. Photo courtesy of Oregon State University Archives, Corvallis

The unlobed leaves, when they emerge in the spring, are an unusually attractive downy light gray dusted with a sandy or pinkish hue, becoming semishiny, medium to dark green for the summer. They turn a clear bright yellow in the fall.

Acer distylum is a rare Japanese species with very distinctive heart-shaped leaves, hence its common name “lime-leaved maple.” The leaf shape also gives rise to the Japanese name *Maruba kaede* which means “round-leaved maple.” The species occurs in the mountains of northern and central Honshū, Japan, growing on moist and moderately fertile soils at elevations of 700–1600 m above sea level.

This maple is not very common in its native habitat or widely distributed in nurseries. Its beauty, however, suggests its wider use in landscaping. There are no cultivars



Acer japonicum. Photo by Andrea Jones, Garden Exposures Photo Library

of this species in Western culture, but there is at least one in Japan, 'Angyō-no-sato', with a yellow variegation.

Acer japonicum Thunberg ex Murray (1784)

COMMON NAME: Fullmoon maple

JAPANESE COMMON NAMES: Ha uchiwa kaede, Hobako ha uchiwa, Meigetsu, Meigetsu kaede, Shinano uchiwa

This important species in the series *Palmata* is second only to *Acer palmatum* in contributing to the large number of cultivars in the "Japanese maples" of the commercial nurseries. A very important feature is the brilliant fall coloration. All the cultivar and seedling selections display brilliant tones of yellow, orange, and red at the end of the growing season. This feature makes the japonicums worthwhile for landscaping. Most of them are sturdy, strong-growing trees, adaptable to most culture situations.

The rich green leaves are generally orbicular in outline and usually have 9 or 11, sometimes 7 or 13, lobes. Each lobe is separated about a third of the way to the leaf base. The lobe ends taper rapidly to a point, with margins lightly toothed to coarsely serrated. The leaves vary from 8 to 11 cm in diameter, occasionally as large as 14 cm.

Acer japonicum is a desirable, small to medium-sized tree. Plants may reach 10 m high at maturity. Ken Ogata reports that the species grows to 15 m in the native forests. The maple is endemic to Japan.

Two native varieties have been recorded by Jisaburo Ohwi, *Acer japonicum* var. *insulare* and *A. japonicum* var. *kobakoense*. Variety *insulare* occurs on Honshū and is distinct in having the wings of the samaras spreading horizontally. The Japanese names for this variety are "Shinano ha uchiwa" and "O meigetsu." Variety *kobakoense* occurs on the island of Hokkaidō. It has lobes with the leaves simply and coarsely toothed. The Japanese name is "Kobako ha uchiwa." Both varieties are considered synonymous with the species in *Maples of the World*, which mentions two additional varieties: *A. japonicum* var. *stenolobum* with densely hairy samaras, and *A. japonicum* var. *villosum* with tomentose leaf undersides.

It may be assumed this species is more genetically stable than *Acer palmatum* since fewer cultivars have evolved over the past centuries of cultivation. However, trees resulting from open-pollinated seed may show subtle variations from the leaf type of the species, particularly when seed is collected in arboreta, where cross-pollination with other species in the series is possible. In the native forests, some cross-pollination is evident. On the

other hand, arboreta-collected seed has produced some seedlings which vary greatly from the type.

Among the extraordinary forms of *Acer japonicum* are the delicately dissected, pendulous 'Green Cascade', the fernlike-leaved 'Aconitifolium', the large-leaved 'Ō isami', and the variegated 'Kujaku nishiki'. Most other cultivars are variations in leaf size and lobe shape from the species. The golden-leaved 'Aureum' and similar small-leaved cultivars used to be included under *A. japonicum*, but chemical and floral evidence resulted in their transfer to *A. shirasawanum*.

Some exceptional forms may result from cross-pollination. In a controlled cross made at Maplewood Nursery, the forms 'Aconitifolium' and 'Filicifolium' (the latter now considered to be so similar to 'Aconitifolium' it is treated as a synonym) produced a generation of seedlings with great foliage variations. They ranged from small cascading plants with multidissected leaves to bold upright trees with exceptionally large orbicular foliage. There were all degrees of variation between. There is an opportunity in controlled hybridization to obtain additional interesting clones. It is a time-consuming process but could be rewarding. Inter-cultivar crosses within the japonicums should be tried, as well as controlled hybridizing between them and the better clones from other closely allied species of the series *Palmata*.

***Acer japonicum* 'Aconitifolium'**

COMMON NAME: Fern-leaf maple

This cultivar name is so firmly established and is seen in virtually every arboretum, botanic garden, and collection that it has become one of the rare cases where the West-



Acer japonicum 'Aconitifolium'. Photo courtesy of Oregon State University Archives, Corvallis



Acer japonicum 'Aconitifolium' has brilliant fall colors. *Acer palmatum* 'Ornatum' in the foreground.
Photo courtesy of Oregon State University Archives, Corvallis

ern name, 'Aconitifolium', is preferred to the Japanese name, 'Maiku jaku', which means "dancing peacock."

The leaves of this bold form are multidivided and deeply cut. They separate into lobes which divide almost to the petiole attachment point. Each lobe is again divided on each side with numerous cuts which extend almost to the midrib. These are irregularly dissected, producing a fernlike appearance, which gave rise to the common name of fern-leaf maple. The leaf form approaches that of the monkshood genus, *Aconitum*, hence the cultivar name.

The points of the dissected segments are not sharp. The inner one-third of each lobe narrows almost to the midrib, giving an open form to the center of the leaf. The lobes hold fairly close together as in a half-closed fan. The leaf thus becomes longer than it is wide. Each leaf usually has 11 lobes but the number may vary on the same plant from 7 to 13 lobes. Leaf size depends upon the vigor and age of the plant. The foliage on the younger portions of the plant is always larger. The leaves vary from 7 to 17 cm long and from 6 to 14 cm wide. The petioles are strong, often curved, and up to 7 cm long. They are usually reddish in color.

The foliage is deep green and has good substance and texture. The underside has inconspicuous tufts of minute hairs at some vein junctions. When first unfolding, the leaves show some pubescence on the surface. Leaves of vigorous plants tend to hold a horizontal attitude, giving an "Oriental" appearance. The white and maroon blossoms are quite prominent on this cultivar and are more striking than their counterparts on most maples.

An additional desirable feature of this cultivar is the intense fall coloration. Brilliant scarlet tones develop, shaded with carmine and sometimes into the purple range. The total appearance is flame red when viewed from a distance. The leaves persist on the plant, thus giving a long fall color period. The prominent seeds, held in clusters of samaras, color a maroon red in the fall and add to the attractiveness.

This strong-structured plant is never weak or willowy. It is upright and multibranching in habit with sturdy and stiff twigs. It forms a round-topped small tree as it matures but does not grow rampantly. It ultimately reaches a height of 5 m, depending upon the site and vigor.

'Aconitifolium' is one of the largest-leaved forms of *Acer japonicum*, exceeded only by 'Ō isami' and 'Vitifolium', which are undissected forms. Although its foliage is large, 'Aconitifolium' is not a coarse tree. The dissec-

tion of the lobes gives it a lacy appearance. This cultivar is one of the most desirable forms of *A. japonicum* for any size landscape.

'Filicifolium' is so similar to 'Aconitifolium' in leaf characteristics, habit, and growth that it is not possible to tell the two apart and they are treated as synonyms, although references and evidence suggest they were originally separate clones. Other names by which 'Aconitifolium' has been known are 'Fern Leaf', 'Filicifolium', 'Hauhiwa', 'Hey hachii', 'Laciniatum', 'Palmatifidum', 'Parsonii', and 'Veitchii'.

***Acer japonicum* 'Attaryi'**

This large upright shrub or medium-sized tree to 12 m tall has large seven- or nine-lobed leaves divided at least three-quarters of the way to the leaf base. The leaves are similar to those of *Acer japonicum* 'Aconitifolium' in most respects except they are larger, not as deeply cut, and the lobe bases are not as narrow. The only reference for this cultivar is in *Maples of the World* which also has an excellent illustration of the foliage and fruits. The nomenclature of this plant has been confused. Plant material labeled *A. sieboldianum* 'Attaryi' turned out to be identical to that from *A. japonicum* scions received from Maplewood Nursery and provisionally named 'Aconitifolium USA'.

***Acer japonicum* 'Fairy Lights'**

The foliage of this selection from Australia is a multi-dissected form. Each leaf measures 8 cm long and 14 cm wide. The lobes radiate outward from the petiole attachment, each well separated, and in turn very deeply dissected, giving a total lacelike appearance. The foliage is quite reminiscent of the foliage of 'Green Cascade' but more finely divided.

The plant makes a rather stiff, informal, upright large bush and grows very slowly, reaching a height and spread of only 1 m in seven years. The spring and summer color is light green, varying to deeper shades. The fall colors are quite notable, as they are in many cultivars of *Acer japonicum*, and range through a mixture of gold and scarlet and add a real glow to the quality.

Arnold Teese of Yamina Rare Plant Nursery, Monbulk, Victoria, Australia, selected a seedling from an open-pollinated 'Aconitifolium'. It is thought the pollen source could have been an *Acer palmatum* f. *dissectum*, but the seedling selection exhibits only *A. japonicum* characteristics. Teese registered this cultivar in 1988, having observed it since 1979.

***Acer japonicum* 'Green Cascade'**

This cultivar is one of the excellent japonicums developed in the United States. The selection, naming, and propagation were done by the late Art Wright, a nurseryman of Canby, Oregon, who registered this maple in 1973. The original plant was grown from open-pollinated seed collected from 'Aconitifolium' in the late 1950s.

The unique selection is a weeping or pendulous form of the species, almost prostrate. The growth habit is much like that of the true dissectum types of *Acer palmatum*. The parent plant was grown on a raised portion of the landscape, so that it cascaded down the bank, forming a green mantle. Young plants should be staked to form a center stem from which the limbs can cascade.

The individual leaf is a rich green with 9, or sometimes 11, lobes. Each lobe is 8–10 cm long, radiating out from the petiole and separated entirely to the leaf base. The lower end of each lobe is very little wider than the midrib—1 mm. From this extremely narrow base, which continues upwards for one-third the length, the leaf lobe becomes broad but is deeply dissected into narrow sections so that the entire effect of the double division of the leaf is lacelike. The fall colors are quite brilliant and range through the yellow-orange-crimson tones of the japonicums.

***Acer japonicum* 'Itaya'**

'Itaya', which has also been spelled 'Itayo', is one of the large-leaved forms of the species, comparable in leaf size with 'Taki-no-gawa' and 'Vitifolium'. The light green leaves can be 15 cm or more long and wide. The general leaf outline is round. The 7, 9, or 11, usually 9, lobes are broadly ovate, tapering to a point with shallowly toothed



Acer japonicum 'Green Cascade'. Photo courtesy of Oregon State University Archives, Corvallis

edges. The lobes rarely separate more than a third of the way to the leaf base. The strong petioles, 3–4 cm long, have a heavy base. The foliage is of heavy substance, slightly rugose, often slightly folded upward between radiating main veins. As with most japonicums, the fall color is worth waiting for. Bright tones of yellow, orange, and red blend in various combinations.

This stocky, sturdy, small tree has short, angular twigs. These form an inner structure which is picturesque during the winter. The tree at maturity is round-headed and up to 6 m tall.

The name 'Itaya' can be confusing. It is widely used as the cultivar name of the japonicum as described here. However, the name has also been used in older Japanese literature for other maples. For instance, "Itaya" or "Itaya meigetsu" is a Japanese name for *Acer sieboldianum*, a closely related species. Also, references show *A. pictum* (synonym *A. mono*) and, in some cases, *A. truncatum*, as "Itayo," "Itayi," or "Itaya kaede." It has also been used by some authors to describe *A. pictum* subsp. *mayrii*, as well as one form of *A. shirasawanum*. Masato Yokoi of Chiba University, Japan, considers "Itaya" and "Itaya meigetsu" as synonyms for *A. japonicum* and *A. shirasawanum* (van Gelderen et al. 1994).

***Acer japonicum* 'Kujaku nishiki'**

This very rare form of the species has leaves which are identical in shape and size to those of 'Aconitifolium'. They are variegated, however. The white variegation, of the *haki homi fu* (brushed-in) type, occupies a large part of



Acer japonicum 'Kujaku nishiki'. Photo by Cor van Gelderen

the deeply dissected leaves, often covering half a lobe on one side of the midrib and sometimes the whole lobe. The leaves are otherwise medium to dark green in color. This cultivar is tender and very difficult to propagate.

Acer japonicum 'Ō isami'

The large, orbicular leaves measure 12–20 cm or more across, and the 9 or 11 lobes are elongate-ovate, separating about halfway into the leaf. The tapering ends of the lobes are deeply notched. The petioles are 4–5 cm long and quite sturdy.

The new leaves are light yellow green, especially the outer ends of the lobes. The older leaves become a rich green which persists well into the fall without sunburning. The upper surface of the newer leaves has a scattered amount of very fine silvery hair. There is also pubescence on the petioles. The fall coloration is an outstanding combination of reds and yellows blending with deeper tones of scarlet.

The twigs and limbs are sturdy and rather thick on this vigorous plant. It forms a round-topped, medium-sized tree which reaches 7–8 m or more at maturity. 'Tai-yō' is a synonym of 'Ō isami' which has also been spelled 'Oh isami'.

Acer japonicum 'Oregon Fern'

This cultivar is similar to 'Green Cascade' in leaf shape and to 'Aconitifolium' in growth habit. It differs principally in the fall color which is a truly sensational ruby red. The deeply dissected leaf has very narrow lobe bases like those of 'Green Cascade', so the lobes spread out like an open fan. 'Oregon Fern' arose from a selection made at Maplewood Nursery.

Acer japonicum 'Ō taki'

The leaves of this cultivar are circular in general outline and have 9, 11, or 13 lobes. The lobes lie close together but are divided about halfway to the leaf base. The leaves range from 6 to 8 cm in diameter but are occasionally larger on vigorous new growth. The petioles are stiff and relatively short—2–3 cm. The lobe margins on the outer end are deeply toothed, giving a featheredge appearance.

The leaves are thick, of good substance and texture which takes full sun. The surface is sometimes sparingly covered with fine, silvery hairs. Spring and summer color is a deep, rich green, almost a blue green in partial shade. The fall coloration is an outstanding feature of this cultivar. The blended red, crimson, gold, and orange colors are brilliant. The twigs and small branches are thick,

sturdy, and short. This maple forms a small tree up to 4 m at maturity. 'Ō taki' has also been spelled 'Oh taki' and 'O daki'.

Acer japonicum 'Vitifolium'

As the name implies, the large leaves resemble the grape genus, *Vitis*. They are deep green and of good texture with stiff petioles which are 4–7 cm long. The leaves are 10–12 cm long and 12–16 cm wide. The lobes number 9 or 11. Each lobe is separated almost halfway to the leaf base. The lobe bases are close together, making the outer ends of the lobes appear ovate. They terminate in a sharp point. The margins are toothed and prominent. The main veins show distinctly as a lighter green. The fall colors are magnificent. The golds predominate at first, with strong tones of crimson and scarlet, changing to a vivid scarlet before the leaves drop.



Acer japonicum 'Ō taki'. Photo by Harry Olsen



Acer japonicum 'Vitifolium'. Photo by Peter Gregory

This strong-growing tree has thick, sturdy twigs and branches. It is upright and becomes broad and round-topped with age. ‘Vitifolium’ is large for the species, reaching at least 10 m tall and wide at maturity.

Acer maximowiczianum Miquel (1867)

COMMON NAME: Nikko maple

JAPANESE COMMON NAMES: Chojanoki, Chyojanoki, Kochonoki, Megure, Megusurinoki, Megusyumi kaede, Ohmitsude kaede, Seminoki

This sturdy, medium-sized to large tree has a broad, round crown and matures at 14–20 m high. Its most distinctive feature is the stout, dense hairiness of all its parts—shoots, leaves, leaf and flower stalks, and fruits.

The leaves are trifoliate with three relatively large, almost stalkless, ovate, irregularly bluntly toothed or wavy edged leaflets. Each leaflet measures 6–12 cm long and 3–6 cm wide, and has a short, bluntly pointed tip. The upper surface is a matt medium to dark green, with an attractive blue-gray to gray underside which is thickly felted with stiff gray hairs. It is one of the last maples to change color in the fall, beginning with subtle pastel shades of yellow and pink, turning to orange and red, and becoming a deep flaming red which lasts well into November.

The nutlets are pilose with very hard, thick seedcoats, which makes germination of this species very difficult. Germination often takes two or more years to occur, even with stratification and other seed treatments.

As the common name implies, this species is a native

of Japan with an extensive range from northern Honshū to southern Kyūshū, and also extends into China. It grows in the lower mountain forests on moist well-drained fertile valley soils at elevations of 500–1800 m above sea level. It is still seen in collections under its synonym *Acer nikoense*.

Acer micranthum Siebold & Zuccarini (1845)

COMMON NAME: Small-flowered maple

JAPANESE COMMON NAME: Ko mine kaede

Acer micranthum is another of the delicate-appearing species of snakebark maples and one of the smallest. It is not fragile, however, but hardy and adaptable. The leaf shape and size and the light, slender limb structure contribute to the attractive appearance. This tree is one of my favorite snakebark maples, along with *A. maximowiczianum* and *A. tschonoskii*.

The foliage and shoots are an enchanting bright red when they first appear in the spring and contrast well with the numerous greenish white flowers. The dainty, small, five-lobed leaves with tail-like tips mature to a brighter green, often pink-flushed. The leaves pass through various shades of orange, pink, and scarlet in the fall to become a fiery red. They measure 5–8 cm long and about as wide. The two basal lobes are very small, and the center lobe dominates the leaf. It is long-ovate, acuminate, and tapering to a long, slender tip. The margins are strongly double serrated.

The common and specific names aptly describe the flowers which are surely some of the smallest among



Acer maximowiczianum



Acer micranthum. Photo by Peter Gregory

maples. They appear as festoons hanging through the foliage and, in spite of their small size, can be so numerous they occupy a third of the crown. They develop into small red-tinged fruits.

Acer micranthum forms a tall shrub or small tree up to 11 m high. It is a Japanese native occurring from northern Honshū to Kyūshū Island in the south. It grows in open, sunny areas of the forests of the middle and upper mountain slopes at elevations of 700–2300 m. Only one cultivar has been named, ‘Candelabrum’, which is stronger growing with larger, less delicate leaves than those of the species.

Acer miyabei Maximowicz (1888)

COMMON NAME: Miyabe’s maple

JAPANESE COMMON NAMES: Kurobi itaya, Shibata kaede

This medium-sized to large tree reaches 15–25 m high at maturity. It is sturdy, strong branching, and forms a broad canopy.

The five-lobed leaves are similar to, but larger than, those of the European field maple, *Acer campestre*, to which it is closely related. The lobes are separated to about halfway, are rectangular-ovate with acuminate, bluntly pointed or rounded tips, and irregularly lobulate teeth. The leaves are 8–15 cm long and 10–16 cm wide. The petioles are 4–10 cm long and contain a milky sap. Young leaves are pubescent on both sides and become a matt olive-green and heavy textured at maturity. The fall color is a buttercup yellow, but not outstanding.

Acer miyabei is endemic to Japan, growing in moist woods along streamsides throughout northern and central Honshū. It is not widely found in cultivation and is considered rather rare.

Acer morifolium Koidzumi (1914)

COMMON NAME: Yaku maple

JAPANESE COMMON NAMES: Shima uri kaede, Yakushima ogarabana, Yakushima onaga kaede

This small to medium-sized snakebark maple reaches 10–15 m high. It is very closely related to the better-known *Acer capillipes*, and is a Japanese native confined to the tiny islands of Yaku and Tanego off the southernmost tip of Kyūshū.

The leaves are mostly unlobed, sometimes slightly three- or five-lobed, 7–10 cm long and 5–7 cm wide. They are ovate with tail-like pointed tips and double-serrated margins. The foliage is an eye-catching shiny, bronze green when the leaves first appear. They become a deep

green above and paler green below for the summer. In the fall, the color changes to golden yellow with red tones.

The strong shoots are green to purplish green, becoming a darker green with conspicuous, attractive, white striations characteristic of the snakebark maples. This very rare maple has given rise to several variegated cultivars which, until recently, had not been heard of outside Japan.

Acer nipponicum H. Hara (1938)

COMMON NAME: Nippon maple

JAPANESE COMMON NAMES: Tetsu kaede, Tetsu-no-ki

This tree has large, bold foliage which is shallowly five lobed. The leaves are roughly hexagonal in shape, 14–18 cm long and 15–20 cm wide, with a cordate base. The lobes are broadly triangular with short, acuminate tips. The margins are sharply double serrated. The upper surface is a pleasing green with a roughish primrose-text-



Acer morifolium. Photo by Peter Gregory



Acer nipponicum. Photo courtesy of Oregon State University Archives, Corvallis

tured appearance. The lower surface is lighter green with a rusty-brown pubescence, especially along the veins.

The Nippon maple forms a medium-sized, openly branched tree, reaching 13–16 m tall in cultivation, but may grow up to 20 m in the wild. An excellent specimen in the Zuiderpark, The Hague, Netherlands, is most impressive when in full bloom. The bold racemes are large and quite beautiful. The long, narrow cylindrical flower spike, packed with hundreds of tiny yellow saucer-shaped flowers, points outward and is slightly curled and pendulous like a swan's neck. The blooms appear in mid-June or July, later than the blooms of any other maple.

This species is considered a rather rare plant in arboreta and nurseries. As its common name implies, the Nippon maple is endemic to Japan on the mountain regions of Honshū, Shikoku, and Kyūshū. It is common in the forests on the lower and middle mountain slopes of central and northern Honshū, at elevations of 500–2000 m above sea level, especially on wet sites along stream-sides. It is much rarer further south and west.

