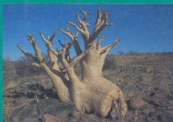
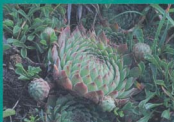


SUCCULENTS

— THE —
ILLUSTRATED
DICTIONARY



MAURIZIO SAJEVA &
MARIANGELA COSTANZO

SUCCULENTS

– THE ILLUSTRATED DICTIONARY –

Succulents, with their huge diversity of forms and habits, are one of the most fascinating – as well as one of the largest – plant groups found growing wild throughout the world. Many of the genera – *Agave*, *Haworthia*, *Kalanchoe* and *Yucca*, for example – include some of the best known and most often cultivated houseplants. Other species, however, are exotic and rare, some seldom seen in cultivation, others now rarely seen in the wild.

Never before has there been a single work of reference in which examples of so wide a range of genera have been described and illustrated in colour. *Succulents: The Illustrated Dictionary*, the companion volume to *Cacti: The Illustrated Dictionary*, includes more than 1,200 photographs of species and varieties from 195 different genera, and therefore it constitutes a unique work of reference for succulent enthusiasts and collectors.

For ease of use, the dictionary is organized alphabetically by species. Each entry includes a full description of the species as well as the place of origin. Commonly used alternative names are given, and these are also listed separately for convenient cross-reference. In addition, the introduction summarizes the characteristics of the families and genera.

A special feature of the text is the inclusion of the CITES (Convention on International Trade in Endangered Species) status for all those species that are included in the Convention's Appendix I and Appendix II of protected plants. There is also a description of the way in which CITES is organized to monitor the trade in collectable species, as well as a summary of the code of conduct of the International Organization for Succulent Plants Study for collectors.

With such a wealth of information, *Succulents: The Illustrated Dictionary* is assured of a place among the standard works of reference of all succulent growers and collectors.

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SUCCULENTS

THE ILLUSTRATED DICTIONARY

Maurizio Sajeve
and
Mariangela Costanzo



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The plants illustrated are shown in habitat and in the authors' collections. They have also been photographed in the public collections of the Botanical Garden of the University of Bologna, the Botanical Garden of the University of Palermo, the Garden of the National Herbarium of Namibia, Windhoek, and the Succulent Collection of the City of Zurich; the private collections of Andrea Cattabriga, Viviana Didoni, Annarosa Nicola and Pasquale Ruocco; and the nurseries of Luciano Crevenna, Bergamo, Cactus Centre, Florence, Lalla Pelliconi, Ravenna, and Anna Peyron, Turin.

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FOREWORD

The decision to write this dictionary was prompted by *Cacti: The Illustrated Dictionary* by Rod and Ken Preston-Mafham, which so successfully met a need among cactus enthusiasts. Succulents other than cacti are described and illustrated in several monographic studies dealing with a single genus or a specific geographical region, but there is no single book with a large number of colour illustrations covering a wide range of genera. It is hoped that this dictionary will go some way towards filling this gap, helping collectors to identify their plants and encouraging newcomers to select interesting species to study and grow.

We would like to emphasize that we do not pretend to have found a solution to the chaos afflicting the classification of succulent plants – rather, we are completely involved in that chaos. The classification of both succulents and cacti is affected by several factors that lead to frequent changes and to the creation of very small genera and new species. The main problem is probably the horticultural value of new species. Nurserymen often offer unidentified specimens as *sp. nov.* to stimulate the potential collector's interest. If a plant is described and published as a new species in accordance with the rules of the International Code of Botanical Nomenclature but without the plant's variability in habitat having been verified, a new species could be established, which, although valid in formal terms, has no biological meaning.

It is essential that a group of experts attempt to define a system that will bring some stability to the naming of succulent plants and will cut the plethora of generic and specific names that afflicts this group of plants. The International Organization for Succulent Plants Study (IOS) is aiming to complete a project that will find a consensus among cactus experts on the naming of the Cactaceae. It is to be hoped that the IOS will be able to carry out a similar project for succulents.

In this dictionary we have used the names currently found in private and public collections. Including available revisions would have resulted in a partial work with no coherent criteria that would confuse the average collector. Some revisions are noted in the descriptions of the succulent species and for those readers who are interested in pursuing the subject further there are books listed in Further Reading.

INTRODUCTION

Succulents are defined as plants that are able to withstand drought because of the water stored in some of their organs. They constitute a widespread group, being represented in several families of flowering plants and, to some extent, in the Gymnosperms as well. The definition is somewhat problematic because several plants, although not true succulents, are included among their number for aesthetic reasons. The most precise scientific definition is given in *Life Strategies of Succulents in Deserts* by D.J. von Willert, B.M. Eller, M.J.A. Werger, E. Brinckmann and H.D. Ihlenfeldt:

A succulent (or succophyte) is a plant possessing at least one succulent tissue. A succulent tissue is a living tissue that, besides possible other tasks, serves and guarantees an at least temporary storage of utilizable water, which makes the plant temporarily independent of an external water supply when soil water conditions have so deteriorated that the root is no longer able to provide the necessary water from soil.

This definition implies that succulence may be present in one or more plant organs. The specialization of an organ is determined by the particular selective pressure in the species' habitat.

Leaf succulence occurs in several families, and it is usually associated with environments that do not have a long dry season. When the dry season is very long the succulent leaves are highly specialized. *Lithops* is, perhaps, the best example: the stem is absent and the leaves grow hidden in the soil, thus reducing water loss.

Stem succulence, which is seen in the cactus family, is also familiar to succulent enthusiasts. Succulent stems have leaves that are reduced in size or are caducous when well developed, and photosynthesis is performed by the green stems. Stem succulents may inhabit more arid environments, but the critical point is their size: gigantic species need regular water to support growth, and in very dry environments stems are reduced in size.

In root succulence the organ of reserve is subterranean, which is thus protected from the stresses of wind and predation. Root succulence is often associated with annual stems, which desiccate during the dry season.

In addition to these visible characteristics, succulents have several less evident features that give them strong selective advantages in arid habitats. The number and size of the stomata (the holes that allow air to enter leaves and leaves to capture carbon dioxide) are usually reduced. Not only does this reduce water loss but it also reduces the amount of carbon dioxide taken in. Moreover, the opening of stomata during the day, in the presence of strong sunlight and dry air, would lead to the evaporation of water without a compensatory intake of water in the form of rain. A particular type of photosynthesis, Crassulacean Acid Metabolism (CAM), has evolved in several families. In CAM the stomata of plants open at night, when the temperature is lower and the humidity of the air is higher. These plants store carbon dioxide, using organic acids – namely malic acid – during the night when the stomata are open. Carbon dioxide is released during the day when the stomata are closed but light is available for photosynthesis to transform the carbon dioxide into sugars. CAM is not only efficient in

the economic use of water but is also highly effective in capturing carbon dioxide from the air. CAM photosynthesis evolved independently in several families, and it is also present in some aquatic plants, when the selective advantage arises from the efficiency of capturing carbon dioxide that is not abundant in water.

In arid habitats succulent plants may be the only source of food for wild animals. Several features have been evolved to cope with this predation, the most common being the presence of spines, which make the plants less appetizing, and mimicry, which makes them difficult to see against the soil. Another defence against predators is the presence of toxic or repellent chemicals – once the predator has tasted the plant it will not try to eat a similar specimen.