Acer pictum Murray (1784)

COMMON NAME: Painted maple

JAPANESE COMMON NAMES: Ao kaede, Itagi kaede, Itaya, Itaya kaede, Shiraki kaede, Tokiwa kaede, Tsuta momiji, Yorokko kaede

This very variable species is better known under the name *Acer mono*. The older name of *A. pictum* has now been accepted as legitimate by the International Botanical Congress, and so it takes precedence over *A. mono*. *Acer pictum* is a fast-growing medium-sized to large tree which develops a rounded, spreading canopy. The species reaches 10–14 m high when mature in cultivation,



Acer pictum fall coloration. Photo courtesy of Oregon State University Archives, Corvallis

but up to 25 m in the wild. It is quite hardy and relatively free of insect and disease problems. It is a fine selection for overstory shade in perennial and shrubby plantings.

The five- or seven-lobed leaves measure 8–12 cm long and 10–16 cm wide, and are usually shallowly divided one-quarter to one-third of the way to the leaf base. However, in some forms, leaves may be divided up to three-quarters of the way to the leaf base. The lobes are usually short, broad, and triangular-ovate to triangular, with acuminate, sharply pointed tips. The margins are untoothed. The long green petioles contain a milky sap.

The foliage is a bright to matt green throughout the spring and summer, and resistant to sunburn. In the fall, the leaves change to a brilliant gold with crimson blending and shading through each leaf. This colorful patterning gives rise to the common English name of “painted maple.”

Acer pictum has a wide distribution from central and northeastern China and Manchuria, eastern Siberia, Korea, and throughout Japan. There are several subspecies, varieties, and forms of the species, indicating the variation in type, appearance, and leaf shape to be found in different localities throughout the natural range of this species. For detailed information, the serious *Acer* student is advised to read “A Dendrological Study of the Japanese Aceraceae” (Ogata 1965), *Maples of the World* (van Gelderen et al. 1994), and other relevant literature listed in the bibliography.

***Acer pictum* ‘Dissectum’**

The leaves of this form contrast with those of the species by being deeply cut—dissected in the sense of the leaves deeply incised into lobes, not as in the Dissectum Group



Acer pictum ‘Dissectum’. Photo courtesy of Oregon State University Archives, Corvallis

of *Acer palmatum* where the lobes themselves are deeply dissected. The five lobes are separated more than halfway to the leaf base, with the undulating ends tapering to long, sharp points. Each leaf is about 7–8 cm long and wide. The foliage is a shiny, deep green color and turns golden in the fall.

This tree is not widely planted in Japan. It is usually shorter than the species, reaching about 10–12 m tall as it matures. Ogata (1965) pointed out that the leaves of 'Dissectum' (as *Acer mono* var. *marmoratum* f. *dissectum*) are the juvenile type of foliage for this species. Other names under which this cultivar has been known are 'Asahi kaede' and 'Enko kaede'.

Acer pictum 'Hoshi yadori'

The remarkable foliage has variegations of both the *hoshi fu* (starlike) type, which consists of tiny scattered flecks or specks, and the *sunago fu* (sand-dusted) type. The white or cream-colored markings boldly cover the deep green basic leaf color in varying amounts. In some leaves, the light tone markings predominate completely, masking the green in some cases, while in other leaves the green is dominant. There are all gradations of patterns from light dots to bold color slashes. The color varies according to the light intensity. In full shade, the markings are almost pure white. In sun, they are a light yellow to gold. Full exposure to hot sun, however, causes leaf damage.

The leaves have five or seven lobes which are broadly triangular and not deeply cut into the leaf. Leaf shape is dissimilar, depending upon the degree of variegation. A few leaves have only three lobes. In general, the leaves measure up to 9–10 cm in diameter.

This cultivar forms a medium-sized shrub up to 5 m



Acer pictum 'Hoshi yadori'. Photo courtesy of Oregon State University Archives, Corvallis

tall as it matures. It is multibranching, and the plant is rather compact and broadens with age. When it is sited near a path, the unique foliage can be easily seen and appreciated.

Acer pictum 'Hoshi zukiyo'

This cultivar is very like *Acer pictum* 'Hoshi yadori', and the literature on the subject indicates it was originally a bud-sport of it. The leaf shape, growth habit, and most other characteristics are identical. The variegations are very similar but usually are more intense in color and cover the leaf more fully. At times, the variegations are so concentrated that the colors coalesce and become solid. It is possible to find all degrees of variations on both cultivars, however, so descriptions of both overlap. 'Hoshi zukiyo' is not widely propagated because it is not easy to differentiate from 'Hoshi yadori'. It has also been known under the alternative spelling of 'Hoshi tsukiyo'.

Acer pictum 'Tokiwa nishiki'

This cultivar has the typical leaf shape of the species—broad leaves with five or seven lobes. The lobes are very shallow, and the ends form short triangles. The leaves are 7–10 cm long and wide, with untoothed margins. The petioles are 5–6 cm long.

Leaf color is a strong green tone. The variegations within the leaf are quite heavy and sometimes occupy the entire area. The markings vary from white to light cream or yellow. Occasionally, the light area fills half the leaf, divided by the center vein, and the other half is green. It is a bolder green and denser variegation than that found in the similarly variegated cultivars 'Hoshi yadori' and 'Hoshi zukiyo'. This hardy, small tree or large shrub, up to 7 m tall, is a favorite for landscaping in



Acer pictum 'Usugumo'. Photo courtesy of Oregon State University Archives, Corvallis

Japan, and it should be better known and more widely used elsewhere.

Acer pictum 'Usugumo'

This most unusual leaf form has been likened to a bat's wing. However, the leaf is more beautiful than this term would indicate. The "fabric" appears to be stretched between the sharp-pointed lobe end and the prominent main vein in each lobe. Each of the seven or nine lobes is triangular but very short, and terminates in a sharp point. This results in a large, undivided leaf surface. The tissue extending between each lobe is slightly folded so that the leaf surface is not flat.

The leaves are 8–11 cm long and wide with a long, slender petiole of 6–8 cm. The green leaves are thickly speckled with very fine dots of white, usually rather scattered but occasionally concentrated, making the leaf appear whitish green. A narrow strip, which is almost pure white, runs along both sides of the center vein of each lobe. The vein is a contrasting strong green. When the leaves first appear in the spring, they are an unusually pale pink-yellow before becoming whitish green for the summer.

This upright but not strong-growing maple reaches 3–4 m high rather slowly. It is difficult to propagate and not widely known in collections. The name has also been misspelled 'Usugumori'.

Acer pycnanthum K. Koch (1864)

COMMON NAME: Japanese red maple

JAPANESE COMMON NAMES: Hana kaede, Hana no ki

This species, which is rare even in its small natural range in Japan, is closely related to *Acer rubrum* which is quite common in its native habitat in eastern North America. It is restricted to a radius of about 60 km, centered on Mount Ena on the main Japanese island of Honshū, and in a smaller locality 120 km further north. It grows on the lower mountain slopes in moist, swampy conditions at elevations of about 400–500 m above sea level.

The leaves are triangular to orbicular, usually three lobed, 5–9 cm long and 4–7 cm wide. The lobes are ovate-triangular, bluntly pointed, often very short, and sometimes almost absent. The margins are irregularly and bluntly serrated. The upper surface is medium to deep green, the undersurface a glaucous blue to gray with rusty-brown hairs in the vein axils. The foliage turns beautiful shades of yellow to red in the fall. The leaves are on slender petioles so, like aspen (*Populus tremula*) leaves, they flutter in the wind to expose the gray undersides.

This species flowers in spring before the leaves appear. The red flowers appear in tight, compact balls or bunches at the end of every twig, to outline the crown in a halo of red. Attractive reddish fruits soon replace the flowers. The seeds mature early compared to most other maples. They ripen in mid-May and soon spiral to the ground to germinate almost immediately. This is a survival procedure because, in the swampy conditions, if the seed did not germinate early during the drier season, it would rot. Because the seed is short-lived, it is difficult to store.

This large maple grows to 25 m at maturity. It is a valuable tree for overstory shade in mixed landscapes. Ken Ogata mentions that several large old trees in the wild, and a few in cultivation, have been designated a "national monument" by the Japanese government—a rather special kind of tree preservation order. There are no cultivars of this species in Western culture, but two variegated forms grow in Japan—'Asayake nishiki' and 'Kihin nishiki'.

Acer rufinerve Siebold & Zuccarini (1845)

COMMON NAMES: Honshu maple, Red-veined maple

JAPANESE COMMON NAMES: Ao kaede, Ao momiji, Iizuka, Komori kaede, Konji noki, Urihada nishiki, Uri noki

This strong-growing, upright tree of medium height reaches 12–15 m at maturity. It tends to grow upright at first, then spreads out at the top as the canopy develops. It is one of the snakebark maples and has an unusually attractive bark, with dark, narrow, lengthwise gray stripes running up the lustrous green surface, which gradually



Acer pycnanthum. Photo by Peter Gregory

becomes grayer with age. Its most unusual character is the soft bluish gray bloom covering the new shoots.

The leaves are of a heavy texture and appear almost rugose. They are five lobed, occasionally three lobed, with the pair of basal lobes small and the middle three lobes pointing forward. The dominant center lobe is triangular. Each leaf measures 6–12 cm long and about the same across. The base is shallowly cordate to truncate, and the margins are double serrated. The stiff petioles are 2–6 cm long.

The upper surface is medium to dark green, the undersurface a lighter green with dense rusty-brown hairs along the veins when young, hence its common name. The leaves become glabrous later in the season, except for tufts of brown hairs in the vein axils beneath. The deep green foliage changes to exceptionally bright color tones in the fall—a rich yellow and gold, heavily and brightly suffused with crimson.

In Japan, the native stands grow in the middle and upper parts of the mountain forest slopes, up to an elevation of 2000 m. This species adapts well in gardens, accepting dry and moist situations, although it prefers sunny and moist conditions. It does not tolerate saturated soils.

Acer rufinerve 'Albolimbatum'

The five-lobed leaves are typical of the species in shape, rather thick, and of good substance. They are rounded to cordate at the base, and the two basal lobes are very short, with the center lobe dominant, so forming an ovate-triangular shape. The leaf size ranges from 7 to 15 cm long and from 5 to 9 cm wide. The margins are lightly double serrated.



Acer rufinerve. Fall coloration. Photo courtesy of Oregon State University Archives, Corvallis

This cultivar varies widely in the amount of white variegation in its deep green foliage. The edges are usually tinged with white, sometimes as a very thin band, but on some leaves the markings are scattered in specks, splashes, and patches and extend over the whole leaf. Some leaves are entirely free of white mottling. High levels of fertility and the resulting rapid growth mask the tendency to variegated marking. As the trees slow in growth rate, the variegation becomes more marked.

This slow-growing, upright tree is smaller than the species, attaining 10–12 m at maturity. It is a very old cultivar, cultivated in the West since the mid-1800s. It is found in Japanese collections and nurseries under the name 'Hatsuyuki kaede' and in Japanese literature. Hence it is probably of Japanese origin. However, the name 'Albolimbatum' is so firmly entrenched in gardens, collections, and the trade that attempts in earlier editions to encourage the use of the Japanese name were not successful. Other names by which this plant has been known are 'Albo-marginatum', 'Argenteum', 'Furi urihada kaede', 'Hatsuyuki', 'Marginatum', 'Marmoratum', 'Shufu nishiki', 'Uriha nishiki', and 'Whitedot'.

Acer rufinerve 'Beni uri'

This bright yellow-variegated cultivar has a leaf which is larger than that of the species, measuring 8–14 cm long and occasionally slightly wider, depending upon the amount of variegation. The leaves are not as triangulate as those of the species. This is due to the altered shape where strong variegations occur in the blade. The three or five lobes are short and triangular, terminate in a sharp point, with the margins serrated.

The basic leaf color is a deep green, strongly varie-



Acer rufinerve 'Albolimbatum'. Photo by Peter Gregory

gated with yellow. It is the *kiri fu* (cut in) type of marking which sometimes occupies half the lobe, dividing the colors at the main vein. There are other lesser markings which form only slender yellow streaks in the green. These are mainly bold and diversified variegations. In the fall, the light-colored portions change to a bright crimson, hence the name *beni* or "red."

This plant is not as strong growing as the species and is rather capricious in cultivation. It is also difficult to propagate and is rather rare in collections. The name 'Beni uri' was used on cultivars of two maple species. In the United States, it has been wrongly applied to a variegated form of *Acer crataegifolium*, which should be named 'Veitchii'. 'Beni uri' has also been known under the name 'Kyo nishiki'.

Acer rufinerve 'Erythrocladum'

This slow-growing, small-leaved form of the species is notable for its unusual light yellow shoots which become a bright red and orange during the winter, rather similar to the shoots of the *Acer pensylvanicum* cultivar with the same name. It does not have a strong constitution and is difficult to propagate and grow. It needs more care, attention, and shelter.

Acer rufinerve 'Shirayuki'

This variegated form is identical to 'Albolimbatum' in growth habit, vigor, leaf shape and size, and variegation patterns. It differs only in the color of the variegation which is yellow rather than white. The more open the situation in which this cultivar is grown, the deeper the yellow of the variegated markings. The cultivar has also been known under the name 'Luteo-variegatum'.

Acer rufinerve 'Winter Gold'

This notable addition to the larger trees with interesting bark originated from a chance seedling observed by the late Peter Douwsma at Olinda, Victoria, Australia, in 1974. Arnold Teese of Monbulk, Victoria, Australia, evaluated and propagated it for several years, and registered it in 1988. In the summer, the bark is a definite yellow green. The winter color is a bright golden yellow which readily attracts attention. The foliage is typical for the species, with the usual triangular lobes. Fall colors develop in the rufinerve pattern of yellow to burnt orange. This cultivar is slightly smaller than the species, but is vigorous. It is quite striking near *Acer palmatum* 'Sango kaku'.

Acer shirasawanum Koidzumi (1911)

COMMON NAME: Shirasawa's maple

JAPANESE COMMON NAMES: Ezo meigetsu kaede, O hauchiwa, O itaya meigetsu

This tree adds a delicate foliage pattern to mixed plantings. The texture of the leaves differs from that of other species in the series *Palmata*. The leaves have the feeling of rather stiff paper (chartaceous) and are a little thin, almost translucent. Sunlight through the foliage dramatizes the difference from other closely related species. Though appearing delicate, the leaves resist sunburn more than those of most maples.

The light yellow-green young leaves are covered in soft white hairs when they first appear, becoming glabrous and a light tone of lime green that sets this species apart. Fall coloration ranges into the gold tones, with a blending of crimson. The total effect of the foliage texture and color makes this species a desirable choice as a companion tree for shrubby plantings.

The small orbicular leaves have 9, 11, or 13, usually 11, short-ovate lobes which separate only a third of the way to the leaf base. The Japanese name *Ezo meigetsu kaede* means "the maple with small round leaves." The leaves, which are characteristically saucer shaped because of the overlapping basal lobes and slight "pleating" along the numerous main veins, are ovate, terminating in short, pointed tips. The margins are prominently serrated. The new twigs are bright green and sometimes glaucous.

As the tree matures, the growth is slender and multi-branched and forms an interesting scaffold pattern. Very old trees in the wild reach 15–20 m, but they have rarely exceeded 10 m in cultivation so far.



Acer shirasawanum. Photo courtesy of Oregon State University Archives, Corvallis

This species is native to central and southern Honshū and on Shikoku Island, although it also grows in isolated areas in northern Honshū. It is found on moist well-drained mountain valley slopes at elevations rang-

ing from 700 to 1800 m above sea level. *Acer shirasawanum* var. *tenuifolium* extends the range of this species southward onto Kyūshū Island.

In the early 1980s, following observations by the late



Acer shirasawanum. Photo by Peter Gregory



Acer shirasawanum var. *tenuifolium*. Photo courtesy of Oregon State University Archives, Corvallis



Acer shirasawanum 'Aureum'. Photo courtesy of Oregon State University Archives, Corvallis



Acer shirasawanum 'Aureum'. Brilliant fall foliage. Photo courtesy of Oregon State University Archives, Corvallis

Brian Mulligan, then director of the University of Washington Arboretum, that the flowers of *Acer japonicum* 'Microphyllum' were held above the leaves while those of other *A. japonicum* plants hung down, chemical analyses were carried out. They resulted in the cultivar 'Microphyllum' being transferred to *A. shirasawanum*. Other old, popular small-leaved *A. japonicum* cultivars transferred to *A. shirasawanum* for the same reasons include 'Aureum', 'Ezo-no-o momiji', 'Jūnihitoe', and 'Palmatifolium'.

Acer shirasawanum 'Aureum'

This yellow-leaved form of the species, known as the "golden full moon maple," is a most spectacular tree, and is highly prized in culture. The spring foliage is a bright yellow of a very distinct tone. As the season progresses, the leaves gradually become a yellow green to medium green. In partial shade, the foliage retains the yellow tones a little longer than in the bright sun, but the color is more subdued. Direct hot sun causes some leaf scorch in hot climates, but this cultivar can tolerate full sun better than most yellow forms. The fall colors are often spectacular, varying from orange through red and occasionally blended with purple tones.

The orbicular leaves form a dense cover on the plant rather than the open pattern found in the species. The leaves have 11, sometimes 9 or 13, sharply pointed lobes. Each lobe separates one-third of the way into the leaf. The leaf usually measures 6–8 cm wide, but may vary from 5 to 11 cm on more mature trees.

The growth habit is stubby, as new shoots usually realize 6–12 cm per season. Young plants can grow quite vigorously for the first few years, but the plant becomes more bushy and multibranched as it matures. In older plants, the angular branching forms a most attractive scaffold which is striking in the winter when it is exposed.

The bark on the new shoots is an interesting bluish green, almost glaucous. The fruits form in light bunches of samaras and become a bright red. These generally stick up through the golden foliage and add one more attractive feature to this fine plant. Large trees are not commonly seen. In fact, Jiro Kobayashi mentions in his descriptions that they do not grow very large and are mostly used as container plants.

The most magnificent example of this cultivar grows in Boskoop, Netherlands, at the home of D. M. van Gelderen. The tree is nearly 140 years old and about 7–8 m high with an even greater spread. It forms an immense

golden dome at the end of the main path in the nursery of Firma C. Esveld. No records have been found of any trees larger than the Boskoop tree. Scions for grafting have been taken from it for several generations, so the progeny of this fine specimen are growing in many places around the world. Three of them are growing at Maplewood Nursery. This popular cultivar has also been known under the names of 'Aureum Oblongum', 'Flagelliforme Aureum', 'Golden Moon', 'Kakure gasa', 'Kinkakure', 'Macrophyllum Aureum', 'Ōgon itaya', and 'Yellow Moon'.

Acer shirasawanum 'Autumn Moon'

This small tree has attractive foliage of an unusual burnt-orange color with an underlying shade of base green. These colors are strongest when the plant is in full sun or very high shade. Shaded leaves carry pale yellow-green tones, and the plant shows a complete range of all tones in between those two extremes, depending on the degree of shade. In the fall, the leaves turn a rich orange and red.

The leaves are in the shape typical of the species with 11 short lobes, sometimes 9, which separate only about one-third of the distance to the leaf base. The lobes are ovate with a short, sharp tip and margins which are delicately and finely serrated. The lobes radiate in almost a full circular pattern with prominent midribs of a rusty color on some leaves. This color contrasts with that on many leaves. The leaves are of a good firm texture, not as thin as the species. They range from 5 cm long and 7 cm wide to large leaves, mostly on the outside wood, which



Acer shirasawanum 'Autumn Moon'. Photo courtesy of Oregon State University Archives, Corvallis

measure 8 cm long and 12 cm wide. The strong petioles are 5 cm long.

This attractive tree with beautiful summer color was selected at Maplewood Nursery in 1978. The original seedling stood out from a mixed population of *Acer shirasawanum* 'Aureum' seedlings with the usual light green to yellowish green leaves. It is best grown where plenty of sunlight develops the colors. The tree seems to stand heat well.

Acer shirasawanum 'Ezo-no-o momiji'

The leaves of this cultivar form an orbicular outline, broken only by the sharp lobe tips. The 11 lobes separate into the leaf about one-quarter of the way to the leaf base, and each abruptly terminates in a sharp point. The margins are only slightly serrated. The leaves are variable in size, mostly 6–8 cm wide, but may be 9–11 cm on vigorous young wood. The stiff petioles hold the leaves out firmly.

Spring color is a light yellow green with inside foliage a darker green tone. This green is not the same intense tone found in *Acer shirasawanum* 'Aureum' but has a duller appearance due to the rougher surface texture. The green darkens during the summer but develops the strong blends of golden red in the fall.

This small tree matures up to 6 m tall. The twigs are thick and of a stubby growth pattern, and form a multi-branched scaffold in older plants. This maple is medium hardy, rather difficult to grow, and hard to propagate. The pithy scions do not heal rapidly in grafting.



Acer shirasawanum 'Ezo-no-o momiji'. Photo by Cor van Gelderen

***Acer shirasawanum* 'Jūnihitoe'**

This cultivar is similar to *Acer shirasawanum* 'Microphyllum' and has the smallest leaves in the species. They measure 4–7 cm long and wide, with a circular outline. Each of the 11 lobes is very short, separating about one-third or less toward the leaf base. The lobe ends in a short, rounded point and is lightly toothed on the margins. The short, stiff petioles hold the leaves out horizontally in contrast to those of 'Microphyllum' which extend at various angles. The fall colors are brilliant orange tones. The fruits, in tight bunches of samaras, also turn orange and add to the beauty.

Twig growth is very short and stubby, often only two bud nodes in length. Each year the new growth is more angular, making the structure intricate and dense. New bark is gray green changing to gray brown in older wood. This stubby-growing, short tree matures at about 5 m, and 30-year-old trees may be only 3 m tall.

'Jūnihitoye', an alternate spelling of this cultivar's name, is listed in old catalogs from Japanese nurseries. Henry Hohman of Kingsville Nursery carried it in his early listings. It also is referred to in old literature where it is given as a Japanese term for the species. Koidzumi in 1911 showed it in his synonym list for the form *typicum*. Some authors make it synonymous with 'Ogura yama'.

***Acer shirasawanum* 'Microphyllum'**

The leaves of this plant have a round outline and are slightly cupped at the attachment to the petiole. The 11 lobes, sometimes only 9, are short and ovate-triangular, coming to a sharp point. They separate only about one-



Acer shirasawanum 'Jūnihitoe'. Photo courtesy of Oregon State University Archives, Corvallis

third of the way to the leaf base. The margins are shallowly double serrated. The leaves are 6–8 cm long and 8–10 cm wide. The basal lobes overlap and, with the upturn of the leaf, form a shallow cup. The underside of the leaf is semiglossy and a lighter green. The red petioles are sturdy and about 5 cm long.

The color is dark green and the leaf texture is substantial, forming a durable leaf. The fall color is a very bright blend of reds and yellows. The leaves remain firmly attached into late fall, thus extending the color period.

The growth seems less vigorous than that of the species, although the plant forms a small tree to 6 m tall. The twigs and branches are sturdy and form an interesting branch structure which adds to the winter beauty. It appears to be a sturdy and hardy form. This cultivar originated from a clone in the Coimbre Botanic Garden, Portugal (van Gelderen et al. 1994). 'Microphyllum' has also been known under the names 'Yezo meigetsu kaede' and *Acer japonicum* 'Microphyllum'.

***Acer shirasawanum* 'Ogura yama'**

'Ogura yama' is one of my favorite medium-sized Japanese maples. Every fall the brilliant display of rich orange blended with scarlet dominates this plant's portion of the garden. Spring foliage is a light yellow green. The leaves soon change to a purer green with a silvery overcast due to a covering of extremely fine pubescence. In midsummer the pubescence disappears, and the leaves darken further. Fall brings forth the dependable brilliant coloration.

The circular leaves have 9 or 11 lobes, sometimes only 7. These are separated one-third of the way to the leaf base. However, the edges remain adjacent, even overlapping slightly, making the leaf appear solid. Only the tapering, sharp points are separated, with each margin noticeably toothed. The smaller lobes on more mature leaves have a tendency to cup upward. The outer leaves measure 6–8 cm long. Throughout the inner areas of the tree, smaller leaves of 4–5 cm dominate. The petioles are stiff, pubescent, and 3–4 cm long.

'Ogura yama' is similar to 'Microphyllum' in appearance and leaf but is slower growing, reaching about 4 m at maturity. The growth becomes more multibranched and twiggy each year. It makes a sturdy plant and is quite hardy. Although most references place this maple as a cultivar of *Acer shirasawanum*, the van Gelderens (1999) describe it as a cultivar of *A. sieboldianum*.

***Acer shirasawanum* ‘Palmatifolium’**

This very beautiful selection has distinct foliage which is most attractive in all seasons. The bright green leaves take full sun without burning and have an almost translucent appearance. The fall colors are very spectacular and persist for a long period. The colors are bright blends of yellow and gold which are mottled and shaded with crimson.

The leaf has 11 lobes which are long, ovate-acuminate with a sharp, narrow tip. They separate distinctly over halfway to the leaf base and radiate openly. The margins are prominently toothed and roll slightly downward, making the separation between lobes even more distinct. The veins on the underside stand out prominently. The leaves measure up to 10 cm in diameter.

The bark of the twigs and young branches is a dusty green with prominent white striations. The older wood assumes a darker gray green. This sturdy, upright small tree forms a rounded canopy and matures at about 8 m high. It is hardy and accepts a wide range of culture conditions.

***Acer shirasawanum* ‘Sayo shigure’**

This cultivar is little known and not particularly outstanding. The foliage is green with a dusty-looking sheen. The leaves are nine lobed with margins lightly toothed. The lobes are ovate-acuminate and divide halfway to the leaf base. The leaves measure 5–7 cm long and wide. The fall colors become gold blended orange. ‘Sayo shigure’ is a medium-sized tall shrub or small tree. Japanese writ-



Acer shirasawanum ‘Palmatifolium’. Photo by Harry Olsen

ers indicate that this cultivar is not planted widely nowadays.

***Acer shirasawanum* ‘Susanne’**

This seedling of *Acer shirasawanum* ‘Aureum’ was selected by H. J. Drath of Barmstedt, Germany, given to the Thien-sen Arboretum, and named after the director’s daughter. It is a vigorous cultivar with leaves like its parent in shape and size but differing in color. The color is between that of ‘Aureum’ and *A. shirasawanum* ‘Microphyllum’. The 11-lobed, sometimes 9- to 13-lobed, leaves are a light yellow green throughout the growing season, turning a deep gold in the fall. Like ‘Aureum’, this cultivar has small, sharp, red-tipped teeth, giving the appearance of a very thin red edge around the lobe margins. The pleating of the leaves is slightly stronger than the pleating in *A. shirasawanum* ‘Aureum’. ‘Susanne’ forms a strong-growing, upright small tree which makes a good companion plant in the landscape. The lobe tips, like those of most forms of the species, singe in prolonged hot, sunny conditions.

***Acer sieboldianum* Miquel (1865)**

COMMON NAME: Siebold’s maple

JAPANESE COMMON NAMES: Aiai gasa, Itaya meigetsu, Kibana uchiwa kaede, Ko hau uchiwa kaede

The bright green leaves usually have 9 lobes, sometimes as few as 7 or as many as 11. The leaf surface has a minute pubescence when first unfolding, but it is soon lost as the leaf matures. The petioles are also pubescent when young, as well as the main veins on the undersurface of the leaf. The leaves are 5–8 cm long and 6–9 cm wide. They are orbicular, with ovate-oblong lobes separating about halfway to the leaf base. Each lobe terminates in a sharp point, and the margins are sharply toothed.

The fall coloration is an outstanding feature of this species. It becomes a brilliant scarlet with some orange leaves. *Acer sieboldianum* is a dependable plant for coloration in the landscape—more so than *A. circinatum*. The latter usually colors poorly when grown in mixed shrubbery plantings, while *A. sieboldianum* displays color very well under these conditions of moisture and fertility. It forms a tall multistemmed shrub or small tree up to 10 m at maturity. It is a very hardy, trouble-free plant for mixed landscapes.

Acer sieboldianum is one of the most common species in the mountain woods and thickets of Japan on the main islands of Honshū, Shikoku, and Kyūshū. It is

widely used in horticulture and has several popular cultivars.

***Acer sieboldianum* 'Kasatori yama'**

The small leaves of this cultivar are circular in outline and have 9 or 11 lobes, rarely 13. The lobes are ovate and separate at least one-third of the way into the leaf. The lobe ends taper rapidly to a sharp point, and the lobe margins are toothed. The foliage is a pale or yellowish green and rather thin in texture. The fall coloration is in strong combinations of yellow and orange crimson. This stocky, small tree does not grow as tall as the species does. It becomes twiggy as it matures, and the multi-branching replaces the longer growth of the juvenile shoots. The tree matures up to 4–5 m high.

***Acer sieboldianum* 'Kinugasa yama'**

The foliage is a distinct blue-green color and is heavily covered with silvery pubescence. These small hairs are longer and more obvious than those usually found on foliage of other cultivars of this species. The petioles are also strongly pubescent. This silky hairiness gives rise to the first part of the cultivar name, *kinu gasa*, which means "silk umbrella." The fall colors are blends of brilliant orange and red which vary on different portions of the tree. The medium-sized leaves range from 4 by 6 cm to as



Acer sieboldianum 'Kinugasa yama'. Photo courtesy of Oregon State University Archives, Corvallis

large as 8 by 10 cm. Each leaf has seven or nine lobes which separate at least halfway to the leaf base. The lobes are broadly ovate with sharp tips, and the margins have prominent serrations. 'Kinugasa yama' is a stocky, small tree which is strongly branched and forms a round-topped plant. It matures at 6–7 m high and is not difficult to grow.

***Acer sieboldianum* 'Mikasa yama'**

Kobayashi (1975) gave this cultivar status in *Acer japonicum*. After close study of the bud scales, pubescence of foliage and twigs, and other characteristics, I feel it rightly belongs in *A. sieboldianum*. The outline of the leaf is orbicular, but the seven, sometimes nine, lobes cut halfway to the leaf base. The lobe sides remain close together except for the outer ends, which rapidly taper to a sharp point. The margin of this outer taper is sharply toothed.

The new foliage has a pleated appearance and is a pale green with distinctly yellowish margins and a light pubescence covering the entire surface. This imparts a silvery sheen to the young leaves. The pubescence disappears during the season. The 2-to 3-cm long petioles are also covered with minute hairs. Fall colors are golden, occasionally tinged with crimson. The average leaf measures 4–7 cm long and wide, although larger leaves occur. This sturdy small tree, similar to *Acer sieboldianum* 'Kinugasa yama' but with smaller leaves, narrower lobes, and less-coarse toothing, is not widely known, and it is not very spectacular.

***Acer sieboldianum* 'Momiji gasa'**

The foliage of this cultivar has a light or whitish green appearance, which is partly due to the dense covering of silvery pubescence over the light green base color. The leaf undersides, as well as the petioles, are also covered with pubescence. The fall colors develop brilliant gold tones blended with red.

The leaves have nine lobes which separate deeply into the leaf. The lobes hold close together on the inner half, with the outer half oval in shape and tapering to a long, narrow point. The margins have strong serrations. The leaf is 5–7 cm long and 7–8 cm wide, with petioles 4 cm long.

The twigs and branches are sturdy, and the plant forms an upright shrub or small tree. Like the species, the cultivar is hardy. It has been placed under *Acer japonicum* and *A. shirasawanum* in some references. Others suggest that it is possibly a hybrid between *A. shirasawanum*

and *A. palmatum*. The name has been misspelled 'Momiji gasane'.

***Acer sieboldianum* 'Sode-no-uchi'**

This dwarf cultivar has the smallest leaves of any form of the species. The foliage is a bright, light green which holds well through the season. The fall colors are predominantly bright yellow with red tones blended on most leaves.

The leaf size varies from 2.5 to 4 cm long and from 3 to 5 cm wide. On the old wood, the leaves may be half this size. The seven or nine lobes radiate evenly outward and are separated at least halfway to the leaf base. Each lobe is ovate, terminating in a short, acuminate point. The margins are distinctly double toothed. The stiff petioles are only 4 cm long.

This little plant tends to form a rounded bush. The annual growth is only 10–12 cm long on young shoots and much less on older wood. It is an attractive plant which fits well into many types of planting, particularly in alpine gardens and in containers on patios. It is also popular for bonsai in Japan, forming a tight shape with little pruning.

Acer tataricum* subsp. *aidzuense (Franchet) P. C. de

Jong 1988

Although *Acer tataricum* is endemic to southern Europe and western Asia from Austria through to Ukraine, two

of its subspecies are native to Japan—*A. tataricum* subsp. *aidzuense* and *A. tataricum* subsp. *ginnala*. The latter is the more important in Japanese horticulture and has given rise to several outstanding cultivars.

Subspecies *aidzuense* is similar to subspecies *ginnala*, but the tree and leaves are slightly smaller with almost unlobed leaves, and it is confined to Honshū, Shikoku, and Kyūshū.

Acer tataricum* subsp. *ginnala (Maximowicz) Waesmel (1890)

COMMON NAME: Amur maple

JAPANESE COMMON NAME: Karakogi kaede

Amur maple is one of the most hardy, small tree species of *Acer*. It forms a multistemmed, dome-shaped large bush or small tree, reaching 8 m or so high. The tree is quite trouble-free and adapts to most cultural conditions. The three-lobed leaves have an oblong-triangular center lobe which is much more prominent and longer than the two rather short side lobes. Each leaf measures 5–8 cm long and 3–5 cm wide. The lobe tips are pointed and the margins are double serrated. The petioles are 3–4 cm long. The foliage is a bright green all season, durable, and withstands full sun. The fall coloration is a spectacular display of bright scarlet. Amur maple grows wild in northeastern China, Manchuria, North Korea, and on the Japanese islands of Honshū, Shikoku, and Kyūshū.

***Acer tataricum* subsp. *ginnala* 'Bailey Compact'**

This cultivar of the Amur maple has a dense, compact habit and a relatively dwarf form. It was selected and introduced by Bailey Nurseries of St. Paul, Minnesota, and



Acer sieboldianum 'Sode-no-uchi'. Photo courtesy of Oregon State University Archives, Corvallis



Acer tataricum subsp. *ginnala*. Photo by Peter Gregory

registered in 1979. The leaves are the same as those of its parent in shape, slightly smaller in size, and similar in color and texture. They turn a bright, shiny red in the fall. 'Bailey Compact' is ideally suited for the small garden or as a container plant. It was originally named 'Compact Amur Maple'.

Acer tataricum subsp. *ginnala* 'Durand Dwarf'

This very shrubby, mound-shaped dwarf form of the Amur maple is thought to have originated from a witches'-broom. It is an exceptionally fine plant which fits into almost any landscape. The shrub is very compact because of its branching habit of growth. Its seasonal shoot growth is only 10–20 cm long. As branches develop, the terminals shorten. This shrub measures slightly more than 1 m high and 1.5 m across in seven years, and reaches about 2 m at maturity.

The three-lobed leaves resemble those of the Amur maple in shape, with the elongate center lobe and abbreviated side lobes, but are smaller—about 4 cm long and 2–3 cm wide. The foliage during the growing season is a shiny, light green, changing to a brilliant crimson in the fall. This color is uniform over the entire plant. It is indeed a "burning bush" and makes a spectacular accent plant.

Acer tataricum subsp. *ginnala* 'Fire'

This vigorous form was received from Canada by Firma C. Esveld, Boskoop, Netherlands, and named and propagated by it. The dark green three-lobed leaves are firm textured and the same shape as those of the Amur maple. The fall color is a brilliant scarlet which lasts for several weeks. 'Fire' forms a vigorous upright shrub which is estimated to reach a mature height of 6–8 m, and has a very reliable fall color for a long period.

Acer truncatum Bunge (1833)

COMMON NAMES: Purple-blow maple, Shantung maple
JAPANESE COMMON NAMES: Akaji, Akajika itaya, Akaji nishiki,
Mansen itaya, Tokiwa

This species is very closely related to and quite similar to *Acer pictum*. It is a native of northern China, Manchuria, Siberia, North Korea, and the Japanese island of Sakhalin, growing on the plains and lower mountain slopes at elevations of 100–900 m above sea level. It is included with maples from Japan because of its close relationship with *A. pictum*, its popularity in Japanese horticulture, and because, though its main base is China, it is native to Sakhalin Island.

This desirable maple grows into a large, widespread bush or medium-sized tree 12–15 m high. The bark is reputed to be the roughest and most deeply fissured of any maple. The attractive, deeply divided, glossy ivylike leaves are more deeply divided than those of the typical *A. pictum*, separating at least two-thirds of the way toward the leaf base. The leaves are mostly five lobed but sometimes have three or seven lobes, and they are usually broader than long—8–16 cm wide and 6–13 cm long. Often, the leaf base is characteristically straight, hence the specific name *truncatum*. Each lobe is triangular-ovate, with a long, slender, pointed tip. The center lobe may have one or a pair of broad, pointed teeth on the outer shoulder. The emerging leaves, when they first appear, are an eye-catching red to purple shade, soon becoming glossy green for the summer. These change to a color display of yellow-orange-red to purple which lasts well into late fall.

Acer truncatum 'Akikaze nishiki'

The desirable feature of this plant is the white-on-green color pattern of the foliage. The basic color is a rich green, but each leaf is marked differently, varying from all-white leaves to those with hardly any flecks of white. The main pattern is white or cream cut-in a portion of the green leaf—*kiri fu* (cut in) type of variegation. In these leaves, the variegated portion is curved or sickle shaped, usually quite strongly so. Often the green leaf is stippled with tiny specks of white, forming a solid pattern with the green showing through from beneath.

The leaf is usually deeply divided with five lobes. However, it can vary from two or three to seven lobes, depending on the intensity of the variegation. The lobe gener-



Acer truncatum 'Akikaze nishiki'. Photo courtesy of Oregon State University Archives, Corvallis

ally is triangular-ovate, but all lobes with white areas are irregular and curved. Leaves vary greatly on each plant, but the average size is 6–8 cm long and 5–6 cm wide. As the new foliage appears, it has a definite pink tone which soon changes and becomes white or cream, marking the variegation.

This cultivar forms a tall shrub, reaching up to 5 m high as it matures. It is multibranched, which means the plant thickens as it grows older. It is not a rapid grower, especially after the first few years. As with most variegated maples, this cultivar should have some protection from hot afternoon sun which burns the light-colored leaf portions. ‘Albo-variegatum’, ‘Albo-vitatum’, ‘Shūhū nishiki’, ‘Tricolor’, and ‘Variegatum’ are synonyms of ‘Aki-kaze nishiki’. Errors for this plant include ‘Akaji nishiki’, ‘Shuen nishiki’, and ‘Shufu nishiki’.

Acer tschonoskii Maximowicz (1886)

COMMON NAME: Tschonoski’s maple

JAPANESE COMMON NAMES: Hakusan momiji, Hime ogurabana, Mine kaede

This small, graceful snakebark maple comes from Japan. The delicacy of its foliage makes it a very pleasant choice for mixed garden landscapes. It forms a shrublike plant or small tree, maturing at 5–7 m high, and never looks coarse in mixed plantings.

The leaf is orbicular in outline but with five lobes. The lobes are rhombic-ovate, sometimes with long, tapering tips. The pair of basal lobes is often very short. The margins are incised and double serrated. The leaves measure 5–8 cm long and slightly wider to 9 cm. They are bright green in color with a rusty-brown pubescence beneath, becoming glabrous except for tufts of brown hairs in the vein axils. The fall colors are yellow to golden, occasion-

ally tinged red. Though it is one of the least sensational Japanese maples in the fall, it has a quiet beauty of its own.

The branching is not coarse, although it is sturdy. It soon becomes multibranched but not objectionably twiggy. The striped patterning on the stems and branches is one of the least conspicuous of the snakebark maples.

This species is a native of northern Japan, occurring as isolated shrubs or in scattered groups in the subalpine higher mountain forest zone, at elevations ranging from 1400 to 2500 m. *Acer tschonoskii* var. *australe* extends its range into southern Japan, and *A. tschonoskii* subsp. *komarovii* is native to Manchuria and Korea. Although it is one of the easiest, hardiest, most tolerant (except on alkaline soils), and least invasive maples, Tschonoski’s maple is very rare in gardens. With its quiet grace, it deserves a place in the landscape.



Acer tschonoskii. Photo by Peter Gregory

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APPENDIX A

Japanese Names and Their Meanings



THE FOLLOWING list of Japanese words and their English equivalents is used in the names of numerous cultivars. In many cases the translations are direct applications of meaning. In others, they are portions or combinations of interpretations which cannot be applied literally. Many cultivar names are only abbreviated references to a more complex meaning, such as in the case of ‘Shigitatsu sawa’ and ‘Tanabata’. The latter is the “Festival of the Stars” (7 July), but has a delightful “fairy tale” behind the name, as told to me.

In the skies of Japan, there are two constellations related to the Festival of the Stars. One is called Kengyū (the young boy who cared for the cows), and the other is Syokūjō (the girl who was a weaver at the loom).

Once upon a time there were two diligent young people, Kengyū and Syokūjō. When they met the first time, they fell in love at once. After this happened, they didn’t work very hard any more but spent all their time walking together. When the gods noticed this, they got very angry and separated the two young people by a great river (the Milky Way). After this, the young people could not be together any more. But, the gods said that if they worked very hard they could see each other again once a year. So, they worked very hard and could see each other once a year on 7 July.

Thus *Tanabata* came to mean “Festival of the Stars” or “Festival of the Weaver.”

The terms described in the following list will enable the reader to understand more of the names which have combined terms. ‘Beni shidare’, for example, comes from *beni* (red) and *shidare* (drooping, cascading) and identifies this maple as “the red, cascading variety.” However, many Japanese words have several different meanings, hence it is often necessary to know what the Japanese character is before it is possible to correctly interpret the meaning.