The different adaptive characteristics are present in various groups of plants. Often species that are distant in geographic or phylogenetic terms may look similar. The most striking example of this is probably the columnar or globular euphorbia and cacti. The volume to surface ratio is critical from the point of view of storing water, and it is possible to identify a trend in stem shape, from the cylindrical to the almost spherical, that is the ideal for the volume to surface ratio. These plants may have very similar shapes even though they are native to different continents and have different ancestors. The resemblance is caused by the same selective pressure that causes convergent evolution.

CONSERVATION

The problems of nature conservation are widely appreciated. Those who are considering growing, collecting and studying succulent plants must be aware of the impact that they can have on the wild populations of the plants they wish to study. Most succulents grow in habitats that have a fragile ecological equilibrium, and the environmental conditions often lead to slow rates of growth and low reproductive rates. For example, only 0.1 per cent of the seeds produced by *Welwitschia mirabilis* will raise a new specimen, even in favourable conditions. In the plant's habitat, the Namib Desert, favourable conditions may not occur for several years, as rain is very rare. If mature plants were to be removed, the reproduction rate of the species would fall below a sustainable level. Similar conditions apply to several other species.

In some instances the demand from collectors has meant that the limit in sustainable collecting of wild species has been reached. In response to this, in 1973 more than one hundred nations signed the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Some collectors regard the CITES convention as a disaster. It must be borne in mind, however, that CITES does not prohibit the trade in plants and animals; it merely regulates and monitors international trade in endangered species with the aim of preserving them in their habitats.

There are three Appendices in which species endangered by trade are listed:

- Appendix I includes species that are threatened with extinction. The trade in any wild plant or animal contained in this Appendix is forbidden.
- Appendix II includes species that are not necessarily threatened with extinction but that may become so unless trade is strictly regulated, and the trade in wild plants and animals is, therefore, subject to the issue of an export licence.
- Appendix III includes those species in which the regulation in trade is within the jurisdiction of the nation concerned.

Several succulents are currently included in Appendices I and II; none is at present included in Appendix III. All artificially propagated plants may be

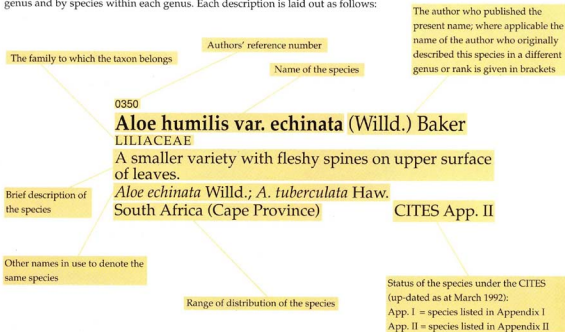
legally traded, even if they are listed in the Convention. It is necessary, however, to check with local regulations to avoid any problems. A useful reference is *The Evolution of CITES* by W. Wijnstekers.

It is important to remember that even species that are not listed in CITES may be protected by local legislation. If you are going to collect any wild plant, first check the local regulations and ask for an official permit.

Collectors can play an important role in conservation. The management of well-documented collections can help in conserving the genetic diversity of endangered species, and propagation helps to relieve the pressure on wild plants. Collectors should, however, always be aware of the damage caused by illegal collecting, and they should never buy wild-collected plants of endangered species, even with the aim of saving the specimen. The aim must always be to save the species not the individual.

USING THIS DICTIONARY

The succulents included in this book are organized in alphabetical order, by genus and by species within each genus. Each description is laid out as follows:



The colour photographs were taken in a number of public and private collections and commercial nurseries or in the habitat. The colour and shape of individual plants depend on their geographical position and the type of greenhouse or glasshouse in which they are grown and on the attention they receive from the grower. Plants also vary according to the time of year. During resting periods they may shrink, have fewer leaves or acquire a reddish tinge. Plants grown in sunny positions and plants that receive little water may also have a reddish tinge, while those grown in shade and that receive plenty of water are greener. For these reasons the colour and form of the plants illustrated may vary slightly from the descriptions of the type species.

SUCCULENT FAMILIES AND GENERA

The families and the genera illustrated in this dictionary are described briefly in this chapter. Some reference books, most of which are monographic studies, that may be of use to interested readers are included in Further Reading. The most complete work on succulent plants is undoubtedly the three-volume *A Handbook of Succulent Plants* by H. Jacobsen, which covers most succulents in cultivation, although it does not include the most recent discoveries. Several periodicals specialize in succulent plants, and they are the best source of up-to-date information.

AGAVACEAE Endl. (MONOCOTYLEDONS)

The Agavaceae family includes several plants of horticultural interest. It consists of about 18 genera, of which seven are illustrated in this book. The stems of the plants in this family are short or even absent. The leaves are usually arranged in rosettes, and they are long-lived, rigid and often have dentate margins. The roots are fibrous and stoloniferous. The flowers are arranged on tall inflorescences. The fruit is a capsule or a berry.

Genera Illustrated

Agave L.

This genus includes several species of use to humans. The leaves of *Agave sisalana*, for example, are a source of sisal, which is used for making ropes, sacking, insulation and so on. *A. sisalana* used to be cultivated in Sicily until 1940, but it was not economically viable, and now the remains of abandoned sisal orchards may be seen. Other species are used in Mexico to produce alcoholic beverages by fermenting the central part of the stem.

The leaves of agaves, which are very variable in size, are arranged in rosettes. The inflorescence is a tall spike – to 10 m or more – and usually has thick, modified leaves (bracts). The tubular flowers, which are borne in clusters, have six sepals. The fruit is a capsule with black seeds.

All agaves are monocarpic – i.e., the plant dies after flowering and seeding – but it takes several years for an inflorescence to be produced.

DISTRIBUTION: America; a few species are naturalized in Mediterranean countries and tropical regions.

Calibanus Rose

A monotypic genus.
DISTRIBUTION: Mexico.

Dasyliiron Zucc.

There are approximately 18 species of simple-stemmed plants with long, lanceolate leaves with spiny margins. The inflorescence is branched, and the flowers are campanulate.

DISTRIBUTION: Mexico and southern USA.

Furcraea Vente

The 20 or so species are similar to agaves but have taller stems and longer leaves. The tall inflorescence is branched, and the flowers are campanulate. The fruits contain many black seeds. The plant dies after flowering.

DISTRIBUTION: Mexico.

Nolina Michx.

There are about 20 species of small trees. Each plant has a succulent, swollen caudex covered with thick bark. The fibrous leaves are long and narrow. The tall inflorescence is branched and bears numerous small flowers.

DISTRIBUTION: Mexico to Guatemala.

Sansevieria Thunb.

There are approximately 70 species of rhizomatous or stoloniferous plants with fibrous, succulent leaves. The elongated inflorescence is unbranched and is seldom produced in cultivation; the flowers are white or greenish. Several species are tolerant of shade and may be grown as house-plants.

DISTRIBUTION: tropical Africa, India and Madagascar.

Yucca L.

Between 40 and 50 species of small trees bear simple or branched stems. The leaves, which are arranged in rosettes, are flexible to rigid. The branched inflorescence bears nocturnal flowers. During the day the flowers do not close fully, giving refuge to the moths that pollinate them. The fruit is a dry or fleshy capsule with black seeds. Some species are hardy and can be cultivated outside the greenhouse if the cold season is not too long.

DISTRIBUTION: North America and West Indies.

AMARYLLIDACEAE J.St.Hil. (MONOCOTYLEDONS)

There are about 70 genera of bulbous plants, with corms or rhizomes. Only the genus *Ammochlaris* Herb. is included here.