- Aida—space, interval
 Aka—red
 Akebono—daybreak, dawn
 Aki—autumn, the fall
 Ama—fisherman, heaven
 Ami—reticulated
 Ao—blue-green
 Aoba—green leaves
 Aocha—yellow green
 Aoyagi—a green willow
 Ara—rough
 Ariake—daybreak, dawn
 Asagi—pale yellow
 Asahi—rising sun
 Azuma—east

 Ba—leaves
 Beni—deep red
 Bushi—warrior

 Cha—tea, brown
 Chidori—a plover
 Chiri—mottled
 Chishio—blood
 Chitose—a thousand years

 Daidai—orange
 Daimyō—feudal lord
 Dan—banded
 Do—way, school of thought
 Dono—feudal lord

 Edo—old name for Tokyo
 Eiga—splendor, glory

 Fu—variegated
 Fuku—cover
 Furi—scattered
 Fuyu—winter

 Gaki—fence
 Gaku—flower calyx
 Ganjitsu—New Year's Day
 Garyū—one's own style or manner
 Gasa—umbrella
 Gasane—layered, overlapping
 Gashira—lion's mane, lion's head
 Gasshō—ensemble, chorus
 Gasumi—mist, haze
 Gata—bay, beach, lagoon
 Gawa—river
 Goma—sesame seed

 Goshiki—multicolored
 Gōsō—splendor
 Gumo—spider
 Gure—cloud

 Hagoromo—angel's dress or cloth
 Hai—gray
 Hake—splashed
 Haku—white
 Hana—flower
 Hane—wing, feather, plumage
 Haru—springtime
 Hashi—bridge
 Hata—flag
 Hatsu—springtime, first
 Hi—bright scarlet, sunlight, fire, day
 Higan—springtime
 Higasa—sunshade, parasol
 Hime—princess; pretty, little
 Hinshu—cultivar, variety
 Hiyodori—thrushlike bird
 Hōgyoku—jewel
 Hōki—broom of twigs, besom
 Homare—glory, fame
 Hoshi—star
 Hosō—slender

 Ibo—wart
 Ichi—one
 Ichiyo—one leaf
 Ike—pond
 Inazuma—thunder
 Ine—rice-plant
 Iro—colored, hue
 Ishi—rook
 Iso—beach
 Ito—fine string, thread
 Iwa—boulder, reef
 Iwato—rock

 Jiban—ground
 Jirō—white
 Jishi—lion
 Jō—supreme, first-class, young lady
 Jochin—lantern
 Juzu—rosary beads

 Kaede—maple
 Kagami—mirror
 Kagerō—gossamer
 Kaki—fence

 Kaku—tower
 Kakure—shade, shelter
 Kamagata—falcate, hooked
 Kami—God
 Kan—border, edge, rim, cold
 Kara—ancient Chinese
 Karasu—crow, raven
 Kare—dry
 Karei—magnificent
 Kasa—umbrella
 Kasane—layered, overlapping
 Kashi—filament
 Kashiri—lion's mane
 Kasume—mist, haze
 Kasumi—mist, haze
 Kata—beach, lagoon
 Kawa—bark, river
 Kaze—wind, breeze
 Ke—hairy
 Kenko—healthy
 Ki—yellow or plants
 Kiku—chrysanthemum
 Kin—gold
 Kirei—beautiful
 Kiri—mist, misty
 Kirin—giraffe
 Ko—deep (color), child
 Kō—doll or small
 Kogane—golden
 Koi—thick, dark
 Komachi—beautiful girl or dwarf
 Komon—figure, fine pattern
 Koto—old harp
 Kū—emptiness
 Kujaku—peacock
 Kukuri—bundle or bunch
 Kumo—spider, cloud
 Kuro—black
 Kuzu—dust
 Kuzure—irregular
 Kyo—beautiful dress or ancient capital
 Kyo hime—fairy tale princess; pretty, little princess

 Ma—view, viewing or space
 Mai—dance, dancing
 Mama—any which way, doing as one pleases

| | | |
|--|---|--|
| Maru—round | Saotome—rice-planting girl | Tama—gem or ball |
| Masu—wooden cup | Sarasa—beautiful figured fabric | Tana—shelves, layers |
| Matsu—pine tree or lime tree | Sato—garden | Tanabata—Festival of the Stars |
| Me—female | Satō—sugar | Tatami—straw matting |
| Meigetsu—bright moon | Satsuki—azalea | Tennyō—angel |
| Mejishi—mythical female lion | Sazanami—small source, ripples | Tome—distant view |
| Men—paper | Sei—blue-green or clear stream(?), stature | Tōme—stillness |
| Meo—cotton | Seki—border, rim, edge | Tono—feudal lord |
| Midori—light green | Sekka—turning red | Tora—tiger |
| Misho—seedling | Semi—wing or skin | Tsū—professionalism, connoisseur |
| Miyabi—elegant, refined | Shi—threads, gentleman, four, poetry | Tsuchi—Earth |
| Miyama—remote high mountain | Shiba—grass | Tsuki—artificial, moon |
| Miyasama—prince | Shibumi—quiet, somber | Tsuma—nail |
| Mizu—water | Shichi—seven | Tsuru—stork, crane |
| Mochi—rice-cake | Shichihenge—changeful | Uba—old woman |
| Momo—peach | Shidare—cascading, willowy | Ubu—albino, innocent |
| Mon—gate | Shi en—smoke | Uchi—within, pocket |
| Moyo—patterned | Shigure—soft drizzle, autumn rain | Uchiwa—fan-leaf |
| Mu—emptiness, nothingness | Shima— island or stripe | Udzu—eddy |
| Mura—cluster | Shime—New Year's Day decoration | Ueno—park in Tokyo famous for its flowering cherries and flower parties |
| Murasaki—purple | Shimo—frost | Uki—drift, float |
| Naka—centered | Shin—new, improved | Ukigumo—floating clouds |
| Ne—ridge, origin | Shinto—sacred | Ukon—bright yellow, turmeric |
| Nioi—fragrance, scent | Shira—white | Umineko—seagull |
| Nishiki—brocade (variegated, rough) | Shiro—white | Usu—thin |
| Niwa—garden | Shishi—legendary lion | Uzu—eddy |
| No—of, from | Shōen—estate | Wabi—subdued taste |
| Nomura—beautiful | Shōjō—red-faced monkey of Japanese drama | Wabito—hermit, lonely person |
| O—tail, male, husband | Shu—master, sort (kind) | Washi—eagle |
| Ō—big, large | Shū—autumn, fall, vermilion red | Yae—double |
| Ōgon—gold | Sode—sleeve, wing | Yagi—beautiful, seat of coral |
| O jishi—mythical male lion | Sono—garden | Yama—high mountain, steep hill |
| Oku—deeply hidden, interior | Soto—outer | Yanagi—willow |
| Otome—maiden, virgin | Su—web | Yatsubusa—dwarf, compact |
| Rin—circle, ring | Sui—worldly, the best | Yō—leaf |
| Roji—dewy ground or tea garden | Sukashi—transparent | Yu—purified, clean or hot water |
| Ryoku—green | Sumi—charcoal, corner | Yū—evening |
| Ryū—dragon | Sumizone—dyed black, stained with ink | Yūgure—sunset, twilight |
| Sakae—prosperity, glory | Suna—sand | Yuki—snow |
| Sake—bamboo, rice wine | Sunago—dusted, sprinkled | Zakura—cherry |
| Saki—waterfall, point, tip | Tai—thick, big | Zan—mountain |
| Saku—fence | Takane—lofty peaks | Zō—sacred elephant |
| Same—rain | Take—bamboo | Zono—garden |
| Samidare—early summer rain, soft rain | Taki—waterfall | Zuma—thunder |
| Sango—coral | | Zuru—swan |

APPENDIX B

Guide to Uses and Characteristics



THIS GUIDE to Japanese maple uses and characteristics is provided to assist in the selection of plants for individual situations, taking into consideration their ultimate size, habit, color, and special cultural needs and conditions. Before making selections from the guide, the reader is urged to turn back to the cultivar description to double-check the suitability of a specific cultivar in terms of the particular location or use the reader has in mind. The classifications are not rigid criteria but are designed to suggest the qualities and uses of the plants described. Each classification must be interpreted for the reader's specific needs and locality. The names and abbreviations used and an explanation of the categories are as follows:

Height of mature plant, in meters

Form of mature plant

MOUND—mound-shaped shrub or tree

ROUND—round-shaped shrub or tree

UP—upright shrub or tree

WIDE—widespreading shrub or tree

Color of foliage

GREEN—green to yellow summer leaves, may have reddish edging

RED—red to bronze green summer leaves

VARIE—variegated leaves

Group

AMOE (Amoenum)—leaves divided up to two-thirds to leaf base

DISS (Dissectum)—leaves deeply dissected; lace-leaved

DWARF—cultivar normally less than 2 m (6½ ft.) in height

LINEA (Linearilobum)—leaf lobes narrow and straplike

MATSU (Matsumurae)—leaves divided more than three-fourths to leaf base

PALMA (Palmatum)—leaves divided two-thirds to three-fourths to leaf base

OTHER—cultivar not fitting into any of the above groups

Effects in the garden

DRAMA (dramatic)—plant notable for dramatic or unusual foliage, bark, or growth

FALL—plant notable for outstanding fall foliage color

GEN (general)—plant suitable for general garden use

SPRING—plant notable for the color of the spring foliage

Container—cultivar suitable for container on a patio. Note that all cultivars will adapt to container culture, but these indicated are the most suitable.

Bonsai—cultivar popular for bonsai culture due to the nature of the cultivar. Note that most cultivars will adapt to bonsai training.

Rockery—cultivar appropriate for rockery and alpine gardens

Companion—cultivar fits in very well with most other shrubbery, perennial and mixed plantings. These cultivars are not overly aggressive and keep their shape well.

Light requirements

ANY—plant tolerates any light conditions from partial shade to full sun.

SHADE—plant benefits from partial shade. These cultivars are not necessarily restricted to shade but rather grow better in it and are less likely to suffer sun scorch and exposure damage.

SUN—plant benefits from full sun. These cultivars grow well in full sun though some leaf tips may burn in extreme conditions.

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|----------------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Aka kawa hime' | 2-3 m | UP | GREEN | PALMA | DRAMA | YES | — | — | — | ANY |
| 'Akane' | 2-3 m | WIDE | GREEN | PALMA | SPRING | YES | — | — | YES | ANY |
| 'Aka shigitatsu sawa' | 3-4 m | UP | VARIE | PALMA | SPRING | YES | YES | — | YES | SHADE |
| 'Akegarasu' | 5-6 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Akita yatsubusa' | 1-2 m | ROUND | GREEN | DWARF | GEN | YES | YES | — | — | ANY |
| 'Amagi shigure' | 2-3 m | WIDE | GREEN | PALMA | GEN | YES | — | — | — | SUN |
| 'Aoba jo' | <1 m | MOUND | GREEN | DWARF | GEN | YES | YES | YES | YES | SUN |
| 'Aocha nishiki' | 2-3 m | UP | VARIE | AMOE | GEN | — | — | — | — | SHADE |
| 'Ao kanzashi' | 4-6 m | UP | VARIE | PALMA | GEN | — | — | — | YES | ANY |
| 'Ao shidare' | 2-3 m | MOUND | GREEN | DISS | GEN | YES | — | — | YES | ANY |
| 'Ao shime-no-uchi shidare' | 2-3 m | UP | GREEN | LINEA | GEN | YES | — | — | — | ANY |
| 'Aoyagi' | 5-7 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | ANY |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|--------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Arakawa' | 4-6 m | UP | GREEN | PALMA | DRAMA | YES | YES | — | — | ANY |
| 'Aratama' | 1-2 m | MOUND | RED | DWARF | DRAMA | YES | YES | YES | YES | SUN |
| 'Ariadne' | 2-3 m | WIDE | VARIE | MATSU | SPRING | YES | — | — | YES | SHADE |
| 'Ariake nomura' | 6-12 m | UP | RED | PALMA | GEN | — | — | — | — | ANY |
| 'Asahi zuru' | 4-6 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Atrolineare' | 2-4 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Atropurpureum' | 6-12 m | UP | RED | PALMA | GEN | — | — | — | — | ANY |
| 'Attraction' | 6-12 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Aureo-variegatum' | 4-8 m | UP | VARIE | MATSU | GEN | — | — | — | — | SHADE |
| 'Aureum' | 6-8 m | UP | GREEN | PALMA | FALL | YES | — | — | — | SHADE |
| 'Autumn Fire' | 2-4 m | WIDE | GREEN | DISS | FALL | YES | — | — | YES | ANY |
| 'Autumn Flame' | 6-8 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Autumn Glory' | 4-6 m | UP | GREEN | AMOE | GEN | — | — | — | — | ANY |
| 'Autumn Red' | 4-6 m | UP | GREEN | MATSU | FALL | — | — | — | YES | ANY |
| 'Azuma muraski' | 4-6 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Baby Lace' | 1-2 m | ROUND | RED | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Baldsmith' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Beni fushigi' | 4-8 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Beni hime' | <1 m | MOUND | RED | DWARF | SPRING | YES | YES | YES | YES | SUN |
| 'Beni hoshi' | 1-2 m | ROUND | GREEN | DWARF | SPRING | YES | YES | — | — | ANY |
| 'Beni kagami' | 4-8 m | WIDE | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Beni kawa' | 3-4 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | ANY |
| 'Beni komachi' | 2-3 m | ROUND | RED | MATSU | SPRING | YES | YES | YES | — | SHADE |
| 'Beni kumo-no-su' | 2-3 m | MOUND | RED | DISS | GEN | YES | — | YES | — | ANY |
| 'Beni maiko' | 2-4 m | UP | RED | PALMA | SPRING | YES | — | — | — | ANY |
| 'Beni ōtake' | 4-8 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Beni shichihenge' | 2-4 m | UP | VARIE | PALMA | SPRING | YES | — | — | YES | ANY |
| 'Beni shidare' | 2-6 m | MOUND | RED | DISS | GEN | YES | — | — | YES | ANY |
| 'Beni shi en' | 4-6 m | UP | VARIE | MATSU | GEN | — | — | — | YES | ANY |
| 'Beni tsukasa' | 3-5 m | UP | RED | PALMA | SPRING | YES | YES | — | YES | ANY |
| 'Beni ubi gohon' | 2-3 m | UP | RED | LINEA | GEN | YES | YES | — | — | ANY |
| 'Beni yatsubusa' | 2-4 m | MOUND | GREEN | PALMA | FALL | YES | — | — | YES | ANY |
| 'Berry Dwarf' | 1-2 m | WIDE | GREEN | DWARF | GEN | YES | YES | — | — | ANY |
| 'Bloodgood' | 5-7 m | UP | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Boskoop Glory' | 6-8 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Brandt's Dwarf' | <1 m | ROUND | RED | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Brocade' | 2-4 m | MOUND | RED | DISS | GEN | YES | — | — | YES | ANY |
| 'Burgundy Lace' | 4-6 m | WIDE | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Butterfly' | 3-4 m | UP | VARIE | MATSU | DRAMA | YES | YES | — | YES | ANY |
| 'Caperci Dwarf' | 1-2 m | ROUND | GREEN | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Chikumano' | 3-5 m | WIDE | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Chirimen nishiki' | 2-4 m | UP | VARIE | LINEA | SPRING | YES | YES | — | YES | SUN |
| 'Chishio' | 2-4 m | WIDE | GREEN | PALMA | SPRING | YES | YES | — | — | ANY |
| 'Chishio Improved' | 2-4 m | UP | GREEN | PALMA | SPRING | YES | YES | — | — | ANY |
| 'Chitose yama' | 2-4 m | MOUND | RED | MATSU | SPRING | YES | YES | — | — | ANY |
| 'Coonara Pygmy' | 1-2 m | ROUND | GREEN | DWARF | FALL | — | YES | YES | — | ANY |
| 'Corallinum' | 2-4 m | UP | GREEN | AMOE | SPRING | YES | — | — | YES | ANY |
| 'Coral Pink' | 1-2 m | UP | GREEN | DWARF | SPRING | — | — | — | — | SHADE |
| 'Crimson Queen' | 2-4 m | MOUND | RED | DISS | GEN | YES | — | — | YES | ANY |
| 'Curtis Strapleaf' | 3-4 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Deshōjō' | 2-4 m | UP | RED | PALMA | SPRING | — | — | — | YES | SUN |
| 'Dissectum Nigrum' | 3-4 m | MOUND | RED | DISS | SPRING | — | — | — | YES | SUN |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|-----------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Eddisbury' | 3-4 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | SUN |
| 'Elegans' | 3-4 m | WIDE | GREEN | MATSU | GEN | — | — | — | YES | ANY |
| 'Elizabeth' | 1-2 m | UP | RED | DWARF | GEN | — | YES | YES | — | ANY |
| 'Ellen' | 2-3 m | WIDE | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Emerald Lace' | 2-4 m | WIDE | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Emperor I' | 6-8 m | UP | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Enkan' | 2-4 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Ever Autumn' | 4-6 m | UP | GREEN | PALMA | SUN | — | — | — | — | ANY |
| 'Felice' | 3-4 m | WIDE | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Filigree' | 2-4 m | MOUND | VARIE | DISS | GEN | YES | — | — | YES | ANY |
| 'Fior d'Arancio' | 4-6 m | UP | RED | MATSU | GEN | YES | — | — | — | ANY |
| 'Fireglow' | 4-5 m | UP | RED | PALMA | GEN | YES | — | — | YES | SUN |
| 'Fjellheim' | 3-5 m | UP | GREEN | PALMA | DRAMA | YES | — | — | YES | ANY |
| 'Flavescens' | 2-4 m | MOUND | GREEN | DISS | SPRING | YES | — | — | YES | ANY |
| 'Garnet' | 4-5 m | MOUND | RED | DISS | GEN | YES | — | — | YES | ANY |
| 'Garyū' | 1-2 m | MOUND | GREEN | DWARF | DRAMA | YES | YES | YES | — | ANY |
| 'Geisha' | 1-2 m | ROUND | VARIE | DWARF | GEN | YES | — | YES | — | SHADE |
| 'Germaine's Gyration' | 3-5 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Globosum' | 1-2m | ROUND | GREEN | DWARF | GEN | YES | — | — | — | ANY |
| 'Golden Pond' | 3 m | WIDE | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Goshiki kotohime' | <1 m | ROUND | VARIE | DWARF | DRAMA | YES | YES | YES | YES | ANY |
| 'Goshiki shidare' | 2-3 m | MOUND | VARIE | DISS | SPRING | YES | YES | YES | YES | SHADE |
| 'Green Globe' | 4-6 m | ROUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Green Lace' | 3-4 m | MOUND | GREEN | DISS | FALL | YES | — | — | YES | ANY |
| 'Green Mist' | 3-4 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Green Trompenburg' | 6-12 m | UP | GREEN | MATSU | DRAMA | — | — | — | YES | SUN |
| 'Groundcover' | <1 m | WIDE | GREEN | DWARF | GEN | — | — | YES | — | ANY |
| 'Hagoromo' | 2-4 m | UP | GREEN | OTHER | DRAMA | — | — | — | YES | SUN |
| 'Hama otome' | 2-4 m | UP | VARIE | MATSU | GEN | — | — | — | YES | SHADE |
| 'Hanami nishiki' | 1-2 m | ROUND | GREEN | DWARF | SPRING | YES | YES | YES | YES | ANY |
| 'Hanazono nishiki' | 1-2 m | ROUND | VARIE | PALMA | GEN | — | — | — | — | SHADE |
| 'Harusame' | 2-4 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Hazeroino' | 2-3 m | UP | VARIE | OTHER | GEN | YES | — | — | — | SHADE |
| 'Heptalobum Rubrum' | 3-5 m | UP | RED | PALMA | FALL | — | — | — | YES | ANY |
| 'Herbstfeuer' | 4-6 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Hessei' | 4-6 m | WIDE | RED | MATSU | FALL | YES | — | — | YES | ANY |
| 'Higasa yama' | 6-9 m | UP | VARIE | PALMA | DRAMA | YES | YES | — | YES | ANY |
| 'Hiūga yama' | 5-7 m | UP | RED | PALMA | GEN | — | — | — | — | ANY |
| 'Hōgyoku' | 4-6 m | UP | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Hoshi kuzu' | <1 m | UP | VARIE | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Hupp's Dwarf' | <1 m | UP | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Ibo nishiki' | 4-6 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | ANY |
| 'Ichigyōji' | 6-10 m | UP | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Iijima sunago' | 6-10 m | UP | VARIE | MATSU | GEN | — | — | — | YES | ANY |
| 'Inaba shidare' | 3-5 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Inazuma' | 8-12 m | UP | RED | MATSU | FALL | — | — | — | YES | ANY |
| 'Irish Lace' | 2-4 m | MOUND | GREEN | DISS | GEN | YES | — | — | YES | ANY |
| 'Iso chidori' | 1-2 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Issai nishiki' | 1-2 m | UP | GREEN | DWARF | GEN | — | — | YES | YES | ANY |
| 'Italy Red' | 3-4 m | UP | RED | PALMA | GEN | YES | — | — | — | ANY |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|-------------------------|---------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Japanese Sunrise' | 5-7 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | ANY |
| 'Jirō shidare' | 2-4 m | WIDE | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Kagerō' | 3-5 m | UP | VARIE | PALMA | DRAMA | — | — | — | YES | SHADE |
| 'Kagiri nishiki' | 6-12 m | UP | VARIE | PALMA | GEN | — | — | — | YES | ANY |
| 'Kamagata' | 1-2 m | ROUND | GREEN | DWARF | DRAMA | YES | — | YES | — | ANY |
| 'Kandy Kitchen' | 1-2 m | ROUND | RED | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Kara ori nishiki' | 2-4 m | UP | VARIE | AMOE | GEN | — | — | — | — | SHADE |
| 'Karasu gawa' | 3-5 m | UP | VARIE | PALMA | SPRING | — | — | — | — | SHADE |
| 'Kasagi yama' | 6-10 m | UP | VARIE | MATSU | SPRING | — | — | — | YES | ANY |
| 'Kasen nishiki' | 4-6 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Kashima' | 1-2 m | ROUND | GREEN | DWARF | GEN | YES | YES | — | YES | ANY |
| 'Katsura' | 4-6 m | UP | GREEN | PALMA | SPRING | YES | YES | — | — | ANY |
| 'Kihachijō' | 4-6 m | UP | GREEN | MATSU | FALL | — | — | — | YES | ANY |
| 'Kingsville Red' | 6-12 m | UP | RED | PALMA | GEN | YES | — | — | YES | ANY |
| 'Kingsville Variegated' | 6-10 m | UP | VARIE | PALMA | DRAMA | — | — | — | YES | SHADE |
| 'Kinran' | 3-5 m | ROUND | RED | MATSU | FALL | YES | YES | — | — | ANY |
| 'Kinshi' | 2-4 m | UP | GREEN | LINEA | FALL | YES | — | — | — | ANY |
| 'Kiri nishiki' | 2-4 m | MOUND | GREEN | DISS | FALL | — | — | — | YES | SUN |
| 'Kiyohime' | 1-2 m | UP | GREEN | DWARF | SPRING | YES | YES | — | YES | ANY |
| 'Kogane nishiki' | 10-14 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Kogane sakae' | 10-14 m | UP | GREEN | AMOE | DRAMA | YES | — | — | — | ANY |
| 'Komon nishiki' | 2-4 m | UP | VARIE | PALMA | GEN | YES | YES | — | YES | ANY |
| 'Ko murasaki' | 3-5 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Korean Gem' | 6-10 m | UP | GREEN | PALMA | FALL | YES | — | — | YES | ANY |
| 'Koshibori nishiki' | 2-4 m | WIDE | VARIE | PALMA | GEN | YES | — | — | YES | ANY |
| 'Koshimino' | 6-8 m | UP | GREEN | OTHER | DRAMA | YES | — | — | — | ANY |
| 'Kotohime' | 1-2 m | UP | GREEN | DWARF | GEN | — | YES | — | YES | ANY |
| 'Koto ito komachi' | 1-2 m | ROUND | GREEN | DWARF | GEN | YES | — | YES | — | ANY |
| 'Koto maru' | 1-2 m | WIDE | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Koto-no-ito' | 2-4 m | UP | GREEN | LINEA | GEN | — | — | — | YES | ANY |
| 'Kurabu yama' | 2-4 m | UP | GREEN | MATSU | FALL | YES | — | — | YES | ANY |
| 'Kurui jishi' | 1-2 m | UP | GREEN | DWARF | GEN | — | — | YES | — | ANY |
| 'Lemon Lime Lace' | 2-4 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Lionheart' | 2-4 m | UP | RED | DISS | GEN | YES | — | — | YES | ANY |
| 'Lutescens' | 6-12 m | UP | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Maiko' | 2-4 m | UP | GREEN | PALMA | DRAMA | YES | — | — | YES | ANY |
| 'Mai mori' | 3-5 m | UP | VARIE | PALMA | GEN | — | — | — | — | SHADE |
| 'Mama' | 2-4 m | UP | GREEN | PALMA | GEN | YES | — | — | — | ANY |
| 'Mapi-no-machi hime' | 2-4 m | ROUND | GREEN | DWARF | SPRING | YES | YES | YES | — | ANY |
| 'Marakumo' | 2-4 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Margaret Bee' | 4-6 m | UP | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Masu kagami' | 2-4 m | UP | VARIE | MATSU | GEN | — | — | — | YES | SHADE |
| 'Masu murasaki' | 6-12 m | UP | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Matsugae' | 3-5 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Matsukaze' | 2-4 m | MOUND | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Matsuyoi' | 2-4 m | WIDE | GREEN | AMOE | GEN | — | — | — | — | ANY |
| 'Mikawa yatsubusa' | <1 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Mini Mondo' | 2-4 m | UP | GREEN | PALMA | GEN | YES | — | YES | — | ANY |
| 'Mirte' | 6-12 m | UP | GREEN | PALMA | GEN | — | — | — | YES | ANY |
| 'Miyagino' | 2-4 m | WIDE | GREEN | MATSU | FALL | — | — | — | YES | ANY |
| 'Mizuho beni' | 4-6 m | UP | GREEN | PALMA | SPRING | — | — | — | YES | SHADE |
| 'Mizu kuguri' | 2-4 m | WIDE | GREEN | PALMA | SPRING | — | — | — | — | ANY |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|---------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Momenshide' | 3-4 m | UP | GREEN | OTHER | GEN | YES | — | YES | — | ANY |
| 'Mon zukushi' | 4-6 m | UP | GREEN | PALMA | GEN | — | — | — | YES | ANY |
| 'Moonfire' | 6-12 m | UP | RED | PALMA | FALL | — | — | — | YES | ANY |
| 'Muragumo' | 6-8 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Murasaki hime' | 1-2 m | ROUND | RED | DWARF | GEN | — | — | YES | — | ANY |
| 'Murasaki kiyohime' | 1-2 m | UP | GREEN | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Mure hibari' | 4-6 m | UP | GREEN | MATSU | GEN | — | — | — | YES | ANY |
| 'Muro gawa' | 2-4 m | ROUND | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Musashino' | 8-12 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Nanase gawa' | 2-4 m | WIDE | GREEN | PALMA | SPRING | YES | — | — | — | ANY |
| 'Naruo nishiki' | 2-4 m | UP | VARIE | PALMA | GEN | YES | — | — | — | SHADE |
| 'Nicholsonii' | 4-6 m | UP | GREEN | MATSU | FALL | — | — | — | YES | ANY |
| 'Nigrum' | 4-6 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Nishiki gasane' | 2-4 m | UP | VARIE | PALMA | GEN | YES | — | — | — | SHADE |
| 'Nishiki gawa' | 4-6 m | UP | GREEN | PALMA | DRAMA | — | YES | — | — | ANY |
| 'Nishiki momiji' | 4-6 m | UP | GREEN | PALMA | FALL | YES | — | — | — | ANY |
| 'Nomura' | 6-10 m | UP | RED | PALMA | GEN | — | — | — | — | ANY |
| 'Nomura nishiki' | 3-5 m | WIDE | RED | MATSU | FALL | YES | — | — | — | ANY |
| 'Novum' | 6-12 m | UP | RED | AMOE | GEN | — | — | — | YES | ANY |
| 'Nuresagi' | 4-6 m | UP | RED | MATSU | DRAMA | — | — | — | YES | ANY |
| 'Octopus' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Ōgi nagashi' | 6-10 m | UP | VARIE | PALMA | GEN | — | — | — | — | SHADE |
| 'Ogino nagare' | 4-6 m | UP | GREEN | PALMA | GEN | — | — | — | YES | ANY |
| 'Ogon sarasa' | 4-6 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Ōjishi' | 1-2 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Ō kagami' | 4-6 m | UP | RED | PALMA | GEN | YES | — | — | YES | ANY |
| 'Okukuji nishiki' | 5-8 m | UP | VARIE | PALMA | GEN | — | — | — | YES | ANY |
| 'Okushimo' | 6-8 m | UP | GREEN | PALMA | DRAMA | — | YES | — | YES | ANY |
| 'Ōmato' | 6-10 m | UP | GREEN | AMOE | GEN | — | — | — | YES | ANY |
| 'Omure yama' | 4-6 m | UP | GREEN | MATSU | FALL | YES | — | — | YES | ANY |
| 'Orange Dream' | 2-4 m | UP | GREEN | PALMA | SPRING | YES | — | — | YES | SHADE |
| 'Orangeola' | 2-3 m | MOUND | RED | DISS | SPRING | — | — | — | YES | ANY |
| 'Oregon Sunset' | 4-6 m | ROUND | RED | MATSU | FALL | YES | — | — | YES | ANY |
| 'Oridono nishiki' | 4-6 m | UP | VARIE | PALMA | SPRING | YES | — | — | YES | SHADE |
| 'Ornatum' | 2-4 m | MOUND | RED | DISS | SPRING | — | — | — | YES | ANY |
| 'Ōsakazuki' | 6-12 m | UP | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Oshio beni' | 6-10 m | UP | RED | AMOE | GEN | — | — | — | YES | ANY |
| 'Ōshū beni' | 2-4 m | ROUND | RED | PALMA | GEN | YES | — | — | — | ANY |
| 'Ōshū shidare' | 4-6 m | WIDE | RED | MATSU | GEN | YES | — | — | YES | SUN |
| 'Oto hime' | <1 m | WIDE | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Otome zakura' | 2-4 m | UP | RED | PALMA | SPRING | YES | — | — | — | SUN |
| 'Palmatifidum' | 2-4 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Peaches and Cream' | 2-4 m | ROUND | VARIE | PALMA | SPRING | YES | — | — | YES | SHADE |
| 'Pendulum Julian' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | SUN |
| 'Pink Filigree' | 2-4 m | MOUND | RED | DISS | SPRING | — | — | — | YES | SUN |
| 'Pixie' | 1-2 m | ROUND | RED | DWARF | GEN | YES | — | YES | — | ANY |
| 'Purple Mask' | 2-4 m | UP | GREEN | LINEA | GEN | — | — | — | YES | ANY |
| 'Purpureum' | 6-8 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Red Autumn Lace' | 3-5 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Red Dragon' | 2-3 m | MOUND | RED | DISS | FALL | YES | YES | YES | — | ANY |
| 'Red Elf' | <1 m | ROUND | RED | DWARF | GEN | — | YES | YES | — | ANY |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|-----------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Red Filigree Lace' | 2-4 m | MOUND | RED | DISS | DRAMA | — | — | — | YES | SUN |
| 'Red Flash' | 3-5 m | UP | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Red Pygmy' | 2-4 m | ROUND | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Red Spider' | 3-6 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Rubrifolium' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Rubrum' | 2-4 m | UP | RED | AMOE | GEN | — | — | — | YES | ANY |
| 'Rufescens' | 2-4 m | UP | RED | PALMA | GEN | — | — | — | — | ANY |
| 'Rugose' | 2-4 m | UP | GREEN | MATSU | FALL | — | — | — | YES | ANY |
| 'Ryūmon nishiki' | 2-4 m | UP | VARIE | PALMA | GEN | YES | — | — | — | SHADE |
| 'Ryūzu' | 2-4 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Sagara nishiki' | 2-4 m | UP | VARIE | PALMA | GEN | YES | — | — | — | SHADE |
| 'Samidare' | 4-6 m | UP | GREEN | AMOE | GEN | — | — | — | YES | ANY |
| 'Sango kaku' | 6-10 m | UP | GREEN | PALMA | DRAMA | — | — | — | YES | ANY |
| 'Sanguineum' | 6-10 m | UP | RED | PALMA | GEN | — | — | — | — | SUN |
| 'Saoshika' | 2-4 m | WIDE | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Saotome' | 2-4 m | ROUND | GREEN | PALMA | GEN | YES | — | — | — | ANY |
| 'Satsuki beni' | 6-12 m | UP | GREEN | AMOE | FALL | — | — | — | YES | ANY |
| 'Sazanami' | 4-6 m | UP | GREEN | MATSU | DRAMA | — | — | — | YES | ANY |
| 'Seigai' | 3-6 m | UP | RED | PALMA | SPRING | YES | YES | — | — | ANY |
| 'Seigen' | 1-2 m | ROUND | GREEN | DWARF | SPRING | — | YES | — | — | ANY |
| 'Seiryū' | 4-6 m | UP | GREEN | DISS | FALL | YES | — | — | YES | ANY |
| 'Sekimori' | 2-4 m | MOUND | GREEN | DISS | GEN | — | YES | — | YES | ANY |
| 'Sekka yatsubusa' | 2-4 m | ROUND | GREEN | PALMA | GEN | — | YES | — | — | ANY |
| 'Semi-no-hane' | 6-8 m | UP | GREEN | MATSU | GEN | — | — | — | — | ANY |
| 'Shaina' | 2-4 m | UP | RED | PALMA | GEN | YES | — | — | YES | SUN |
| 'Sharp's Pygmy' | 1-2 m | WIDE | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Sherwood Flame' | 4-6 m | ROUND | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Shichihenge' | 4-6 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Shidava Gold' | 1-2 m | UP | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Shigarami' | 2-4 m | UP | GREEN | PALMA | GEN | YES | — | — | YES | ANY |
| 'Shigitatsu sawa' | 4-6 m | UP | VARIE | AMOE | DRAMA | — | — | — | YES | SHADE |
| 'Shigure bato' | 2-4 m | UP | GREEN | MATSU | GEN | — | — | — | — | ANY |
| 'Shigure zome' | 2-4 m | UP | RED | MATSU | GEN | — | — | — | — | SUN |
| 'Shikage ori nishiki' | 4-6 m | WIDE | RED | PALMA | GEN | — | — | — | YES | SUN |
| 'Shime-no-uchi' | 2-4 m | ROUND | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Shin deshōjō' | 2-4 m | ROUND | GREEN | PALMA | SPRING | YES | YES | — | — | ANY |
| 'Shinobuga oka' | 4-6 m | UP | GREEN | LINEA | GEN | YES | YES | — | — | ANY |
| 'Shinonome' | 2-4 m | UP | RED | MATSU | SPRING | YES | — | — | YES | ANY |
| 'Shiraname' | 2-4 m | UP | GREEN | MATSU | GEN | — | — | — | — | ANY |
| 'Shishigashira' | 4-6 m | UP | GREEN | PALMA | DRAMA | YES | YES | — | YES | ANY |
| 'Shishio hime' | 1-2 m | WIDE | GREEN | DWARF | GEN | YES | — | YES | — | ANY |
| 'Shishi yatsubusa' | 1-2 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Shōjō' | 2-4 m | UP | RED | MATSU | GEN | — | — | — | YES | SUN |
| 'Shōjō-no-mai' | 2-4 m | UP | VARIE | PALMA | SPRING | YES | — | — | — | SHADE |
| 'Shōjō nomura' | 2-4 m | UP | RED | MATSU | GEN | — | — | — | — | ANY |
| 'Shōjō shidare' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | SUN |
| 'Skeeter's Broom' | 1-2 m | UP | RED | DWARF | GEN | YES | YES | YES | — | ANY |
| 'Spring Delight' | 2-4 m | MOUND | GREEN | DISS | DRAMA | — | — | — | YES | SHADE |
| 'Stella Rossa' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | SUN |
| 'Sumi nagashi' | 4-6 m | UP | RED | MATSU | GEN | — | — | — | YES | SHADE |
| 'Sunset' | 2-4 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | SUN |
| 'Taimin' | 6-10 m | UP | RED | AMOE | GEN | — | — | — | — | ANY |
| 'Taimin nishiki' | 4-6 m | UP | VARIE | AMOE | GEN | — | — | — | — | SHADE |