ANACARDIACEAE Lindl. (DICOTYLEDONS)

About 70 genera of trees or shrubs with resinous bark are found in tropical and temperate regions of the northern hemisphere. The family contains several species of economic interest, including *Mangifera indica* (mango), *Anacardium occidentale* (cashew nut) and *Pistacia lentiscus* (pistachio nut).

Only the genera *Pachycormus* Coville and *Operculycaria* H. Perrier are considered succulent and are included in this dictionary.

APOCYNACEAE Juss. (DICOTYLEDONS)

The family contains about 215 genera of lactiferous herbs, lianas, shrubs and trees. The simple leaves have parallel veins. The flowers, which may be solitary or borne in clusters, have five petals and five sepals; the buds are contorted. The fruit is divided into two follicles. Several species are sources of pharmacological substances – alkaloids, glucosides and so on. The plants belonging to the three genera illustrated in this dictionary are very tender and need a warm position, and they require plenty of water during the growing season.

DISTRIBUTION: widespread.

Genera Illustrated*Adenium* Roem. & Schult.

Succulent shrubs or trees with swollen caudices and lanceolate leaves, crowded at the stem apices.

DISTRIBUTION: tropical Africa, Arabian Peninsula and South Yemen (Socotra).

Pachypodium Lindl.

Spiny trees or subterranean, caudiciform stems with caducous leaves.

DISTRIBUTION: Angola, Madagascar, Namibia and South Africa.

Plumeria L.

Shrub or trees with cylindrical stems and branches, lanceolate, dark reddish-green leaves and showy, fragrant flowers in various colours.

DISTRIBUTION: Mexico and tropical South America.

ASCLEPIADACEAE R. Br. (DICOTYLEDONS)

The family contains over 2,800 species of lianas or low shrubs, some of which are succulent. The leaves are simple and caducous in most succulent species. The flowers have five sepals and five petals and are often malodorous. In

the *Stapeliae* group pollen grains adhere together to form waxy pollinia (Fig. 1). The fruit is a follicle containing several seeds with a terminal tuft of hairs. The genera containing succulent plants have a complex and confusing taxonomy. The species with succulent stems are prone to rot if over-watered.

DISTRIBUTION: tropical and temperate regions.

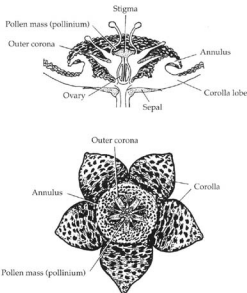


Fig. 1 A diagram of the flower of a plant in the *Stapeliae* group, based on *Orbea*. Pollen grains adhere together to form waxy pollinia.

Genera Illustrated*Brachystelma* R. Br.

Plants have tuberous or fusiform roots with thin, caducous stems. Leaves are variable in shape. The flowers, which may be solitary or borne in clusters, have a round corolla and five lobes; the lobes may be free or united at the tips.

DISTRIBUTION: southern and tropical Africa.

Caralluma R. Br.

Stoloniferous, clump-forming plants, with four- or five-angled stems bearing reduced, caducous leaves. The flowers are very variable in size and may be campanulate or have an open corolla; the corona has two whorls; the five outer lobes may be free or fused, and the five inner lobes are fused to the outer whorl.

DISTRIBUTION: Arabian Peninsula, north and eastern Africa, India, Mediterranean countries and South Yemen (Socotra).

Ceropegia L.

These climbing or erect plants often have swollen tubers or fusiform roots. The calyx has five sepals, and the five petals of the corolla are united to form a tube, which is almost spherical at the base; the tips of the lobes are united to form a lantern-like structure (Fig. 2).

DISTRIBUTION: central and southern Africa, Canary Islands, India and Madeira.

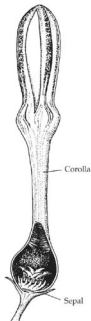


Fig. 2 A side view of the schematic flower of *Ceropegia*. The corolla has five petals, which are united to form an almost spherical tube at the base while the tips of the lobes are united into a lantern-like structure. This type of flower can be pollinated only by specific pollinators, which are able to reach the pollinia down the long tube.

Cynanchum L.

Climbing shrubs with fleshy branches. The corolla lobes of the small flowers form a pentagon.

DISTRIBUTION: central and southern Africa and Madagascar.

Dischidia R. Br.

These are epiphytic plants with small, waxy leaves, some of which are modified into large, inflated pitchers inhabited by ants (see also *Myrmecodia* under Rubiaceae). The flowers are small.

DISTRIBUTION: Australia and India.

Duvalia Haw.

The four- to six-angled stems have spreading teeth. The leaves are small. The flowers, which appear on younger stems, are solitary or borne in clusters on stalks 1–3 cm long.

DISTRIBUTION: eastern and western Africa.

Echinopsis Hook.f.

The stems have between 6 and 20 angles, the ribs being divided into hexagonal tubercles. Flowers are borne in clusters of two to four; they have no tube, triangular lobes and an inner whorl with five reflexed lobes.

DISTRIBUTION: tropical Africa, Arabian Peninsula and South Yemen (Socotra).

Edithcolea N.E. Br.

The few species have five-angled stems to 30 cm high. Large, hemispherical flowers are borne at the stem apices.

DISTRIBUTION: Kenya, Somalia, South Yemen (Socotra) and Tanzania.

Fockea Endl.

These caudiciform plants have tuberous roots and thin, twining branches. The flowers, which may be solitary or borne in clusters, are starfish-like.

DISTRIBUTION: Angola, Namibia, South Africa and Zimbabwe.

Frerea Dalzell

A monotypic genus very similar to *Caralluma* but with persistent leaves to 6 cm long.

DISTRIBUTION: India.

Hoodia Sweet

The many-angled stems, to 1 m tall, are covered with conical tubercles and hard teeth. Flowers, which are borne near the apex of stems, have a flat corolla, very small lobes and a five-lobed corona in two whorls.

DISTRIBUTION: Angola, Namibia and South Africa.

Hoya R. Br.

These epiphytic plants have climbing stems and branches. The leaves are variable in shape and size, and in some species are thick and succulent. Inflorescences are borne in pendent clusters with several waxy, star-like and fragrant flowers.

DISTRIBUTION: Asia, Australia and Polynesia.

Huernia R. Br.

The short stems, which branch from the base, are four- to six-angled and have large teeth. Flowers are produced from the base of young stems and have a campanulate corolla.

DISTRIBUTION: southern and eastern Africa, Arabian Peninsula and Ethiopia.

Notechidnopsis Lavranos & Bleck

Similar to *Echidnopsis* but leafless at all stages of growth.

DISTRIBUTION: southern Africa.

Orbea Haw.

The plants are similar to *Stapelia* and are often included in that genus.

DISTRIBUTION: southern Africa.

Orbeanthus L.C. Leach

The stems spread horizontally. The flowers are very showy and have a hairy corona.

DISTRIBUTION: southern Africa.

Orbeopsis L.C. Leach

Flowers are borne in clusters from the base of stems; the corolla is flat and there is no annulus.

DISTRIBUTION: southern Africa.

Pachycymbium L.C. Leach

Rhizomatous stems. The corolla may be campanulate or flat.

DISTRIBUTION: southern Africa.

Piранthus R. Br.

The flowers are small; the corolla is flat, and the tube is absent or campanulate; the lobes are lanceolate.

DISTRIBUTION: southern Africa.

Pseudolithos P.R.O. Bally

The unbranched stems are stone-like. The inflorescence has many small flowers.

DISTRIBUTION: Somalia.

Quaqua (N.E. Br.) Bruyns

This genus is related to *Caralluma*.

DISTRIBUTION: southern Africa.

Raphionacme Harv.

A genus distinguished by its tuberous roots, climbing stems and loose pollinia.

DISTRIBUTION: eastern Africa.

Rhytidocaulon P.R.O. Bally

The unbranched stems are papillose. Solitary flowers are borne on short stalks; the corolla has spreading lobes.

DISTRIBUTION: eastern Africa.

Sarcostemma R. Br.

Thin-stemmed shrubs with clusters of flowers, with small, projecting corolla lobes.

DISTRIBUTION: tropical Africa.

Stapelia L.

There are about 100 species. The flowers, which are borne on long stalks, have a five-lobed, usually flat, corolla; the

deep lobes are triangular. The corona has two, five-lobed whorls, an inner and outer whorl.

DISTRIBUTION: tropical and southern Africa.

Stapelianthus Choux

This genus is closely related to *Huernia*.

DISTRIBUTION: Madagascar.

Tavaresia Welw.

Flowers with a long corolla are produced from the base of the stems.

DISTRIBUTION: central and southern Africa.

Trichocaulon N.E. Br.

Cylindrical stems are simple or branching from the base.

The small flowers are borne between the tubercles towards the stem apices. The flat corolla has acute lobes.

DISTRIBUTION: southern Africa, Madagascar and Somalia.

Tromotriche Haw.

A genus that is very similar to *Stapelia* and that was, in fact, formerly included in it.

DISTRIBUTION: southern Africa.

BASELLACEAE Moq. (DICOTYLEDONS)

A family of about six genera of rhizomatous, climbing plants with simple, often succulent leaves. The branched inflorescence bears small flowers. Only one genus, *Boussingaultia* H.B. & K., is illustrated here.

DISTRIBUTION: tropical and subtropical America.

BOMBACACEAE Kunth (DICOTYLEDONS)

There are 30 genera of very large trees with soft wood. The leaves, which may be simple or compound, are covered with hairs or hairy scales. The flowers are large. The two genera illustrated have woolly fruits with numerous seeds

DISTRIBUTION: tropical Africa and America.

Genera Illustrated*Bombax* L.

These large trees often have spiny trunks and palmate leaves. The very large flowers appear before the leaves.

DISTRIBUTION: tropical regions.

Chorisia H.B. & K.

The trees have swollen trunks that are usually spiny. The large flowers appear before the palmate leaves.

DISTRIBUTION: tropical America.

BROMELIACEAE Juss. (MONOCOTYLEDONS)

The family contains about 50 genera of terrestrial or epiphytic plants. The basal leaves, which may have spiny margins, are often arranged in rosettes. Flowers are borne in spikes with coloured bracts. The epiphytic genera grow on the trunks and stems of trees.

DISTRIBUTION: tropical America.

Genera Illustrated*Abromeitiella* Mez

Small, terrestrial rosettes form large clumps. The greenish flowers are usually solitary, and the petals are much longer than the sepals.

DISTRIBUTION: Argentina and Bolivia.

Deuterochmia Mez

These short-stemmed plants have rosettes of leaves with spinose margins.

DISTRIBUTION: South America.

Dyckia Schult.f.

The stemless rosettes have thick rhizomes. The leaves are rigid and have spinose margins.

DISTRIBUTION: South America.

Hechtia Klotzsch

Stemless or short-stemmed rosettes are formed from grey or red-brown leaves with spiny margins.

DISTRIBUTION: Mexico and southern USA.

Puya Molina

The toothed and spinose leaves are arranged in rosettes, which may be stemless or long-stemmed, to 10 m tall when in flower.

DISTRIBUTION: Argentina, Bolivia and Chile.

BURSERACEAE Kunth (DICOTYLEDONS)

A family of about 20 genera of shrubs or large trees. The trunks, bark and wood are resinous. The leaves are compound.

Genera Illustrated*Bursera* Jacq.

These shrubs have caudiciform trunks and compound leaves.

DISTRIBUTION: Mexico and southern USA.

Commiphora Jacq.

Shrubs with a very thick, tuberous caudex; similar to *Bursera*.

DISTRIBUTION: Namibia.

COMMELINACEAE R. Br. (MONOCOTYLEDONS)

These tropical plants have jointed stems. The flowers are usually blue, a colour that is seldom seen among succulent plants.

Genera Illustrated*Callisia* L.

These plants, which have succulent leaves, are similar to *Tradescantia*.

DISTRIBUTION: Mexico, tropical South America and south-eastern USA.

Cyanotis D. Don

A genus of plants with tuberous roots and succulent leaves.

DISTRIBUTION: tropical Africa and Asia.

Tradescantia L.

These plants have fibrous or tuberous roots, jointed stems and leaves that are often covered with hairs.

DISTRIBUTION: North and South America.

COMPOSITAE Giseke (DICOTYLEDONS)

A very large family containing both annual and perennial plants, ranging from herbaceous plants to trees and including epiphytic and aquatic species. The inflorescence may bear from one to many heads of clustered, stalkless flowers, and the calyx has many bristles and scales (pappus), which remain attached to the seeds and facilitate their dispersal by the wind.

DISTRIBUTION: widespread.

Genera Illustrated*Othomma* L.

These small shrubs have either entire or lobed leaves. They are winter growing and should be kept dry in summer.

DISTRIBUTION: Namibia and South Africa.

Senecio L.

This very large genus contains several succulent species. The genus *Kleinia* has been included in this genus for the purposes of this dictionary.

DISTRIBUTION: widespread.

CONVOLVULACEAE Juss. (DICOTYLEDONS)

This family contains plants of very diverse habit, including some parasitic species. The showy, campanulate flowers are usually white or pink.

DISTRIBUTION: widespread.

Genera Illustrated*Ipomoea* L.

A large and variable genus of trees, shrubs and herbaceous plants. The species cultivated by succulent enthusiasts have tuberous roots and slender stems. Several 'new species' are being imported.

DISTRIBUTION: tropical and subtropical regions.

Merremia Dennst.

These small, climbing plants have lobed or compound leaves. They are very similar to *Ipomoea*, from which they may be distinguished by differences in the pollen structure.

DISTRIBUTION: tropical regions.

CRASSULACEAE DC. (DICOTYLEDONS)

The family of Crassulaceae contains a large number of widely found annual, biennial and perennial species, with more or less succulent leaves, which grow in a wide range of climatic conditions (from wetlands to deserts). The inflorescence usually bears small flowers (Fig. 3). The seeds are dust-like, but plants are easily propagated from stem and leaf cuttings.

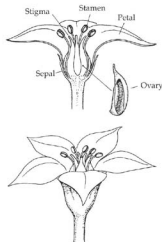


Fig. 3 The flowers of members of the Crassulaceae family are very simple and are arranged in inflorescences. The number of stamens is equal to the number of petals or is a multiple of them.

Genera Illustrated*Adromischus* Lem.

Succulent herbaceous or shrubby plants with fleshy, persistent leaves. The inflorescences have flowers at right angles to the peduncles.

DISTRIBUTION: Namibia and South Africa (Cape Province).

Aeonium Webb & Berthel.

Shrubs with simple or branched stems and leaves arranged in rosettes at the tips of the branches. The characteristic rosettes die after flowering.