| Cultivar Name | Height | Form | Color | Group | Effects | Container | Bonsai | Rockery | Companion | Light |
|-----------------------|--------|-------|-------|-------|---------|-----------|--------|---------|-----------|-------|
| 'Takao' | 6-10 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Taki-no-gawa' | 4-6 m | MOUND | GREEN | MATSU | GEN | — | — | — | YES | SUN |
| 'Tama hime' | 1-2 m | UP | GREEN | DWARF | FALL | — | YES | — | — | ANY |
| 'Tama nishiki' | 2-4 m | UP | VARIE | PALMA | GEN | YES | — | — | — | SHADE |
| 'Tamaori nishiki' | 3-5 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Tamuke yama' | 2-4 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Tana' | 4-6 m | UP | GREEN | AMOE | DRAMA | YES | — | — | YES | ANY |
| 'Tanabata' | 4-6 m | UP | RED | MATSU | GEN | — | — | — | YES | ANY |
| 'Tatsuta' | 2-4 m | MOUND | GREEN | AMOE | FALL | YES | — | — | — | ANY |
| 'Tennyo-no-hoshi' | 4-6 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'The Bishop' | 4-6 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Tobiosho' | 4-6 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Toyama' | 3-5 m | MOUND | RED | DISS | GEN | — | — | — | YES | ANY |
| 'Toyama nishiki' | 2-3 m | MOUND | VARIE | DISS | GEN | YES | — | — | — | SHADE |
| 'Trompenburg' | 6-12 m | UP | RED | MATSU | DRAMA | — | — | — | YES | ANY |
| 'Tsuchigumo' | 2-4 m | UP | GREEN | PALMA | DRAMA | YES | YES | — | — | ANY |
| 'Tsukomo' | 1-2 m | UP | GREEN | DWARF | DRAMA | — | — | YES | — | ANY |
| 'Tsukuba ne' | 6-12 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Tsukushi gata' | 4-6 m | WIDE | RED | AMOE | DRAMA | — | — | — | YES | ANY |
| 'Tsuma beni' | 2-4 m | ROUND | GREEN | AMOE | SPRING | — | — | — | YES | ANY |
| 'Tsuma gaki' | 2-4 m | ROUND | GREEN | AMOE | SPRING | — | — | — | YES | ANY |
| 'Tsuru nishiki' | 4-6 m | UP | GREEN | MATSU | GEN | — | — | — | YES | ANY |
| 'Twisted Spider' | 2-4 m | UP | GREEN | PALMA | DRAMA | YES | — | — | — | ANY |
| 'Ueno homare' | 4-6 m | UP | GREEN | PALMA | GEN | — | — | — | YES | ANY |
| 'Ueno yama' | 4-6 m | UP | GREEN | PALMA | SPRING | — | — | — | YES | ANY |
| 'Ukigumo' | 2-4 m | UP | VARIE | PALMA | DRAMA | YES | — | — | — | SHADE |
| 'Umegae' | 2-4 m | UP | RED | AMOE | GEN | — | — | — | YES | ANY |
| 'Utsu semi' | 2-4 m | WIDE | GREEN | AMOE | GEN | — | — | — | YES | ANY |
| 'Vandermoss Red' | 4-6 m | UP | RED | MATSU | GEN | — | — | — | YES | SUN |
| 'Variegatum' | 4-6 m | UP | VARIE | AMOE | GEN | — | — | — | — | SHADE |
| 'V. Corbin' | 1-2 m | WIDE | GREEN | DWARF | GEN | YES | — | YES | — | ANY |
| 'Versicolor' | 6-12 m | UP | VARIE | PALMA | GEN | — | — | — | YES | SHADE |
| 'Vic Pink' | 2-4 m | MOUND | GREEN | DISS | GEN | — | — | — | — | ANY |
| 'Villa Taranto' | 2-4 m | MOUND | GREEN | LINEA | DRAMA | YES | — | — | YES | ANY |
| 'Viridis' | 3-5 m | MOUND | GREEN | DISS | GEN | — | — | — | YES | ANY |
| 'Volubile' | 4-6 m | UP | GREEN | PALMA | FALL | — | — | — | YES | ANY |
| 'Wabito' | 2-4 m | UP | GREEN | MATSU | GEN | — | — | — | YES | ANY |
| 'Waka momiji' | 6-10 m | UP | VARIE | PALMA | GEN | — | — | — | YES | ANY |
| 'Wakehurst Pink' | 4-6 m | UP | VARIE | MATSU | GEN | — | — | — | YES | ANY |
| 'Waterfall' | 2-4 m | MOUND | GREEN | DISS | GEN | YES | — | — | YES | SUN |
| 'Whitney Red' | 6-10 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Willow Leaf' | 3-5 m | UP | RED | LINEA | GEN | — | — | — | YES | ANY |
| 'Wilson's Pink Dwarf' | 1-2 m | UP | GREEN | DWARF | SPRING | YES | — | YES | — | ANY |
| 'Winter Flame' | 2-4 m | UP | GREEN | MATSU | DRAMA | YES | — | — | YES | ANY |
| 'Wou nishiki' | 2-4 m | UP | GREEN | MATSU | GEN | — | — | — | YES | ANY |
| 'Yasemin' | 6-12 m | UP | RED | MATSU | DRAMA | — | — | — | YES | ANY |
| 'Yatsubusa' | 1-2 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |
| 'Yezo nishiki' | 6-10 m | UP | RED | AMOE | DRAMA | — | — | — | YES | SUN |
| 'Yubae' | 4-6 m | UP | VARIE | MATSU | GEN | — | — | — | YES | ANY |
| 'Yūgure' | 4-6 m | UP | RED | PALMA | GEN | — | — | — | YES | ANY |
| 'Yuri hime' | <1 m | ROUND | GREEN | DWARF | GEN | — | YES | YES | — | ANY |

APPENDIX C

Cultivars Not Yet Assessed



THE CULTIVARS briefly described below have yet to be assessed for stability and worthiness. Additional data is needed for these new maples, some of which appear to be very promising. The cultivars of *Acer palmatum* are listed first, followed by the cultivars of the other species.

‘Abigail Rose’. DWARF – *variegated*. The new foliage is rose colored, changing to variegation similar to that of ‘Higasa yama’, and turning orange red in the fall. The leaves are small and each has a prominent central lobe. This maple was discovered by Harold Johnston, Tallassee, Alabama, and named after his great-granddaughter.

‘Alpine Sunrise’. DWARF – *red*. A witches’-broom found by Robert McCaffrey of Alpine Gardens, Alpine, New Jersey. The five-lobed deeply divided leaves of the Matsumurae Group are 4–5 cm long and 6–7 cm wide, and often have a shortened central lobe.

‘Amime nishiki’. PALMATUM – *green*. This small rough-barked cultivar comes from Japan. The characteristic bark starts forming within two to three years on the light green shoots.

‘Aoba nishiki’. PALMATUM – *variegated*. The medium-green leaves of this Japanese cultivar have a yellow-cream variegation in splashes mixed with occasional mottling. The variegation may cover a whole lobe or the entire leaf. The five- or seven-lobed leaves are divided three-quarters way to the leaf base. The lobes are narrowly ovate with sharp tail-like tips.

‘Ara kawa ukon’. MATSUMURAE – *green*. This rough-barked maple from Japan is similar to ‘Nishiki gawa’ but with yellow fall color, not red. The corky bark begins to appear in the second year.

‘Banda hime’. PALMATUM – *variegated*. This slower-growing form is otherwise very like ‘Beni shichihenge’ in leaf shape, variegation, and coloring. The variegation is tinged deep pink in the spring, becoming flushed brownish pink during the summer.

‘Barrie Bergman’. DISSECTUM – *red*. This maple is similar to ‘Ornatum’ but slow growing and with rusty red summer color, turning orange red in the fall. It has been known under the name ‘Dissectum Barrie Bergman’.

‘Beni chidori’. PALMATUM – *green*. This maple is one of the bright pink-red spring color group of cultivars similar to ‘Corallinum’. The new leaves emerge a deep pink, quickly changing to orange red with yellow veins, before becoming green. The shoots and petioles are red.

‘Beni gasa’. PALMATUM – *red*. This attractive slow-growing cultivar is similar to ‘Kinran’, with red leaves having conspicuous, sharply pointed teeth.