DISTRIBUTION: north Africa, Canary Islands, Madeira and Mediterranean regions.

Aichryson Webb & Berthel.

Very close to *Aeonium*.

DISTRIBUTION: Azores, Canary Islands and Madeira.

Cotyledon L.

Branching shrubs with opposite waxy leaves. The campanulate flowers, which may be red, yellow or orange, are pollinated by birds.

DISTRIBUTION: Arabian Peninsula, Namibia and South Africa.

Crassula L.

Herbaceous plants or shrubs with succulent leaves of various shapes. There are 250-300 species, which are found in habitats ranging from wetland to desert. The southern African species are widely cultivated.

DISTRIBUTION: southern and tropical Africa; a few species are widespread.

Dudleya Br. & R.

Low-growing plants with leaves arranged in rosettes. The branched inflorescences bear star-shaped flowers.

DISTRIBUTION: Mexico and USA (Arizona, California, Nevada).

Echeveria DC.

Low-growing rosettes bear erect stems of lateral inflorescences with numerous bracts.

DISTRIBUTION: Central America and Mexico.

Gnaptopetalum Rose

A genus that is closely related to *Echeveria*, from which it is distinguished by its star-like flowers and the red spots on the petals.

DISTRIBUTION: Mexico.

Greenovia Webb & Berthel.

The rosettes are very similar to those of *Sempervivum*. The flowers are golden yellow, and the rosette dies after flowering.

DISTRIBUTION: Canary Islands.

Jovibarba Opiz

A very small genus, closely allied to *Sempeviovium*. The flowers are campanulate.

DISTRIBUTION: east Europe (Balkans and eastern Alps).

Kalanchoe Adams.

A very variable genus containing herbaceous plants, shrubs and climbers. The leaves in some species produce plantlets. The terminal inflorescence bears showy flowers.

DISTRIBUTION: southern and tropical Africa, Asia and Madagascar.

Monanthes Haw.

A genus of small plants with fleshy leaves and hairy inflorescences.

DISTRIBUTION: Canary Islands and Madeira.

Orostachys (DC.) Fisch.

The small rosettes die after producing a tall inflorescence.

DISTRIBUTION: Asia.

Pachyphytum Link, Klotzsch & Otto

The fleshy-leaved rosettes may be distinguished from *Echeveria* by the presence of a pair of scales inside each petal.

DISTRIBUTION: Mexico.

Rosularia (DC.) Stapf

The plants in this genus are similar to *Sedum* and *Sempeviovium*, but the rosettes have lateral inflorescences.

DISTRIBUTION: east Europe and Asia (Caucasus and Himalayas).

Sedum L.

There are approximately 600 species of herbaceous or shrubby plants, with erect or decumbent stems. The star-shaped flowers are various colours. European and Asiatic species are hardy and suitable for the rock garden.

DISTRIBUTION: Asia, Europe, north Africa and North America.

Sempeviovella Stapf

These small plants have leaves arranged in rosettes and white or pink flowers.

DISTRIBUTION: Asia (Himalayas).

Sempeviovium L.

The leaves of these stoloniferous plants are arranged in rosettes, and the flowers are star-shaped. There are about 40 species and more than 250 cultivars, all of which are hardy.

DISTRIBUTION: north Africa, Asia and Europe.

Sinocrassula A. Berger

A small genus, similar to *Sedum*.

DISTRIBUTION: Asia (Himalayas to China).

Tacitus Moran & J. Meyrán

See *Graptopetalum*.

Tylecodon Toelken.

Distinguished from *Cotyledon* by the non-waxy leaves arranged in spirals and by the presence of bracts on the flowering stems.

DISTRIBUTION: southern Africa.

Villadia Haw.

A genus that is closely related to *Sedum*, from which it differs in having petals united into a distinct tube.

DISTRIBUTION: Mexico to Peru.

CUCURBITACEAE Juss. (DICOTYLEDONS)

This is a family of fast-growing, climbing plants with tendrils. Several species produce edible fruits. The species cultivated by succulent collectors usually have tuberous rootstocks or swollen bases.

DISTRIBUTION: tropical and warm temperate countries.

Genera Illustrated

Cephalopentandra Chiov.

A monotypic genus.

DISTRIBUTION: Ethiopia, Kenya and Uganda.

Corallocarpus Welw. ex Hook.f.

A genus of about 20 species of plants with climbing or trailing stems arising from a tuberous root. Very few species are of interest to the succulent grower.

DISTRIBUTION: Africa, India and Madagascar.

Gerrardanthus Harv.

A genus of plants with a tuberous rootstock from which climbing stems with tendrils are produced.

DISTRIBUTION: central, eastern and southern Africa.

Ibervillea B.D. Greene

The glabrous stems are swollen at the base, and the climbing branches have tendrils.

DISTRIBUTION: north Mexico and southwest USA.

Kadrostis Medik.

These climbing plants have swollen, caudiciform bases.

DISTRIBUTION: Africa to tropical Asia.

Melothria L.

A genus containing approximately 10 species of climbing- or trailing-stemmed plants with tendrils, very few of which are of interest to the succulent collector.

DISTRIBUTION: tropical and subtropical America.

Momordica L.

About 60 species of climbing plants with fleshy rootstocks. The fruits are more attractive than the flowers.

DISTRIBUTION: Africa.

Seyrigia Keraudren

A genus containing a few species of climbing plants, with slender or succulent, little-branched stems with tendrils.

DISTRIBUTION: Madagascar.

Xerosicyos Humbert

A genus of climbing plants with glabrous or hairy stems and thick, succulent leaves.

DISTRIBUTION: Madagascar.

Zygosicyos Humbert

Climbing stems with tendrils are produced by tuberous roots.

DISTRIBUTION: Asia and Madagascar.

DIDIERACEAE Drake (DICOTYLEDONS)

This family, which is related to the Cactaceae, contains xerophytic spiny shrubs and small trees.

Genera Illustrated

Alluaudia Drake

A genus of spiny shrubs with erect, spreading branches.

DISTRIBUTION: Madagascar.

Didierea Baill.

The stems have thick, tuberculate branches, which bear narrow leaves and spines.

DISTRIBUTION: Madagascar.

DIOSCOREACEAE R. Br. (MONOCOTYLEDONS)

The plants in this family have large rhizomes or tubers with twining shoots.

DISTRIBUTION: southern Africa and South and Central America.

Genus Illustrated

Dioscorea L.

The very large, spherical caudex is covered with bark, which cracks into polygonal warts. Several species have edible tubers, and some have pharmacological uses.

DISTRIBUTION: southern Africa, Central and South America.

EUPHORBIACEAE Juss. (DICOTYLEDONS)

The Euphorbiaceae family contains about 320 genera and over 8,000 species of geographically widespread plants, which range from annual herbs to large trees. All Euphorbiaceae have a milky sap that may be harmful to the touch. The inflorescence has a complicated structure, based on the cyathium, which consists of an involucre containing one reduced female flower and several male flowers. There are protective bracts and nectaries. The fruit is a capsule, which explodes on reaching maturity.

Genera Illustrated

Euphorbia L.

There are over 2,000 species of very diverse habit, from annual plants to large trees, and including several succulent species. All species contain a poisonous, irritant white latex. Cyathia are enclosed in a five-lobed involucre bearing nectaries and subtended by enlarged, coloured bracts (Fig. 4). Some species make suitable house-plants.