‘Beni komachi Sport’. PALMATUM – *green*. This vigorous

- sport from the well-known ‘Beni komachi’ has a more normal palmatum leaf shape similar to ‘Shin deshō-jō’—hence, it is possibly a reversion. The blood-red spring leaves become green with red edging. The name is illegitimate because it includes Japanese and English words. This plant has been sold under the abbreviated name ‘Beni K Sport’.
- ‘Beni otome’. PALMATUM – *green*. This Japanese cultivar is very similar to ‘Beni tsukasa’ but with a deeper spring coloring—deep pink-red edging on orange-yellow leaves. It is a very promising plant.
- ‘Beni tsukasa shidare’. DISSECTUM – *red*. This bronze-brown dissectum from Japan has dark red leaves in the spring, changing to a rich orange in the fall.
- ‘Beni zuru’. PALMATUM – *green*. This is one of the orange-pink spring color cultivars from Japan. The leaves emerge a bright orange pink with yellow midribs. The five- or seven-lobed leaves are divided up to three-quarters way to the leaf base, and have long-ovate lobes with distinct tothing. This cultivar has been called ‘Beni tsuru’.
- ‘Berrima Bridge’. DISSECTUM – *green*. This vigorous dissectum has green young leaves which become reddish green to bronze green for the summer and turn bright red in the fall. It originated from a seedling collected at the Berrima Bridge Nursery in New South Wales, Australia.
- ‘Berry Broom’. DWARF – *green*. This maple originated from a witches’-broom on an unidentified green *Acer palmatum* plant, and was introduced by Raraflora Nursery of New South Wales, Australia. It is fast growing when young and displays the witches’-broom characteristic of a stubby central lobe on many leaves.
- ‘Bewley’s Red’. DISSECTUM – *red*. This Australian cultivar has an unusual upright growth habit, not the pendulous mushroom habit of most dissectums.
- ‘Birthday Wishes’. DISSECTUM – *green*. The lacy leaves emerge a soft orange with rosy overtones, becoming green for the summer before turning rosy red in the fall. This cultivar was named and introduced by Miyama Asian Maple Nursery, Laytonville, California. It was originally named ‘Birthday Dissectum’.
- ‘Bronzewing’. DISSECTUM – *red*. This old Australian cultivar of unknown origin has light bronze to greenish bronze foliage all summer, hence the name. It is rather like a faded *Acer palmatum* f. *dissectum atropurpureum*. It then turns yellow in the fall.
- ‘Captain McEacharn’. PALMATUM – *green*. This maple is one of the bright pink-red spring color group of cultivars similar to ‘Corallinum’. It originated from a tree growing in the Villa Taranto in Italy, and named after the villa’s former owner.
- ‘Carlis Corner’. DWARF – *red*. This dwarf red witches’-broom was found in New Jersey. It forms a small round globe with small leaves. The leaves emerge an attractive pink red, changing to a rich purple red, and holding the color very well, even in shade. This cultivar has been misspelled ‘Cakus Corner Broom’.
- ‘Chantilly Lace’. DISSECTUM – *green*. Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, introduced this attractive, hardy, dissected cultivar. It has finely cut medium-green leaves, almost as fine as those of ‘Red Filigree Lace’. The new leaves emerge a coppery red, gradually turning to green, and becoming a golden yellow to crimson in the fall.
- ‘Chishio Sanguineum’. PALMATUM – *green*. This small form of ‘Chishio’ has vivid orange-red spring foliage and excellent fall colors. It originates from Australia but has an illegitimate name with a mixture of Japanese and Latin words.
- ‘Crimson Carol’. MATSUMURAE – *red*. This very promising new cultivar originated from a seedling selected in the early 1990s. The large seven-lobed red leaves are quite distinctive, divided completely to the leaf base with many deep teeth. These teeth themselves have numerous small teeth to give a feathery appearance.
- ‘Crimson Prince’. PALMATUM – *red*. This cultivar is very similar to ‘Bloodgood’ but the five- or seven-lobed leaves hold their purple-red color to the fall. It forms an upright tree, reaching 6 m high.
- ‘Crinkle Leaf’. MATSUMURAE – *green*. The leaves of this strange cultivar have five coarse, broad, distorted



‘Carlis Corner’. Photo by Harry Olsen

- lobes which narrow sharply to the leaf base. The margins have coarse, irregular, stubby teeth. The lobes overlap and are crinkled and distorted to varying degrees. The cultivar originated from a chance seedling at Johnnie's Pleasure Plants Nursery in Tallassee, Alabama.
- 'Crippsii'. *PALMATUM* – *green*. This small shrub has small five-lobed leaves with rolled-up margins, very like the leaves of 'Okushimo' and 'Kurui jishi'. It was named and introduced by Hillier's Nursery in Hampshire, England.
- 'Daniel'. *DWARF* – *green*. This witches'-broom on a 100-year-old tree was found by Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, and named by him. It is similar to 'Coonara Pygmy' and has yellow fall color. It differs from most witches'-brooms in not having shortened central lobes on the leaves and in producing viable seed.
- 'Demi-sec'. *DISSECTUM* – *green*. This slow-growing round green dissectum has leaves and growth similar to those of 'Green Globe'. It originated from a chance seedling at Firma C. Esveld, Boskoop, Netherlands.
- 'Dezome irizome'. *PALMATUM* – *green*. This Japanese cultivar has large five- or seven-lobed green leaves divided up to three-quarters way to the leaf base. Young leaves are a lovely clear yellow green on short red petioles when they first emerge. The leaf margins are distinctly and regularly, but not deeply, toothed.
- 'Diane Verkade'. *PALMATUM* – *variegated*. This American cultivar has bright pink variegation in the spring and semi-pendulous branches. It is like a weeping form of 'Oridono nishiki', but with a broader crown, becoming as wide as tall.
- 'Dr. Baker'. *DISSECTUM* – *red*. A vigorous hardy American cultivar whose foliage turns scarlet in the fall.
- 'Dr. Tilt'. *PALMATUM* – *red*. This promising cultivar has brilliant fall colors of orange red. The red leaves become green tinged during the summer and are slightly cupped. 'Dr. Tilt' makes a medium-sized tree reaching about 5–6 m tall and stands up to hot sun very well without burning. It was selected by Harold Johnston from a seedling growing in Auburn, Alabama, and named after the horticultural professor at Auburn University.
- 'Eagles Claw'. *DISSECTUM* – *green*. This promising small slower-growing dissectum has leaves very like those of 'Palmatifidum'. They turn a vibrant yellow gold in the fall. The tips of the leaves tend to curve downwards, hence the name.
- 'Edna Bergman'. *MATSUMURAE* – *red*. This vigorous large upright tree is very easy to propagate. The leaves emerge a rusty red, becoming a bronze green later in the summer and changing to oranges and reds in the fall.
- 'Ed's Red'. *MATSUMURAE* – *red*. This upright-growing cultivar is similar in habit and color to 'Nuresagi'. It has deep purple-red leaves which change to an attractive orange red in the fall.
- 'Eimini'. *DWARF* – *green*. This attractive bushy round dwarf has very small perfectly shaped palmatum-type leaves, only 2–2.5 cm long and 1.5–2 cm wide. The shoots and petioles are red. 'Eimini' grows to 1.5 m tall with a 2-m spread. Otto Eisenhut, a Swiss collector and magnolia specialist living near the Villa Taranto in Italy, introduced it.
- 'Emma'. *DISSECTUM* – *red*. This introduction is similar to 'Ornatum' in habit, growth, and early color, but the leaves become a deeper purple that is maintained throughout the summer, turning a rich orange in the fall. It was selected by Fritz van der Horst at Firma C. Esveld Nursery, Boskoop, Netherlands, and named after his daughter.
- 'Englishtown'. *DWARF* – *red*. This red witches'-broom is like a cross between 'Pixie' and 'Shaina' but differs in its fastigiate growth. It was discovered and named by Stephen Kristoff of New Jersey.
- 'Erena'. *MATSUMURAE* – *variegated*. This Japanese introduction belongs in the 'Shigitatsu sawa' variegated group. The deeply divided leaves have long, narrow lobes and tail-like tips, and are medium to deep green with whitish tones between the veins.
- 'Fall's Fire'. *PALMATUM* – *green*. This promising vigorous upright tree has regular palmatum-type leaves with yellow-green new growth and which turn spectacular yellow, orange, and red colors in the fall.
- 'Fascination'. *MATSUMURAE* – *green*. A fast-growing upright tree with large bright green seven-lobed leaves up to 10 cm wide, and with large narrow double-teeth on the margins. The leaves are yellow orange in spring and become orange in the fall. The shape and size hint at a trace of *Acer japonicum* 'Aconitifolium' in its makeup. 'Fascination' was introduced by Frank Mossman and has attractive green bark with whitish striations.
- 'Filigree Rouge'. *DISSECTUM* – *red*. This typical red dissectum has seven-lobed leaves which become a bronze red suffused with green later in the summer and then turn orange yellow in the fall. 'Filigree Rouge' forms a spreading mound much wider than tall.

- 'Fireball'. DWARF – *red*. A witches'-broom found by David Verkade of Pompton Lakes, New Jersey. It has small, five-lobed deeply divided red leaves, often with the center lobe shortened and rounded.
- 'Flushing'. PALMATUM – *red*. This vigorous upright cultivar is very like 'Bloodgood' in leaf shape and color. The leaves are deep purple red.
- 'Fūjin'. PALMATUM – *variegated*. The variegated leaves of this Japanese cultivar are similar to those of 'Tennyono-hoshi' but more regular and open. They are green with a narrow band of creamy white edging the leaves.
- 'Gekkō nishiki'. PALMATUM – *green*. This neat small plant from Japan has bright yellow spring foliage and pink-red outer edges and tips. The leaves are 4 cm long and 5 cm wide and turn green for the summer, but the red tones persist near the leaf tips, making the plant look like a larger version of 'Kamagata' with flatter leaves.
- 'Girard's Dwarf'. DISSECTUM – *green*. This cultivar has large coarse dissected leaves, up to 14 cm long and 16 cm across, and with only a few very coarse teeth. A very unusual dissectum named by Girard's Nursery, East Geneva, Ohio.
- 'Glowing Embers'. PALMATUM – *red*. This dense bushy maple produces bright red new shoots and leaves throughout the summer. As they develop, the leaves become a plum red to form a contrasting background for the fiery new growth.
- 'Gossamer'. DWARF – *green*. A cross between a green *Acer palmatum* f. *dissectum* and *A. japonicum*, this cultivar has the deeply dissected leaves of its male parent and the hardiness of its female parent. The fall color is orange gold. 'Gossamer' is reputed to be one of the slowest-growing cultivars, hence ideal for rock gardens and bonsai.
- 'Green Hornet'. DISSECTUM – *green*. This promising cultivar is unusual in being a green dissectum with red fall color. The finely dissected leaves are a bright spring green with the young emerging leaves tinged in orange red. 'Green Hornet' is a very vigorous plant with long sweeping pendulous shoots.
- 'Green Star'. AMOENUM – *green*. This large vigorous upright cultivar has large star-shaped bright green leaves. It is very similar in leaf and habit to 'Ōsaka-zuki' but with brilliant orange fall color instead of scarlet.
- 'Hamano maru'. DWARF – *green*. This Japanese cultivar from a witches'-broom has a leaf shape and size similar to 'Koto maru'. The small five-lobed green leaves are 2 cm long and 2.5 cm wide with yellow midribs and pink-red toothed edges. The center lobe is often truncated.
- 'Hana matoi'. DISSECTUM – *variegated*. This Japanese cultivar has lovely pink and cream variegation in sections along the lobe edges and sometimes covering the entire lobe. The base color is green. The sublobes are not incised very deeply, so this cultivar is borderline between the Dissectum and Matsumurae Groups.
- 'Hanzel'. DISSECTUM – *green*. This hardy vigorous dissectum has finely cut blue-green leaves which turn orange in the fall. It is reputed to be versatile enough to grow in full sun or deep shade.
- 'Hatsukoi'. PALMATUM – *variegated*. This Japanese cultivar is one of the bright pink-red variegated spring-color group of cultivars similar to 'Beni shichihenge'. The spring coloring of the variegated lobe margins is between the bright pink of 'Beni shichihenge' and the slight pink-flushed cream of 'Butterfly', but unlike 'Butterfly' it holds its pink through the summer.
- 'Hatsu shigure'. DISSECTUM – *red*. The lacy leaves of this dissectum are similar in shape to the leaves of 'Garnet', but the new foliage is a vivid red becoming dark purple. This cultivar has been known under the illegal name 'Pendulum Hatsu shigure'.
- 'Heartbeat'. DISSECTUM – *red*. This Australian cultivar has bright red foliage which changes to a bright crimson in the fall.
- 'Heisei nishiki'. PALMATUM – *variegated*. This cream and green variegated cultivar from Japan has young leaves which emerge orange red, becoming green with occasional patches of cream of varying size. The cream patch may occupy up to half the leaf lobe causing the lobe to curve. The five- or seven-lobed leaves are divided up to three-quarters way to the leaf base.
- 'Higasa yama Broom'. PALMATUM – *variegated*. Probably not a true witches'-broom, this cultivar was discovered as a sport on 'Higasa yama' by Howard Hughes in his garden at Montesano, Washington. It has the same leaf shape and coloring as its parent but is twiggy and slower growing.
- 'Hime yatsubusa'. DWARF – *green*. This attractive dwarf from Japan is similar to 'Ryūzu', with small star-shaped five-lobed leaves. The leaves emerge yellow with reddish tips and upper margins before turning green with bronzed tips.
- 'Hiryū'. MATSUMURAE – *variegated*. Introduced into Europe from Japan, this cultivar has very peculiar leaves. The leaves have five narrow lobes which are deeply divided and the lobe shape is distorted by the variable

gray-green and cream-green variegation on the medium to dark green base color. This cultivar has been misspelled 'Hiryū'.

'Hondoshi'. PALMATUM – *green*. Firma C. Esveld, Boskoop, Netherlands, brought this vigorous cultivar from Korea. The five-lobed, occasionally seven-lobed, dark green leaves are divided up to three-quarters way to the leaf base. The young emerging leaves are an attractive bronze pink.

'Hyōtei'. MATSUMURAE – *red*. This Japanese cultivar has long-ovate lobes which narrow towards the lobe junctions, leaving clear gaps between the lobes. The young leaves emerge a pink bronze before becoming a light maroon for the summer.

'Ide-no-sato'. MATSUMURAE – *green*. This newer Japanese import with seven-lobed bronze-green leaves is somewhat like a green form of 'Kinran'. The leaves turn to gold and orange in the fall.



'Hiryū'. Photo by Cor van Gelderen



'Itami nishiki'. Photo by Harry Olsen

'Itami nishiki'. PALMATUM – *variegated*. This Japanese import in the 'Butterfly' group has green leaves and cream-variegated margins tinged orange pink.

'Izu-no-odoriko'. PALMATUM – *variegated*. This interesting cultivar was imported from Japan in 1991 by Cor van Gelderen for Firma C. Esveld, Boskoop, Netherlands. The creamy white variegation forms a broad band around the margins and often encroaches on the irregular green centers of the lobes, occasionally occupying the whole lobe or leaf.

'Japanese Sunset'. PALMATUM – *green*. This cultivar is almost identical to 'Japanese Sunrise', but the bark coloring of the shoots and branches is in reverse (that is, red on the shaded side and yellow on the exposed side). Otherwise, both maples are very similar to 'Sango kaku'.

'Jerre Schwartz'. DWARF – *red*. Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, named this very robust and reliable red witches'-broom after his mother. The leaves are deeply divided into five or seven long, narrow lobes, sometimes with the center lobe truncated, otherwise it is the longest lobe. The leaf margins are coarsely toothed. The name has been misspelled 'Jerry Schwartz'.

'Johnnie's Pink'. PALMATUM – *red*. The very attractive semiglossy bronze-red hawthorn-like leaves have large coarse double-toothed margins. The five or seven lobes are divided at least two-thirds way to the leaf base, with the central lobe often dominant.

'Johnnie's Surprise'. PALMATUM – *green*. The green, twisted leaves are similar in color and shape to those of 'Twisted Spider' but do not grow in clusters as in the latter. The foliage turns orange in the fall. This cultivar is vigorous, reaching about 3 m tall and 2 m



'Johnnie's Pink'. Photo by Harry Olsen

- wide in six years. It was selected and named by Harold Johnston, Johnnie's Pleasure Plants Nursery of Tallassee, Alabama.
- 'Julian'. *DISSECTUM* – *green*. This cultivar has soft green foliage changing to a soft yellow in the fall. It forms a pendulous mound as wide as tall.
- 'Julian's Weeper'. *DISSECTUM* – *red*. This purple-red cultivar has seven-lobed finely dissected medium-sized leaves, with small, narrow, sharply pointed teeth.
- 'Kaba'. *DWARF* – *green*. This strange-leaved cultivar has small five-lobed leaves which are very deeply divided into narrow almost straplike lobes. The sometimes red-tinged lobe margins are unevenly toothed and crinkled. The name means "hippopotamus" after the nursery of its discoverer, John Gibbons of Hippopotering Nursery, near Doncaster, England.
- 'Kasane jishi'. *PALMATUM* – *variegated*. This exciting cultivar from Japan has five- or seven-lobed green leaves with a fairly uniform narrow butter-yellow edging around the margins. As the leaves first emerge, the variegation appears as an orange-pink-bronze edging before turning butter yellow. The leaf shape and size are similar to those of 'Sagara nishiki'.
- 'Katsura hime'. *PALMATUM* – *green*. This smaller form of 'Katsura' has orange-yellow young leaves in the spring edged with deep orange red.
- 'Katsura nishiki'. *PALMATUM* – *variegated*. This variegated form of 'Katsura' has white to cream edging on the leaves and pink toning on the outer half of the lobes.
- 'Keiser'. *LINEARILOBUM* – *red*. The five-lobed straplike leaves of this vigorous cultivar have finely but sharply tipped teeth around the lobe margins. Like most linearilobums, 'Keiser' has fast-growing juvenile shoots which produce broader lobes and, probably because of its vigor, seems to revert more easily than most.
- 'Killarney'. *AMOENUM* – *green*. This medium upright cultivar has a vase-shaped crown and flat top. The green leaves overlap in a neat regular pattern.
- 'Kippō nishiki'. *MATSUMURAE* – *variegated*. This Japanese cultivar has mottled pink-cream variegation on the five-lobed deeply divided green leaves. The lobes are long and narrow with slender tail-like tips.
- 'Ki shūzan'. *MATSUMURAE* – *green*. This promising import from Korea has deeply divided and deeply toothed seven- or nine-lobed feathery leaves. The lobe tips tend to curve downwards. The dark green leaves turn to a bright yellow orange in the fall. The name has been misspelled as 'Kishousan'.
- 'Koba shōjō'. *MATSUMURAE* – *red*. This very interesting cultivar from Japan has red leaves, veins, petioles, and shoots. The color persists throughout the summer. The leaves are similar to those of 'Chitose yama', with five or seven lobes divided almost to the leaf base. The lobes are widespreading and separated right to the lobe junctions.
- 'Koko'. *MATSUMURAE* – *red*. This promising cultivar from the Villa Taranto, Italy, is like a green form of 'Kinran'. The nine lobes are deeply divided at different levels with the central divisions higher up the leaf. The forward-pointing lobes are long-ovate and unevenly but sharply toothed on the margins. The name has been misspelled 'Kokko'.
- 'Kokubunji nishiki'. *DWARF* – *variegated*. Firma C. Esveld, Boskoop, Netherlands, imported this variegated dwarf from Japan. It is very slow growing and difficult to propagate. However, it is very attractive with cream margins on the green palmatum-type leaves—rather like a compact dwarf form of 'Tennyo-no-hoshi'.
- 'Komachi hime'. *DWARF* – *green*. This very slow growing dwarf has small palmatum-type green leaves edged with red. The leaves and growth habit are very similar to those of 'Kiyohime'.
- 'Koriba'. *PALMATUM* – *red*. This Japanese import has regular shaped five- or seven-lobed leaves, divided two-thirds or so to the leaf base. The leaves are purple red but tend to become bronze green through the summer before turning orange in the fall.
- 'Kōya san'. *DWARF* – *green*. This attractive dwarf named by Dick van der Maat in Boskoop, Netherlands, has palmatum-type glossy bronze-green leaves, which emerge an attractive bronze red. The five or seven



'Kōya san'. Photo by Peter Gregory

- lobes are narrow ovate with coarse irregular teeth. This cultivar has been misspelled 'Koyagan'.
- 'Kuchi beni nishiki'. PALMATUM – *variegated*. This Japanese variegate of the 'Beni shichihenge' group has pretty bright pink-red variegated margins on the small five-lobed leaves. The lobes are broader and appear daintier than do the lobes of most cultivars in this group.
- 'Kurenai'. PALMATUM – *green*. This Japanese cultivar in the spring-color group has seven-lobed leaves, with the lobe tips pointing forward. The leaves are a bright orange red when they first appear, becoming green with bronzed tips for the summer. This cultivar has been known under the name 'Kureha'.
- 'Kyōryū'. DWARF – *green*. This slow-growing Japanese dwarf was imported to the Netherlands and is similar to 'Sekka yatsubusa'. An interesting characteristic of this cultivar is the flattened, fasciated shoots which often appear. The young leaves are a bronze green, becoming green for the summer, before turning yellow in the fall.
- 'Kyū ei nishiki'. PALMATUM – *variegated*. This Japanese cultivar has butter-yellow to cream variegation which is similar to that of 'Karasu gawa' and 'Oridono nishiki'. The leaf shape and size are also like those of 'Karasu gawa'.
- 'Leather Leaf'. PALMATUM – *green*. This cultivar is aptly named after the larger than usual palmatum-type olive to dark green leaves which are thickish, semi-shiny, and leathery to the touch. It grows to more than 4 m tall.
- 'Lemon Chiffon'. DISSECTUM – *green*. The spring leaves of this cultivar are a light yellow green, becoming light green for the summer, then turning yellow and orange with red flushes in the fall. It needs protection from the hot afternoon sun.
- 'Lockington Gem'. DWARF – *green*. This cultivar was selected and registered in 1992 by Donald Dosser, Victoria, Australia. It has a very dwarf, slow-growing habit and tiny leaves that do not exceed 1.5 cm long. They are one-third the size of the leaves of 'Coonara Pygmy' and 'Goshiki Kotohime'.
- 'Lozita'. PALMATUM – *red*. The five- or seven-lobed deeply divided leaves are a bright, light purple red when first emerging, contrasting with the darker purple older leaves throughout the season. The leaves are divided three-quarters way to the leaf base, and the margins are distinctly and regularly double toothed.
- 'Marjan'. PALMATUM – *red*. The bright pink-red young

leaves become a darker purple in early summer, then turn a bronze green before turning bright red again in the fall. The five- or seven-lobed leaves are firm and semileathery in texture. This cultivar was introduced by Dick van der Maat, Boskoop, Netherlands, and named after his wife.

- 'Mary Catherine'. DWARF – *red*. Another witches'-broom with five- or sometimes seven-lobed red leaves of the Matsumurae Group. The lobes are narrowly ovate, often with a truncated central lobe.
- 'Matthew'. DWARF – *green*. Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, introduced this good reliable witches'-broom. The leaves turn a lovely yellow orange in the fall. 'Matthew' is very similar in habit and leaf to 'Coonara Pygmy'.
- 'Mioun'. DISSECTUM – *red*. This cultivar has bronze-red foliage turning to yellow orange in the fall. It is hardy but prefers light shade.
- 'Miyabi nishiki'. PALMATUM – *variegated*. This Japanese cultivar has leaf shape, color, and variegation similar to that of 'Asahi zuru'. In the fall, the variegation turns a bright gold orange.
- 'Momiji gawa'. MATSUMURAE – *red*. This Japanese cultivar has leaves almost identical in shape to those of 'Ō kagami' except the basal lobes are held at right angles to the petiole. The leaves are a light orange red when they emerge, becoming maroon colored for the summer.
- 'Momoiro kōya san'. PALMATUM – *red*. The emerging five- to seven-lobed leaves are brightly peach colored when they first appear, quickly becoming orange red, then



'Matthew'. Photo by Harry Olsen

red, gradually changing to bronze green in late summer. Some leaves have a light variegation in summer. This cultivar is hardy and grows best in light shade. The word *momoiro* means “peach-colored” and *kōya san* is the name of a mountain in Japan.