DISTRIBUTION: widespread but the succulent species are more common in Africa and Madagascar.

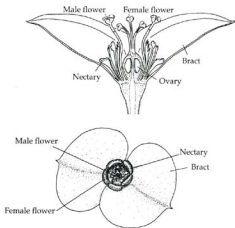


Fig. 4 In Euphorbiaceae the inflorescence consists of complicated flower structures called cyathia (singular, cyathium). These consist of an involucre (a series of bracts), which contains one reduced female flower and several male ones. The flowers are usually inconspicuous. Pollinators are attracted by the protective bracts (modified leaves), which can be very showy, and by the secretion of the nectaries. The illustration is based on the cyathia of *Euphorbia mili*.

Jatropha L.

A genus of trees or shrubs with simple, palmately veined leaves, sometimes covered with hairs. The inflorescence has many branches and bears scarlet flowers.

DISTRIBUTION: tropical and temperate regions.

Monadenium Pax

These succulent shrubs have several species with spirally tuberculate stems. Inflorescences are borne at the stem apices, and the lobes and glands are fused together.

DISTRIBUTION: tropical Africa.

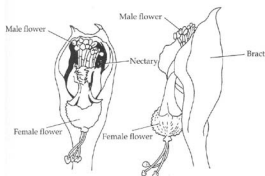


Fig. 5 A typical *Monadenium* flower.

Pedilanthus Neck.

A genus of shrubs with several branches and small leaves.

DISTRIBUTION: Central America.

Phyllanthus L.

Trees or shrubs that often have leaf-like stems. The leaves themselves are of variable sizes. The inflorescences are borne from the axils, and the fruit is a capsule containing two seeds.

DISTRIBUTION: tropical regions.

Synadenium Boiss.

A genus of shrubs with thick, succulent stems and large, pale green leaves. The lobes and glands are fused together into a single unit.

DISTRIBUTION: tropical Africa.

FOUQUIERIACEAE DC. (DICOTYLEDONS)**Fouquieria H.B. & K.**

This is the only genus of this family. There are a few species of spiny shrubs or trees with stems over 10 m tall. The genus *Idria* is considered to be a synonym.

DISTRIBUTION: Mexico and southwestern USA.

GERANIACEAE Juss. (DICOTYLEDONS)

The shrubs or herbs in this family usually have aromatic oils in glandular hairs, jointed stems and spirally arranged leaves.

DISTRIBUTION: temperate and tropical regions.

Genera Illustrated***Pelargonium* L'Hér.**

A genus of low-growing shrub species, some with succulent or swollen stems and roots. The leaves, which may be simple or compound, are often aromatic. Some of the commonly cultivated geraniums are included in *Pelargonium*.

DISTRIBUTION: temperate and tropical regions.

***Sarcocaulon* (DC.) Sweet.**

The succulent stems of the plants within this genus are covered with protective bark. The spreading branches are spiny and have small leaves.

DISTRIBUTION: temperate and tropical regions; most succulent species are common in southern Africa, especially Namibia.

GESNERIACEAE Dumort. (DICOTYLEDONS)

A family of shrubs, herbs or lianas, rarely trees, with opposite leaves and showy flowers. Very few species are of interest to succulent growers.

DISTRIBUTION: widespread.

Genera Illustrated***Rechsteineria* C. Regel**

The species within this genus have tuberous roots, velvety or hairy leaves and flowers borne in short panicles.

DISTRIBUTION: South America.

***Sinningia* Nees**

The shrubs in this genus are tuberous and have opposite leaves. The flowers are borne at the axils of the leaves.

DISTRIBUTION: Mexico to Argentina.

ICACINACEAE Miers (DICOTYLEDONS)

The trees, shrubs and lianas in this family have stems that may exhibit peculiar growth forms. Only one genus, *Pyrenacantha* Wright, which is native to eastern Africa, is illustrated in this dictionary.

DISTRIBUTION: tropical and temperate regions.

LABIATAE Juss. (DICOTYLEDONS)

The shrubs and herbaceous plants within this family usually contain fragrant oils. The leaves are simple. Several plants are of interest in horticulture, but few of them are succulents.

DISTRIBUTION: widespread.

Genera Illustrated*Ocimum* L.

There are about 35 species of aromatic shrubs and herbaceous plants within the genus. Many species are important for cooking – *O. basilicum* (basil) is one of the best known culinary herbs – or for medicinal purposes. Very few species are suitable for collections of succulent plants, however.

DISTRIBUTION: tropical regions.

Plectranthus L'Hér.

A genus of shrubs or herbs of which only a few species have succulent leaves or stems.

DISTRIBUTION: Africa, Asia and Australia.

LEGUMINOSAE Juss. (DICOTYLEDONS)

A very large family containing over 16,000 species with very diverse habits. Several species are important as cultivated crops. Only one genus, *Dolichos* L., is included in this dictionary.

DISTRIBUTION: widespread.

LILIACEAE Juss. (MONOCOTYLEDONS)

A family of largely herbaceous plants but containing a few tree-like species. Several genera have succulent leaves and are adapted to live in dry conditions.

Genera Illustrated*Aloe* L.

A large genus of plants with succulent leaves arranged in spirals. The plants are stemless or have short, rarely woody, stems.

DISTRIBUTION: southern Africa and Madagascar.

Astroloba Uitewaal

A genus containing a few species; closely related to *Haworthia*.

DISTRIBUTION: South Africa.

Bulbine L.

A genus containing plants with succulent leaves and subterranean bulbs.

DISTRIBUTION: southern Africa.

Eriospermum Endl.

Solitary or stoloniferous plants with globose, tuberous roots and with reduced, scale-like leaves and one or more well-developed leaf.

DISTRIBUTION: southern Africa.

Gasteria C.-J. Duval

Stemless plants with succulent leaves that are arranged in rosettes in mature specimens; younger plants have distichous leaves, an arrangement that may persist in mature specimens.

DISTRIBUTION: southern Africa.

Haworthia C.-J. Duval

Plants in dwarf rosettes that may be solitary or clustering. The succulent leaves are very diverse shapes.

DISTRIBUTION: southern Africa and Madagascar.

Poellnitzia Uitewaal

A monotypic genus.

DISTRIBUTION: South Africa.

Scilla L.

A genus of bulbous plants with linear leaves.

DISTRIBUTION: Africa and Europe.

**MESEMBRYANTHEMACEAE Bailh.
(DICOTYLEDONS)**

The family of Mesembryanthemaceae consists of about 100 genera with approximately 2,000 species, all of which have succulent leaves. The species range from small shrubs to creeping and the extremely specialized stemless plants. The flowers are usually showy and have many petals. The fruit is a hygroscopic capsule, which opens when wet, so releasing the seeds, and closes when dry. This adaptation is a response to arid environments: the fruit protects the seeds until water is available for germination. The family is widespread in southern Africa, and several species are naturalized in Mediterranean regions. The classification of the genera is based on the characteristics of the fruit, but it is possible to distinguish some by their habit. The great variability within the family has led to the proliferation of genera and species, and any revision would considerably reduce their number.

In this dictionary the names currently in use in private and public collections as well as in trade catalogues have been followed. More than 50 genera and 296 species are illustrated and described in the alphabetical section.