‘Mon Papa’. MATSUMURAE – *red*. This large-leaved deeply divided purple-red cultivar holds its color well all summer. Its main characteristic is the feathery effect provided by the leaf margins which are deeply and regularly double toothed, the teeth narrow and sharply pointed. Except for the unusual serration, it is very similar to ‘Matsukaze’.

‘Nomura kōyō’. MATSUMURAE – *red*. This Japanese cultivar is similar to ‘Nomura’ and ‘Nomura ōba’. It has slightly narrower lobes and is an even lighter red color. The name is synonymous with ‘Nomura ōjō’ and ‘Nomura ōrō’.

‘Nomura ōba’. MATSUMURAE – *red*. This Japanese cultivar is very similar to ‘Nomura’ but with more numerous sharper-pointed teeth and a lighter red color. The young leaves are a bright pink red.

‘Nose gawa’. PALMATUM – *red*. This Japanese cultivar has bright fresh light-green leaves on short green petioles, causing the leaves to bunch into clusters on the shoots. The leaves are long triangular and widest at the base.

‘Okina’. DWARF – *green*. This cultivar is similar in appearance to ‘Kamagata’ but the five lobes, divided almost



‘Mon Papa’. Photo by Peter Gregory



‘Momoiro kōya san’. Photo by Peter Gregory

- to the base, are very narrow and hold stiffly in a star shape. The leaves emerge a bright pink, changing to green with red tingeing round the crinkled leaf edges. This very promising dwarf has been misspelled ‘Okimo’ and ‘Okino’.
- ‘Orion’. DWARF – *green*. Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania, discovered this curious dwarf on a witches’-broom. The leaves have deeply divided lobes with “feathery” toothed margins.
- ‘Paul’s Variegata’. PALMATUM – *variegated*. This distinctly different variegata has medium-sized palmate leaves and broad lobes. The basic color is a dark green with splashes of creamy white variegation. Howard Hughes of Montesano, Washington, introduced the cultivar.
- ‘Phoenix’. MATSUMURAE – *red*. This promising cultivar is similar to ‘Beni fushigi’ but considered to be more robust and it holds its red coloration much longer.
- ‘Pung kil’. LINEARILOBUM – *red*. This Korean cultivar is similar to ‘Red Pygmy’ but with longer, narrower straplike lobes. The young leaves are light red, becoming dark red for the summer and holding their color well. ‘Pung kil’ originated from a seedling of *Acer palmatum* f. *atropurpureum*. The name has been misspelled ‘Pung kill’.
- ‘Pygmy’. DWARF – *green*. This very slow growing dwarf has palmatum-type leaves. The center lobe is the longest with a tail-like pointed tip. Mature plants attain a height of about 1 m, spreading a little wider.
- ‘Raraflora’. DISSECTUM – *green*. This attractive weeping deeply cut dissectum from America has new foliage of a soft orange to shrimp pink, changing to yellow-green centers with pink edging, and becoming a forest green for the summer. The foliage changes to a day-glow red in the fall.
- ‘Red Baron’. MATSUMURAE – *red*. Similar in leaf shape and color to ‘Shōjō nomura’, this cultivar forms a small to medium-sized, broad, upright tree, and was introduced by Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania.
- ‘Red Feather’. DISSECTUM – *red*. This seedling from ‘Burgundy Lace’ has very finely cut leaves similar to those of ‘Red Filigree Lace’ but smaller and a lighter red. It is a more vigorous grower.
- ‘Red Spray’. PALMATUM – *red*. Similar in leaf shape and color to ‘Bloodgood’, this cultivar has longer leaves and is said to grow more vigorously. The leaves are bright red in the spring, becoming a purple red, then changing to a bronze green in late summer before turning a fiery orange red in the fall.
- ‘Red Strata’. DWARF – *red*. This dwarf dissectum hugs the ground like a red disk, hence the name. The spring foliage is reddish pink becoming pink green. Full sun retains the pink red color best, but this cultivar greens easily in the shade.
- ‘Red Willow’. LINEARILOBUM – *red*. This vigorous red strap-leaved maple is similar to ‘Beni ōtake’ but with larger, deeper burgundy-red leaves. The coarse linear lobes are 10–12 cm long and 5–8 mm wide. The bright pink young growth makes an attractive contrast.
- ‘Red Wood’. PALMATUM – *green*. Introduced by the late Edward Wood, this plant is a ‘Sango kaku’ look-alike and is reputed to hold the coral-red bark color for two years. However, the coloring and its longevity are not as outstanding as either ‘Beni kawa’ or ‘Fjellheim’.
- ‘Renjaku maru’. DWARF – *green*. This delightful small-leaved Japanese dwarf is similar to ‘Kiyohime’. The leaves are green with reddish edging and tips, and the center lobe is often truncate, indicating its witches’-broom origins.
- ‘Rilas Red’. DISSECTUM – *red*. This mushroom-shaped cultivar has very finely dissected leaves of glowing red, especially in the fall.
- ‘Roseum Ornatum’. DISSECTUM – *red*. This plant has bronze-red spring foliage with glowing red-pink new growth during the summer. The leaves turn orange and red in the fall.
- ‘Royle’. DWARF – *red*. This maple from a witches’-broom on an *Acer palmatum* f. *atropurpureum* was found by Joseph Stupka in Pennsylvania, and named by Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, after his wife’s family. It has irregular five- to seven-lobed red leaves and brilliant red fall color, and forms a rounded bush up to 1 m tall.
- ‘Ruby Star’. DWARF – *green*. This very promising dwarf with star-shaped palmatum-type leaves and seasonal color patterns is similar to ‘Beni hoshi’. In spring the leaves emerge a rich ruby red, changing to green with red bronzing of the tips and margins, becoming completely green in the summer. The striking contrast of bright red young leaves against a background of green older leaves remains all summer. The colors change to gold and crimson in the fall.
- ‘Ruth’s Red’. PALMATUM – *red*. This cultivar is a seedling selection, possibly from ‘Bloodgood’, introduced by Gregg Gulden of Suncrest Gardens, Mt. Holly Springs, Pennsylvania, and named after his mother. It has large, deep purple-red seven-lobed leaves 7–8 cm long and 9–10 cm wide. The lobes are broadly ovate with

tapering tips. The margins are very evenly and finely serrate, the teeth with sharp-pointed tips.

‘Ryoku ryū’. DWARF – *green*. This upright Japanese import to the Netherlands has three- or five-lobed deeply divided, often misshapen leaves, changing to yellow in the fall. The foliage is similar to that of ‘Sharp’s Pygmy’. This cultivar has been misspelled ‘Ryokuru’ and ‘Ryokuryo’.

‘Sai ho’. PALMATUM – *green*. This Japanese cultivar has tiny seven-lobed leaves clustered at the end of the shoots. The narrow lobes are deeply divided to three-quarters way to the leaf base and have slight bronzing to the tips and outer margins. The ultimate height of this cultivar is uncertain, but ‘Sai ho’ probably belongs in the dwarf group.

‘St. Jean’. MATSUMURAE – *red*. This attractive cultivar from the Kalmthout Arboretum in Belgium is similar to ‘Shinonome’. The seven-lobed, deeply divided leaves emerge a bright pink red, changing to a bronze red, then pink on green later in the summer.

‘Sango nishiki’. PALMATUM – *variegated*. This Japanese variegated form of ‘Sango kaku’ has creamy yellow to yellow-green edging to the medium-green leaves.

‘Seiun kaku’. PALMATUM – *green*. This upright flat-topped shrub reaches 2–3 m tall and is like a vigorous form of ‘Mikawa yatsubusa’. The leaves of the two cultivars are similar in that they overlap like shingles on a roof. The lobes of ‘Seiun kaku’ are long and narrow, with the center lobe the longest. The name has been misspelled ‘Seiwen kaku’.

‘Shimofuri nishiki’. PALMATUM – *variegated*. This Japanese variegated has deeply divided green leaves and narrow long-ovate lobes with parallel lower sides and coarse

teeth on the outer margins. The variegation consists of cream-green to pink speckling.

‘Shūzan kō’. AMOENUM – *green*. Typically five or seven lobed, the shallowly divided leaves have broad ovate lobes and finely toothed margins. The leaves turn red in the fall. The Japanese name for *Acer palmatum* subsp. *amoenum* is “shūzankō,” hence it is debatable if this can be treated as a distinct cultivar. It has been known under ‘Shūzan kō hondoshi’ and ‘Syuzanko’.

‘Sode nishiki’. PALMATUM – *green*. This attractive Japanese import in the ‘Katsura’ group has spring-colored foliage. The five- or seven-lobed leaves are orange yellow with pink edging in the spring, changing to deeper orange and red before becoming green in the summer. The foliage color turns back to yellow in the fall.

‘Suisei’. DISSECTUM – *variegated*. This slow-growing dissectum was imported into the Netherlands from Japan and is similar in leaf and variegation to ‘Filigree’. The basic color is green with conspicuous speckling of white on young leaves which, like in ‘Filigree’, gradually fades to green as the leaf ages.

‘Suzu maru’. DWARF – *green*. This Japanese cultivar is similar to ‘Kotohime’ with bunched-up leaf clusters and pink-flushed young leaves on a light green background of older leaves.

‘Taiyō nishiki’. PALMATUM – *variegated*. This promising small Japanese import is similar to ‘Tennyō-no-hoshi’. It has pink to creamy yellow variegation on the margins of the deeply divided lobes, which are larger than those of ‘Tennyō-no-hoshi’.

‘Tarō yama’. PALMATUM – *green*. This small import from Japan has colorful spring foliage and new growth. It is similar to ‘Ryūzu’. The new leaves are yellow orange



‘Ruby Star’. Photo by Harry Olsen



‘Suisei’. Photo by Cor van Gelderen

- with deep pink margins and tips, changing to light green. This cultivar has been known under ‘Tarohi yama’.
- ‘Tattoo’. DWARF – *green*. This little beauty is like a very slow growing ‘Mikawa yatsubusa’, with small light yellow-green leaves bunched up at the ends of small shoots, becoming medium to dark green as they mature.
- ‘Tendō’. AMOENUM – *green*. This cultivar was imported from Korea by Cor van Gelderen of Firma C. Esveld, Boskoop, Netherlands, who describes it as “a strong-growing, rather small-leaved cultivar with confused leaves.” The shallowly divided lobes turn in any direction with the tips tending to turn down like blunt claws. The name has been misspelled ‘Tentou’.
- ‘Teriha’. MATSUMURAE – *red*. This vigorous Japanese import has medium-sized deeply divided leaves, which emerge bright maroon red, becoming a darkish bronze red to bronze green later in the summer. The outer margins are coarsely toothed. ‘Teriha’ has been misspelled ‘Teriba’.
- ‘Tiny Tim’. DWARF – *green*. This hardy, round, green dwarf is very similar to ‘Coonara Pygmy’. The small fresh green leaves are on reddish petioles and turn yellow and red in the fall. ‘Tiny Tim’ originated from a witches’-broom found and named by Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania.
- ‘Tsukuma no’. OTHER – *green*. This Japanese import into the Netherlands has stalkless leaves, similar to those of ‘Hagoromo’ and ‘Koshimino’. Bark, shoot, and leaves are green, and the lower midribs, like those of ‘Hagoromo’, are tinged pink red. The five-lobed leaves are divided to the leaf base, with the narrow lobes only the width of the midrib in the lower third. The name has been misspelled ‘Tsuka mano’.
- ‘Victoria’. DWARF – *red*. This rounded dwarf has frequent truncated center leaf lobes, showing its witches’-broom origins. The bright red of spring fades to a rusty green later in summer, before turning a vivid crimson in the fall.
- ‘Waka midori’. PALMATUM – *green*. This small shrub from Japan has five-lobed fresh green leaves which are divided up to three-quarters way to the leaf base. The lobes have tail-like tips and are held separately in a star shape.
- ‘Waka momiji Variegated’. PALMATUM – *variegated*. This variegated sport from ‘Waka momiji’ has an illegitimate name that mixes Latin and English words. It is very similar to ‘Oridono nishiki’ with splashes of pink and cream on the basic green color.
- ‘Warburton Pygmy’. DWARF – *green*. This cultivar was selected and registered in 1992 by Donald Dosser, Victoria, Australia, because of its dwarf, flat-topped habit. It has reached 30 cm in height and spread after 10 years and will not grow long shoots even after heavy feeding and grafting.
- ‘Watnong’. DISSECTUM – *red*. This cascading dissectum has bright red young leaves becoming pink red over green through the summer, and changing to scarlet in the fall. Habit, leaf, and color are so close to those of ‘Baldsmith’, they might be considered to be the same cultivar.
- ‘Wendy’. PALMATUM – *green*. This spreading bush has ivy-textured, semiglossy five-lobed leaves. The new leaves emerge an attractive orange pink, become bronze red and then green with bronzed edges, producing a multicolored effect through the summer.
- ‘Wolff’s Broom’. DWARF – *red*. This dwarf originated from a witches’-broom on *Acer palmatum* f. *atropurpureum*. It was found and named by Billy Schwartz, Green Mansions Nursery, Downingtown, Pennsylvania, after the late Richard P. Wolff of Red Maple Nursery, Media, Pennsylvania. The leaves emerge a bright red, becoming a rusty green by late July and changing to orange red in the fall.
- Acer buergerianum* ‘Hanachiru sato’. This variegated cultivar with pink-red new shoots was imported from Japan by Firma C. Esveld, Boskoop, Netherlands. The foliage and speckled variegation are similar to that found in *A. buergerianum* ‘Wakō nishiki’, but ‘Hanachiru sato’ seems hardier and more vigorous.



‘Wendy’. Photo by Cor van Gelderen

Acer buergerianum 'Hime kaede'. The leaves of this Japanese cultivar are similar in shape to those of *A. buergerianum* 'Mino yatsubusa'—a dominant long-ovate central lobe, about twice as long as the obliquely pointed side lobes. The young leaves emerge an attractive shiny bronze red.

Acer buergerianum 'Inazuma nishiki'. This cultivar has a *shimo furi* (frost-scattered) type of yellow variegation.

Acer buergerianum 'Jōroku aka me'. This medium-sized bush has shiny green leaves that have three forward-pointing lobes, the center lobe dominant. Attractive orange-red to bronze-red young leaves appear throughout the summer.

Acer buergerianum 'Kifu nishiki'. This dwarf variegate was imported into the Netherlands from Japan by Firma C. Esveld, Boskoop. The small dense shrub reaches 1 m high. The small stubby, almost unlobed leaves have a creamy variegation on the lower half of the leaf.

Acer buergerianum 'Nokori bi'. This cultivar has large very shiny dark green leaves which are a beautiful bronze red when first emerging. The leaves have three forward-pointing lobes in the outer third of each leaf. They are slightly wavy and bunched, with occasional teeth on the margin.

Acer buergerianum 'Shirley Debacq'. The green leaves of this upright fastigiate cultivar are divided to about halfway to the leaf base.

Acer circinatum 'Hidden Valley'. This vine maple cultivar has a round, bright green leaf with pink to red fall colors. It grows into a neat shrub 3.5 m tall when in full sun. The plant was named and introduced by Miyama Asian Maple Nursery, Laytonville, California.



Acer buergerianum 'Jōroku aka me'. Photo by Cor van Gelderen

Acer japonicum 'Aka omote'. The seven-lobed medium-sized leaves are shallowly divided only one-third way to the leaf base. The lobes are short and fat. The leaves are green with light bronzing, especially when first appearing, contrasting with the light green at the leaf junction with the petiole.

Acer pictum 'Asagiri nishiki'. This Japanese cultivar has five-lobed deeply divided leaves similar to those of *A. pictum* 'Dissectum' but variegated with a network of light variegation following the finely reticulate veins of the green leaves. The variegation is rather like that on the leaves of *A. palmatum* 'Shigitatsu sawa'. The name has been misspelled 'Asagira'.

Acer pictum 'Marmoratum'. This shrub to 8 m tall with slightly white-dotted variegation on the leaves is similar to *A. pictum* 'Hoshi yadori' but not as worthwhile.

Acer pictum 'Naguri nishiki'. The variegation of this Japanese cultivar is almost a cross between *A. pictum* 'Hoshi yadori' and *A. pictum* 'Usugumo'—a mixture of heavily concentrated white dots and specks of varying sizes and intensities.

Acer pictum 'Nikkoense'. This Japanese cultivar has lacinate lobes and pubescent veins.

Acer pictum 'Satsuki beni'. This shallowly lobed variegate growing in Japan has a bewildering mixture of variegation patterns from dusting to splashes, from totally white leaves to totally green and all stages between.

Acer shirasawanum 'Diana'. This variegated form has 9- or 11-lobed leaves with irregular splashes of white variegation on the medium green base color.

Acer shirasawanum 'Gloria'. The 9- or 11-lobed deeply divided leaves with coarsely toothed margins are similar



Acer shirasawanum 'Diana'. Photo by Cor van Gelderen

to those of *A. palmatum* 'Yasemin'. Both would seem to be hybrids between *A. shirasawanum* and *A. palmatum*. The young leaves emerge a bright red in the spring, become bronze green, then turn a vivid red in the fall.

Acer sieboldianum 'Albiflorum'. This form is like the type species in growth, habit, and leaves but, as the name implies, has white flowers instead of the typical yellow.

Acer sieboldianum 'Mikasa nishiki'. This variegated form has deeply cut lobes and a network variegation similar to that of *A. palmatum* 'Shigitatsu sawa'.

Acer sieboldianum 'Sayo ginu'. This form has very small leaves which turn a vivid red in the fall.

Acer sieboldianum 'Tortuosum'. This unusual cultivar has contorted shoots and branches.

Acer tataricum 'Aureo-variegatum'. This more delicate form of the Amur maple has yellow-variegated leaves

which are prone to scorching in full sun or cold winds. It needs a sheltered position, shaded from direct sun.

Acer tataricum 'Coccineum'. The fruits are an outstanding red, even brighter than those of the type species.

Acer tataricum 'Flame'. This cultivar was received from Canada by Firma C. Esveld, Boskoop, Netherlands, and named by it. Like *A. tataricum* 'Fire', it is said to be an improvement on *A. tataricum* subsp. *ginnala*.

Acer tataricum 'Mondy'. This large multistemmed shrub was raised by Monrovia Nurseries of California and given the trademark name Red Rhapsody.™ The fall colors are yellow and orange, becoming bright scarlet.

Acer truncatum 'Asahi nishiki'. This deeply divided variegated form from Japan has a *sunago fu* (sand-dusted) type of variegation, often in large bold splashes occupying half the lobe or more.