Genera Illustrated*Aloinopsis* Schwantes*Argyroderma* N.E. Br.*Aspazoma* N.E. Br.*Astridia* Dinter & Schwantes*Bergeranthus* Schwantes*Bilija* N.E. Br.*Carruanthus* Schwantes

Cephalophyllum N.E. Br.
Ceroclamys N.E. Br.
Cheiridopsis N.E. Br.
Conophyllum Schwantes
Conophytum N.E. Br.
Cylindrophyllum Schwantes
Dactyloopsis N.E. Br.
Delosperma N.E. Br.
Dinteranthus Schwantes
Dracophilus Dinter & Schwantes
Drosanthemum Schwantes
Eberlanzia Schwantes
Enarganthe N.E. Br.
Faucaria Schwantes
Fenestraria N.E. Br.
Gibbaeum Haw.
Glottiphyllum Haw.
Hereroi Dinter & Schwantes
Jordaniella H. Hartmann.
Lampranthus N.E. Br.
Lapidaria Schwantes
Leipoldtia L. Bol.
Lithops N.E. Br.
Maclairophyllum L. Bol.
Malephora N.E. Br.
Mestoklema N.E. Br.
Mitrophyllum Schwantes
Monilaria Schwantes
Namaquanthus L. Bol.
Namibia Dinter & Schwantes
Nelia Schwantes
Neoherincia L. Bol.
Odontophorus N.E. Br.
Ophthalmophyllum Dinter & Schwantes
Pleiospilos Dinter & Schwantes
Polymita L. Bol.
Robbia N.E. Br.
Rhombophyllum Schwantes
Ruschia Schwantes
Ruschianthus L. Bol.
Sceletium N.E. Br.
Schwantesia Dinter
Smicrostigma N.E. Br.
Stomatium Schwantes
Tanquana Hartmann & Liede
Titanopsis Schwantes
Trichodiadema Schwantes
Vanheerdea L. Bol.

MORACEAE Link (DICOTYLEDONS)

The Moraceae family includes about 50 genera and over 1,200 species which are very diverse in habit, ranging from large trees to small herbaceous plants, usually with milky latex. Flowers are small and, in most genera, are wind pollinated. (*Ficus* flowers are pollinated by insects.) The flowers are grouped in inflorescences, with thickened axes forming an invaginated receptacle. The most extreme form is found in *Ficus*: the flowers are actually inside the fig, and the pulp we eat is composed of hundreds of fruits and seeds.

DISTRIBUTION: tropical and temperate regions.

Genera Illustrated

Dorstenia L.

A genus of low-growing plants with slender stems and tuber-like rhizomes. Inflorescences are solitary and may be regarded as a fig inflorescence that is not enclosed (Fig. 6).

DISTRIBUTION: tropical Africa and America.

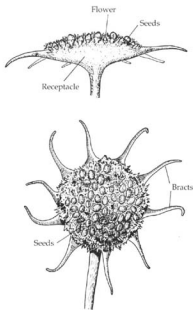


Fig. 6 The members of the Moraceae family have small flowers. In most genera these are wind pollinated, although those of the *Ficus* are insect pollinated. The flowers are grouped in inflorescences, with thickened axes forming an invaginated receptacle. The most extreme form is found in *Ficus*: the flowers are actually inside the fig and the pulp we eat is formed by hundreds of fruits and seeds. In *Dorstenia* the inflorescence may be regarded as resembling the inflorescence of a fig that is not enclosed. The illustration is based on the flowers of *Dorstenia*.

Ficus L.

The trees or climbing vines within this genus contain latex. The leaves are simple, and the flowers are very small, with up to several thousands enclosed in a single receptacle. DISTRIBUTION: tropical and temperate regions.

OXALIDACEAE R.Br. (DICOTYLEDONS)

The small trees or herbs within this family have tubers and trifoliate leaves. The fruit is a capsule. DISTRIBUTION: tropical and temperate regions.

Genus Illustrated*Oxalis* L.

A genus of stemless herbaceous plants with tuberous roots. The trifoliate, long-stalked leaves are usually lowered at night. The flowers are yellow. Fruits explode when they achieve maturity, dispersing the seeds over considerable distances.

DISTRIBUTION: southern Africa and South America; some species are naturalized in Europe and have become pernicious weeds.

PASSIFLORACEAE Juss. (DICOTYLEDONS)

Lianas, shrubs or trees with lobed leaves arranged in spirals.

Genus Illustrated*Adenia* Forsk.

A genus of herbaceous climbers with tendrils. The species of interest to succulent enthusiasts have swollen roots.

DISTRIBUTION: Africa to Asia.

PEDALIACEAE R.Br. (DICOTYLEDONS)

A family of shrubs or herbs with opposite, usually hairy, leaves. The flowers are campanulate, and the fruit is a capsule, often armed with spines or prickles.

DISTRIBUTION: temperate and warm regions.

Genera Illustrated*Pterodiscus* Hook.

A genus containing species of small herbaceous plants and shrubs with succulent, swollen caudices and tuberous roots. The leaves, which have undulate margins, are variable in shape. Flowers arise from the leaf axils.

DISTRIBUTION: Angola, Namibia and South Africa.

Sesamothamnus Welw.

A few species of spiny shrubs or small trees, with short leafy shoots in the axils of the thorns.

DISTRIBUTION: Angola, Botswana, Ethiopia, Namibia and Somalia.

Uncarina Stapf

A genus of nine species found in the dry to arid regions of south Madagascar. The flowers are yellow or maroon to pink.

DISTRIBUTION: Madagascar.

PIPERACEAE C. Agardh (DICOTYLEDONS)

The Piperaceae family contains species ranging from herbaceous plants to small trees, many of which are aromatic. The leaves are simple, and there are small flowers. Pepper is obtained from *Piper nigrum*, a member of this family.

DISTRIBUTION: tropical regions.

Genus Illustrated*Peperomia* Ruiz & Pav.

A genus of small succulent herbs with minute flowers.

DISTRIBUTION: tropical regions.

PORTULACACEAE Juss. (DICOTYLEDONS)

This family contains more than 20 genera and 400 species of shrubs and herbaceous plants with succulent leaves. The leaves are entire and often bear long hairs at their base. The flowers are small, but they may be very showy in some species. The family is widespread in tropical and temperate regions.

Genera Illustrated*Anacampseros* L.

The genus contains dwarf plants that have papery stipules covering the small leaves or hair-like stipules among the succulent leaves.

DISTRIBUTION: Argentina (one species), Australia (one species), Namibia and South Africa.

Ceraria Pearson & Stephens.

A genus of shrubs and branches with reduced leaves. The inflorescence has from two to six small pink flowers.

DISTRIBUTION: Namibia and South Africa.

Lewisia Pursh

A group of low-growing plants with fleshy taproots and leaves arranged in rosettes.

DISTRIBUTION: west to north North America.

Portulaca L.

Trailing herbs with opposite leaves and tufts of bristles in the axils. The purple or yellow flowers open only in direct sunshine.

DISTRIBUTION: tropical regions.

Portulacaria Jacq.

A genus of plants with branches covered with succulent leaves. The small flowers are pink.

DISTRIBUTION: Mozambique, Namibia and South Africa.

Talinum Adans.

Plants with fleshy roots and annual, shrubby branches. The flowers have two-keeled sepals.

DISTRIBUTION: tropical regions.

RUBIACEAE Juss. (DICOTYLEDONS)

A large family of trees, shrubs and lianas, although very few genera are of interest to succulent collectors. *Coffea* species (coffee) belong to this family.

DISTRIBUTION: Africa, Asia and Europe.