Acer shirasawanum 'Gloria'. Photo by Cor van Gelderen

APPENDIX D

Cultivar Names Not Elsewhere Described



THE NAMES included in the following list are not described elsewhere in this book. They are recorded here for reference purposes and as an indication of the vast number of names which have been applied to this small group of plants over the past 300 years—and are still being applied. The names cited here fall into at least one of the following categories:

1. Names used in early literature which may have been discontinued
2. Cultivars propagated in very early times which may no longer be in cultivation
3. Names which may be synonyms or misspellings but are not presently verified
4. Modern-day plant selections or imports not yet widely known or distributed
5. Early European nomenclature later found to be invalid
6. Cultivars for which there is insufficient information to evaluate
7. Names which may be alternative interpretations of the kanji written forms

| | | |
|---|--|--|
| 'Acutum' | 'Angustilobum' (<i>A. japonicum</i>) | 'Asashi yama' |
| 'Adrian's Compact' | 'Angustilobum' (<i>A. tataricum</i>) | 'Asatsuyu' |
| 'Akahada yama' | 'Angyō-no-sato' (<i>A. distylum</i>) | 'Asayake nishiki' (<i>A. pycnanthum</i>) |
| 'Akaha nishiki' | 'Ansung' | 'Ascendens' (<i>A. japonicum</i>) |
| 'Aka moyo' | 'Ao gaki yama' | 'Asplenifolium' (<i>A. shirasawanum</i>) |
| 'Akebono' | 'Aome-no-hichi shidare' | 'Asuka' |
| 'Akikaze' (<i>A. truncatum</i>) | 'Ao seigen' | 'Asuka gawa' |
| 'Akishino' | 'Arano' | 'Autumn Blaze' |
| 'Aki tsuma beni' | 'Arashi yama' | 'Autumn Showers' |
| 'Akitsushima' | 'Argenteo nishiki' | 'Awayuki' (<i>A. tataricum</i>) |
| 'Akitsuta' | 'Arima yama' | 'Ayai' |
| 'Albo-variegatum' (<i>A. tataricum</i>) | 'Asahi zuru shirafu' | 'Aya nishiki' |
| 'Allyn Cook' (<i>A. circinatum</i>) | 'Asanoha' | 'Azuma sato' |
| 'Andreanum' | 'Asa-no-hoshi' | |

- ‘Baltzer-Hig’
 ‘Bambiani’
 ‘Baumel’
 ‘Beni goromo’
 ‘Beni kaede’
 ‘Beni ko hime’
 ‘Beni kosode’
 ‘Beni musume’
 ‘Beni nishiki’
 ‘Beni nomi’
 ‘Beni sengoku’
 ‘Beni yaku nishiki’ (*A. morifolium*)
 ‘Bicolor’
 ‘Blondie’
 ‘Bob’s Big Green’
 ‘Bō jō’
 ‘Bonnie Bergman’
 ‘Brevilobum’
 ‘Buckland Ruby’

 ‘Calico’
 ‘Candelabrum’ (*A. micranthum*)
 ‘Capersian Dwarf’
 ‘Carane Brokat’
 ‘Carlton’
 ‘Carneum’
 ‘Carolyn Wolff’
 ‘Caudatum’
 ‘Chi otome’
 ‘Chiri hime’
 ‘Chiyo hime’
 ‘Chizome’
 ‘Chokeiji’
 ‘Chouguraji’
 ‘Circumlobatum’
 ‘Compactum’
 ‘Corbin’
 ‘Crassifolium’ (*A. japonicum*)
 ‘Crispifolium’
 ‘Crumple Leaf’
 ‘C. R. Wolff’
 ‘Cuneatum’
 ‘Cupreum’

 ‘Dantsugi’ (*A. japonicum*)
 ‘Deshōjō nishiki’
 ‘Dissectum’ (*A. japonicum*)
 ‘Dissectum Atropurpureum Variegatum’

 ‘Dissectum Orientalis’
 ‘Dissectum Roseo-Marginatum’
 ‘Dissectum Superbum’
 ‘Dissectum Variegatum’
 ‘Don’
 ‘Dr. Brown’
 ‘Dwarf hime’

 ‘E. C. Steiner’
 ‘Eiga nishiki’ (*A. crataegifolium*)
 ‘Elmwoodii’
 ‘Elobatum’ (*A. buergerianum*)
 ‘Emerald Elf’ (*A. tataricum*)
 ‘Enshōji’
 ‘Ensyouji’
 ‘Euchlorum’

 ‘Filiforme’ (*A. japonicum*)
 ‘Filiformis’ (*A. japonicum*)
 ‘Fugenbō’
 ‘Fūjinami nishiki’
 ‘Fukui’
 ‘Furu sato’
 ‘Futagi’
 ‘Futago yama’ (*A. pictum*)

 ‘Gangouji’
 ‘Gasshō’
 ‘Genji gurama’
 ‘Genji yama’
 ‘Gentaku’
 ‘Gerrian Contorted’
 ‘Gibbsii’
 ‘Gimborn’ (*A. morifolium*)
 ‘Goddard’s Prostrate’
 ‘Golden Butterfly’
 ‘Goldsworth Purple’
 ‘Gosho zome’
 ‘Gotenba nishiki’ (*A. cissifolium*)
 ‘Goten nomura’

 ‘Hana asobe’
 ‘Hanachi nishiki’ (*A. buergerianum*)
 ‘Hana-no-arashi’ (*A. pictum*)
 ‘Hane ogi’
 ‘Hashio’
 ‘Hatsuse yama’
 ‘Heavy Seed’
 ‘Heims’

 ‘Heim’s Crumpled Leaf’
 ‘Heiwa’
 ‘Helena’ (*A. shirasawanum*)
 ‘Hess Broom’
 ‘Heterophyllum Variegata’
 ‘Hibari’
 ‘Hida hinabi’
 ‘Hikaru genji’
 ‘Hillieri’
 ‘Hime ha uchiwa’
 ‘Hime tsuma gaki’
 ‘Hime yaku nishiki’ (*A. morifolium*)
 ‘Hinode nishiki’
 ‘Hi-no-tsukasa’
 ‘Hinu tsukasa’
 ‘Hira-no-uchi’
 ‘Hiroha koshimino’
 ‘Hirotaishaku’
 ‘Hisa ei nishiki’
 ‘Hitoshio’
 ‘Hitosome’
 ‘Hokuwa’
 ‘Honō’
 ‘Honoo’
 ‘Ho o nishiki’
 ‘Horinji’
 ‘Horizontalis’
 ‘Hoshi dukiya’ (*A. pictum*)
 ‘Hosoba koshimino’
 ‘Howzan’
 ‘Hubb’s Red Willow’
 ‘Huru gawa’

 ‘Ikeda yatsubusa’
 ‘Ikoma’
 ‘Illustre’
 ‘Inabuchi’
 ‘Ino brokat’
 ‘In the Pink’
 ‘Isis’ (*A. sieboldianum*)
 ‘Iso shibuki’
 ‘Issai nishiki kawazu’
 ‘Ito shidare’
 ‘Ittaisan nishiki’ (*A. crataegifolium*)
 ‘Iwada kagami’
 ‘Iwate yama’
 ‘Izayoi’
 ‘Izu-no-sato’

| | | |
|---|---|---|
| 'Jade Green' | 'Ko shimino nishiki' | 'Mimuru yama' |
| 'Jane Platt' | 'Koshimi yatsubusa' (<i>A. buergerianum</i>) | 'Minobe gawa' |
| 'Jeddeloh Orange' | 'Kotobuki' | 'Mino kasa yama' |
| 'Jennifer Jill' | 'Ko uchiwa' (<i>A. sieboldianum</i>) | 'Mino o' |
| 'Jiman zome momiji' | 'Koyō ao shidare' | 'Mishō tōyō nishiki' (<i>A. buergerianum</i>) |
| 'Jim Baggart' | 'Kujaku bato' (<i>A. japonicum</i>) | 'Mitchii' |
| | 'Kumogasumi' | 'Mitsuba yama' |
| 'Kaempferi' (<i>A. japonicum</i>) | 'Kuni-no-sato' | 'Mitsu cha' |
| 'Kaga kujaku' | 'Kunpū nishiki' (<i>A. sieboldianum</i>) | 'Mi yama' |
| 'Kaga otama gawa' | 'Kurenai jishi' | 'Mi yama nishiki' (<i>A. sieboldianum</i>) |
| 'Kaga tsudare' | 'Kuro hime' | 'Mizu moguri' |
| 'Kagiri' | 'Kuro koma' | 'Mon nishiki' |
| 'Kamegaya' | 'Kuro wu yama' | 'Montsuki' |
| 'Kan nazuki' | 'Kushimiyano' | 'Morinomiya' |
| 'Kara aya' | 'Kyra' | 'Morris' |
| 'Kara ori' | | 'Moto koto-no-ito' |
| 'Karuk aya' | 'Littleleaf' (<i>A. shirasawanum</i>) | 'Mugiwara nishiki' |
| 'Kasado' (<i>A. japonicum</i>) | 'Lobatum' | 'Muka' |
| 'Kasuga' | 'Lovett' | 'Mukō gawa' |
| 'Katsura gisan' (<i>A. sieboldianum</i>) | 'Lovett' (<i>A. japonicum</i>) | 'Multicolor' |
| 'Kaya meigetsu' (<i>A. sieboldianum</i>) | | 'Mura beni shidare' |
| 'Kayoi' | 'Machioji' | 'Murasaki iroha' |
| 'Kenbu' | 'Macranthum' (<i>A. japonicum</i>) | 'Murasaki shikibu' |
| 'Kenkō nishiki' | 'Macrocarpum' (<i>A. japonicum</i>) | 'Murasaki take' |
| 'Kibō nishiki' | 'Macrophyllum' (<i>A. japonicum</i>) | 'Murasame' (<i>A. shirasawanum</i>) |
| 'Kibune' | 'Magnificum' (<i>A. japonicum</i>) | 'Mure ria' |
| 'Kiev nishiki' (<i>A. buergerianum</i>) | 'Manyō-no-sato' | 'Mure suzume' |
| 'Kigi' | 'Marian' | 'Musa shi' (<i>A. buergerianum</i>) |
| 'Kihin nishiki' (<i>A. pycnanthum</i>) | 'Mars' | 'Mutsu beni shidare' |
| 'Kihou nishiki' | 'Mary Kay' | |
| 'Kimigayo' | 'Mat' | 'Nagashima' (<i>A. diabolicum</i>) |
| 'King Copse' (<i>A. japonicum</i>) | 'Matsu kuba' | 'Nakaoku gawa' |
| 'Kin shōjō' | 'Meckelii' (<i>A. japonicum</i>) | 'Naniwa beni' |
| 'Kiryaka nishiki' | 'Mei hō' | 'Narihira beni' |
| 'Ki wikajo' | 'Mei hō nishiki' | 'Nathan' |
| 'Koba nomura' | 'Meikets' | 'Natsu midori' |
| 'Ko chidori' | 'Meiko' | 'Niho beni' |
| 'Kodono' | 'Meito' | 'Nikkō shichihenge' |
| 'Kofuji nishiki' (<i>A. crataegifolium</i>) | 'Meoto' | 'Niro gawa' |
| 'Kogasa yama' | 'Mesu jishi' | 'Nishiki deshōjō' |
| 'Kohaku iro no' | 'Meuri-no-chirifu' (<i>A. crataegifolium</i>) | 'Nishiki tatsuta gawa' |
| 'Kohmyohji' | 'Meuri-no-ōfu' (<i>A. crataegifolium</i>) | 'Noki bata' |
| 'Ko kibune' | 'Michi' | 'Nomura Select' |
| 'Ko kiyo hime' | 'Mikage nishiki' (<i>A. crataegifolium</i>) | 'Nukada ō' |
| 'Kokonoe' (<i>A. japonicum</i>) | 'Mikata nishiki' | 'Nukaidake' |
| 'Komadome' | 'Mikawa nishiki' | 'Nunome gawa' |
| 'Kōmyōji' | 'Mikomo nishiki' | |
| 'Konfu in' | 'Milton Park Broom' | 'Obata' |
| 'Kongō nishiki' (<i>A. rufinerve</i>) | 'Mimaye' | 'Obtusum' |

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| 'Ochikochibito' | 'Rouge' | 'Shin tsuzure nishiki' |
| 'Ōgi tsuma gaki' | 'Royal' | 'Shiro fu nishiki' |
| 'Ōgon shidare' | 'Rubricaule' | 'Shōjō shōwa' |
| 'Ō iso nishiki' | 'Ruby Ridge' | 'Shokune nishiki' |
| 'Ō izu' | 'Rugose Select' | 'Shōnan nishiki' |
| 'Okotoi' | 'Ruth Murray' | 'Shōwa-no-mai' |
| 'Olmsted' | 'Ryoshoin' | 'Shuzenji' |
| 'Ominato' | 'Ryūgū' | 'Si yama' (<i>A. circinatum</i>) |
| 'Omona' | 'Ryūri' | 'Speciosum' |
| 'Oranges and Lemons' | 'Ryūsen' | 'Squitty' |
| 'Oregon Sunrise' | 'Ryūtō' | 'Star Blend' |
| 'Ori zuru' | | 'Sumieda shidare' |
| 'Ōsakazuki-no-akame' | 'Sagami' | 'Sumi nagare' |
| 'Ō sayo shiki' | 'Saho tsunago' | 'Sumi shidare' |
| 'Osiris' (<i>A. sieboldianum</i>) | 'Saho yama' | 'Sumi zome' |
| 'Otto's Dissectum' | 'Saho yatsubusa' | 'Sunny Sister' (<i>A. circinatum</i>) |
| 'Owugon shidare' | 'Sandra' | 'Super Red' |
| 'Owuri yama' | 'Sango asahi zuru' | 'Suruga nishiki' |
| | 'Sango tsu' | 'Suru sumi' |
| 'Pacific Fire' (<i>A. circinatum</i>) | 'Sawa chidori' | 'Suzu kaze' |
| 'Pacific Sunset' (<i>A. truncatum</i>) | 'Sawa gani' | 'Syoyo-syowa' |
| 'Pam Tramwick' | 'Schmidt' | 'Syonan nishiki' |
| 'Pantiles Selection' | 'Scoloparent' | |
| 'Philsn' | 'Scottom Roseum' | 'Tabumine' |
| 'Phoenix Variegated' | 'Seido hokori' | 'Taimin nomura' |
| 'Pinnatifidum' | 'Seigai ha' | 'Taiwangoretsu kaede' |
| 'Platanifolium' (<i>A. japonicum</i>) | 'Seigen Aureum' | 'Taiyu' (<i>A. sieboldianum</i>) |
| 'Plumosum' | 'Seijaku' | 'Taka isago' |
| 'Princes' (<i>A. japonicum</i>) | 'Seika ha' | 'Takami yama' |
| 'Pulchrum' | 'Senri' | 'Takao beni' |
| 'Pulverulentum' (<i>A. tataricum</i>) | 'Senski' | 'Takara yama' |
| | 'Sensu agasi' | 'Takasago' |
| 'Rakushisha' | 'Shi en' | 'Taki-no-gawa' (<i>A. japonicum</i>) |
| 'Red Dawn' (<i>A. shirasawanum</i>) | 'Shigara jama' | 'Tanba seigai' |
| 'Red Head' | 'Shigare yama' | 'Tatsuga nishiki' |
| 'Red Ribbon Leaf' | 'Shigi-no-hoshi' | 'Tedoru gawa' |
| 'Red Rocket' | 'Shigi-no-mai' | 'Tenshan-no-nishiki' (<i>A. tataricum</i>) |
| 'Red Star' | 'Shigi shidare' | 'Tenuilobum' (<i>A. japonicum</i>) |
| 'Red Tapestry' | 'Shigure-no-hato' | 'Thomas Akao' |
| 'Renjaku' | 'Shikainami' | 'Threadleaf' |
| 'Renjayu' | 'Shika momiji' | 'Tinctum' |
| 'Reticulatum Como' | 'Shinamata' | 'Tobihino' |
| 'Reticulatum Purple' | 'Shin hikasa' | 'Tobikawa nishiki' |
| 'Reticulatum Rubrum' | 'Shiniki' | 'Tōhoku shichi henge' |
| 'Rhodoneuron' | 'Shinjuku shidare' | 'Toi mire nike' |
| 'Rhodophyllum' | 'Shin kin' | 'Tokonatsu' |
| 'Rising Sun' | 'Shin koba shōjō' | 'Tokonatsu ichiwa nagashi' |
| 'Robinson Red' | 'Shin taimin' | 'Tonariya' |
| 'Rokugatsuen nishiki' | 'Shin to yama' | 'Tonzurubo' |

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|--|--|--|
| 'Torimi yama' | 'Variegatum' (<i>A. buergerianum</i>) | 'Yama hime' |
| 'Tō shinobu' | 'Vens Broom' | 'Yama kujaku' |
| 'Toune mine' | 'Vens Red' | 'Yama-no-ha' |
| 'Tricuspa' (<i>A. pictum</i>) | 'Verkade's Broom' | 'Yama shigi' |
| 'Tsuge' | 'Vermuelen's Variegatum' | 'Yama shiro' |
| 'Tsukahone' | 'Vic Broom' | 'Yamato ao yagi' |
| 'Tsukasa hime yatsubusa' | 'Victoria' (<i>A. circinatum</i>) | 'Yamato gire' |
| 'Tsukasa nishiki' | 'Viride' (<i>A. japonicum</i>) | 'Yamato kasen' |
| 'Tsukikage' (<i>A. japonicum</i>) | | 'Yamato koshi mino' |
| 'Tsukikage nishiki' (<i>A. shirasawanum</i>) | 'Wagy-no-sato' | 'Yamato koto ito' |
| 'Tsuma jiro' | 'Wajima' | 'Yana gawa' |
| 'Tsuru kagami' | 'Wakakusa yama' | 'Yasaka' |
| 'Tsuru' | 'Wakana' | 'Yashio' |
| 'Tsuten' | 'Wakisaka nishiki' (<i>A. morifolium</i>) | 'Yashio beni' |
| 'Tsutsui' | 'Wally's Weeping Red' | 'Yatsubusa hikasa yama' |
| | 'Wani' | 'Yatsubusa keishima' |
| 'Uchiwa nagashi' | 'Wasure gatami' | 'Yellow Bird' |
| 'Uda' | 'Wattez' | 'Yellow Variegated' |
| 'Ueno nishiki' | 'W. B. Hoyt' (<i>A. circinatum</i>) | 'Yōdo gawa' |
| 'Ueno yatsubusa' | 'Werner's Dwarf' | 'Yōdo nishiki' |
| 'Ukon' (<i>A. pictum</i>) | 'Werner's Pagoda' | 'Yorimiya' |
| 'Unicolor' | 'Wetumpka Red' | 'Yoshimizu' |
| 'Usu midori' | 'Whitney Broom' (<i>A. circinatum</i>) | 'Yoshino gawa' |
| 'Uzumoha' | 'Whitney Maple' | 'Yū fuji' |
| 'Uzura-no-hane' | 'Winkworth' | 'Yūyake nishiki' |
| 'Uzwee-no-hane' | 'Winter Red' | 'Yūzuki' |
| | 'Wuta hime' | 'Yūzuki nishiki' (<i>A. tataricum</i>) |
| 'Van der Akker' | | |
| 'Vanhouttei' | 'Yakushima nishiki' (<i>A. morifolium</i>) | 'Zaaling' |

APPENDIX E

The Maple Society



J. D. VERTREES was a vice-president and active supporter of the Maple Society since its formation in 1989. Its current president is the popular plantsman, broadcaster, and author Roy Lancaster. The society was formed to cater for and foster interest in this delightful genus. Its objects are to encourage the cultivation of maples, to enable members to learn from each other about their propagation, cultivation, introduction, and identification, and to facilitate the study of the botany, uses, and cultural needs of maples.

The Maple Society invites anyone interested to join and find out more about this fascinating group of plants which offers variety every month of the year. Fall is the highlight of the maple season with the brilliant colors of the Japanese maples in particular, but there are maples for all seasons. Even in winter the snakebark and paperbark maples are eye-catching, with others revealing graceful and unusual crown and branch patterns. Late winter sees the bright red bursts of the red and silver maple flowers, followed in early spring by the yellow clusters of Norway and Greek maples and by red flowers and fruits of Japanese maples. Then come the delicate yellow flower chains of the snakebarks, culminating in early summer with the beautiful conspicuous red blooms of the devil's maple. Summer sees the maple leaf in all its varieties of shape, size, and texture, with colors ranging through green, yellow, red, purple, gold, and variegated, leading to the color explosion in the fall.

Since the 1970s, maples have become increasingly popular, with more and more people planting them in their gardens. There are more than 120 species growing wild throughout Europe, North Africa, Asia, and North America, of which more than 80

thrive in cultivation, plus almost 2000 cultivars. What other tree genus can offer gardeners, horticulturists, and landscapers the variety and scope for large or small gardens, patio, or container planting that can be found among the numerous maple species and cultivars? Selections for size, form, bark, foliage, flowers, leaves, or spring and autumn color are abundant. There are species for wet, dry, acid or alkaline soils and for sunshine, shade, exposed, or sheltered conditions.

The Maple Society publishes a quarterly journal containing information on maples in cultivation and in the wild, and to which members are welcome to contribute articles of interest, news, views, problems, and so forth. Two or three outings to major collections and gardens are organized each year, and members can send in their maple problems for advice. The annual seed distribution program is organized so that members can acquire and exchange seed.

To become a member or for more details, please write to

Membership Secretary
White Owl Cottage
Trerulefoot, Saltash
Cornwall PL12 5DA
England

Glossary



- Acuminate.** Narrowing gradually to a point.
- Budstick.** A long stick removed from the parent plant as a source of buds for a graft.
- Chartaceous.** Papery.
- Chimera.** Any living organism or tissue with abnormal cells growing adjacent to normal cells, as occurs with some forms of leaf variegation.
- Cordate.** Heart shaped.
- Crenate.** Scalloped.
- Cultivar.** A plant maintained solely by cultivation; a cultivated variety.
- Cuneate.** Wedge shaped.
- Dendrologist.** A person who studies trees, especially their taxonomy.
- Dentate.** Toothed.
- Dieback.** A condition or disease, often caused by fungi, which kills a plant starting from the tips of twigs and branches and moving backwards through the plant.
- Falcate.** Sickle shaped.
- Fastigiate.** Having a growth habit where branches grow at an acute angle to the stem(s), tending to form a narrow, erect tree or shrub.
- Glabrous.** Smooth and hairless.
- Glaucous.** Coated with a waxy white to blue-gray covering.
- Involute.** Rolled inward at the edges.
- Lanceolate.** Lancelike; narrow and tapering at both ends (leaves).
- Lenticular.** Lens shaped.
- Lobulate.** Having small lobes.
- Lobule.** A small lobe.
- Midrib.** The primary vein in a leaf.
- Nomenclature.** The system of naming.
- Obtuse.** Blunt.
- Orbicular.** Round and flat.
- Ovate.** Egg shaped.

- Palmate.** Shaped like a hand with fingers (lobes) spread outward.
- Patch bud.** A square-shaped piece of budding material for a graft, often used for certain species or for special uses on larger material.
- Pendulous.** Bending downward, hanging.
- Petiole.** The leaf stalk.
- Pilose.** Covered with fine hair.
- Pinna.** A division of a compound leaf.
- Pinnate.** Having a featherlike arrangement, with leaves on both sides of a common axis.
- Pinnatifid.** Deeply cut to the midrib.
- Pubescent.** Covered with short hairs.
- Raceme.** A stem with flowers on small stalks that bloom from bottom to top.
- Reticulated.** Netted; having a network of veins.
- Rhombic.** Diamond shaped.
- Rootstock.** The lower part of a graft; an understock.
- Rugose.** Wrinkled or ridged.
- Samara.** The single-seeded, winged fruit of the maple.
- Scion.** A short piece of a shoot which is inserted in an understock to form a graft.
- Serrate.** Having sawlike teeth (on the leaf margins).
- Sessiliform.** Without a petiole; attached directly to the stem.
- Sinus.** The space between two lobes.
- Spike.** A stem with stalkless flowers attached directly to it.
- Sport.** A mutation or abnormal growth.
- Stigma.** The (female) part of a flower that receives pollen.
- Stratification.** The process of preserving (stratifying) seed by layering it in moist sand or peat moss and keeping it in cold storage until planting time.
- Subcordate.** Shallowly heart shaped.
- Sublobulate.** Somewhat small lobed.
- Taxonomy.** The science of classification.
- T-budding.** A method of grafting which involves inserting the grafting material into a T-shaped cut on the understock.
- Tomentose.** Covered with dense, soft hairs.
- Trifoliate.** Three leaved.
- Truncate.** Straight across, as when the leaf base is at right angles to the petiole.
- Type species.** The single specimen on which the description and name of the species is based.
- Understock.** The lower part of a graft; a rootstock.
- Undulate.** Having a wavy surface.
- Veneer grafting.** A method of grafting which involves inserting the grafting material in the side of an understock to retain the understock top above the graft for additional growth. Also known as side grafting, side-veneer, or side-wedge.
- Witches'-broom.** An abnormal growth of closely bunched, usually dwarfed twigs on a branch or stem.

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