Genus Illustrated*Myrmecodia* Jack

A genus of woody shrubs with large tubers, which are usually inhabited by ants in the wild. The tuber contains a series of cavities, filled with dead plant material. The ants remove the dead material and use the cavities as nests. There are several advantages to the plants for this symbiosis, the main one being defence: the ants keep potential predators away from the plants. Another advantage is the re-use of the carbon dioxide produced by the respiration of the ants.

DISTRIBUTION: Indonesia and New Guinea.

STERCULIACEAE Bartal. (DICOTYLEDONS)

A family of trees and shrubs, but with no true succulent plants. Some species are cultivated for their bonsai or caudiciform aspect.

DISTRIBUTION: tropical regions.

Genus Illustrated*Brachychiton* Schott and Endl.

A genus of trees with swollen trunks and entire or deeply palmate leaves.

DISTRIBUTION: Australia and Papua New Guinea.

VITACEAE Juss. (DICOTYLEDONS)

A family containing about 12 genera and 700 species of lianas with tendrils or small trees. Only two genera are of interest to the succulent collector. Included in this family is the grapevine, *Vitis vinifera*.

DISTRIBUTION: widespread in tropical regions.

Genera Illustrated*Cissis* L.

A genus of climbing plants with tendrils and opposite leaves. A few species have succulent roots and leaves.

DISTRIBUTION: tropical and subtropical regions.

Cyphosolisma (Planch.) Alston

There are approximately 150 species of caudiciform shrubs or trees within this genus. The leaves are clustered at the apices of stems. Succulent species may achieve huge dimensions.

DISTRIBUTION: southern and eastern Africa and Madagascar.

WELWITSCHIACEAE Markgr. (GYMNOSPERMS)

A monotypic family belonging to the Gymnosperms group, together with cycads and conifers. The pollen is dispersed by the wind.

DISTRIBUTION: Angola and Namibia.

Welwitschia Hook.f.

A monotypic genus.

**ILLUSTRATED A-Z
OF SPECIES**



Abromeitiella brevifolia (Griseb.) A. Cast.

BROMELIACEAE

Rosettes forming clumps over 1 m in diameter; green, triangular leaves to 3 cm long with terminal spine but spineless margins; greenish flowers 3-4 cm long.

Argentina, Bolivia



Abromeitiella chlorantha (Speg.) Mez

BROMELIACEAE

Small, narrow rosettes of elongated triangular leaves to 2 cm long, with small terminal spine and dentate margins; small, greenish flowers.

Abromeitiella pulvinata Mez

Argentina



Abromeitiella lorentziana (Mez) A. Cast.

BROMELIACEAE

Rosettes forming dense clumps to 1 m in diameter; triangular, grey-green leaves, 4-15 cm long, with terminal spine and spined margins; greenish flowers.

Argentina



Abromeitiella scapigera Rauh & H. Hrom.

BROMELIACEAE

Rosettes; leaves, 15-25 cm long, end in sharp spine and margins have small spines; greenish flowers.

Bolivia



Adenia aculeata Engl.

PASSIFLORACEAE

Shrub to 1.5 m tall; large, tuberos caudex from which arise 4-angled climbing stems with conical spines at edges; pale green to yellow flowers. Somalia



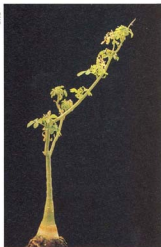
Adenia digitata Engl.

PASSIFLORACEAE

Spherical caudex, tapering upwards into erect stem, to 3 m tall, with tendrils and digitate leaves; pale green to yellow flowers.

Adenia angustisecta Burt-Davy; *A. buchmannii* Harms; *A. multiflora* Potts
South Africa (Transvaal)

0179

**Adenia glauca** Schinz

PASSIFLORACEAE

Large, irregular swollen stem with taproot; climbing branches with compound leaves are produced during growing season; branches dry out in dry season; pale yellow flowers.

Botswana, South Africa (Transvaal)

0180

**Adenia globosa** Engl.

PASSIFLORACEAE

Caudex to 1 m high with several thin branches armed with thorns; small leaves during rainy season; bright red flowers.

Tanzania

0181

**Adenia keramanthus**

Harms

PASSIFLORACEAE

Thick caudex 8–10 cm in diameter and 50 cm high; erect branches with ovate to rounded leaves; yellowish flowers.

Tanzania

0182

**Adenia pechuelii** (Engl.)

Harms

PASSIFLORACEAE

Plant to 1 m tall with large, fleshy caudex to 50 cm in diameter with several branches; lanceolate, caducous leaves; small inflorescence; pale green to yellow flowers.

Echinoshamus pechuelii Engl. Namibia

0183

**Adenia perrieri**

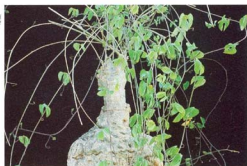
Burt Davy

PASSIFLORACEAE

Branches to 1 m long; stems and branches bear attractive, compound, green leaves; greenish-yellow flowers.

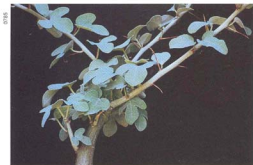
Southern Africa

0184

**Adenia** sp.

PASSIFLORACEAE

An attractive but so far unidentified *Adenia* found in several collections; caudex is 10–15 cm in diameter, with several leafy stems; greenish-yellow flowers.

**Adenia spinosa** Burt Davy

PASSIFLORACEAE

Large, branching caudex, diameter to 2 m and to 50 cm high; branches armed with straight spines; numerous small leaves; creamy-yellow flowers.

South Africa (Transvaal)

**Adenium obesum** Balf.f.

APOCYNACEAE

Shrub to 2 m high with thick caudex and many short branches; leaves at ends of branches; pink flowers.

Kenya, Tanzania, Zimbabwe

**Adenium oleifolium** Stapf

APOCYNACEAE

Plant 1–1.5 m tall; subterranean caudex with thin aerial shoots and long, glaucous green leaves; pink to red flowers. Possibly a variety of *A. obesum*.

Botswana, Namibia

**Adenium somalense** Balf.f.

APOCYNACEAE

Thick, fleshy caudex with short branches; root thick and swollen above ground; blue-green leaves 6–15 cm long at branch ends; inflorescence with 2–10 white to pink flowers. The photograph shows var. *crispum*.

Kenya, Somalia, Tanzania

**Adenium swazicum** Stapf

APOCYNACEAE

Large shrub with stems 10–15 cm in diameter buried in the soil; greenish branches bear clusters of leaves to 15 cm long; pink flowers.

Mozambique, South Africa (Transvaal), Swaziland

**Adromischus alveolatus** Hutchison

CRASSULACEAE

Tuberous root; stem 2–3 cm long; leaves 3–4 cm long and 2 cm wide, grey-green to yellowish-green but variable in colour; inflorescence to 17 cm high. Considered to be a form of *A. marianae* var. *antibarbatum*.

South Africa (Cape Province)

**Adromischus antidorcadum** Poelln.

CRASSULACEAE

Stem branched; dark red to brownish-red leaves 3–4 cm long with greyish-green spots; grey-green inflorescence to 10 cm high. Considered to be a variety of *A. maritima*.

South Africa (Cape Province)

**Adromischus caryophyllaceus** (Burm.f.) Lem.

CRASSULACEAE

Dwarf shrub; glossy green leaves 4–5 cm long and to 2 cm wide; inflorescence 20–30 cm tall; pink flowers.

South Africa (Cape Province)

**Adromischus cooperi** (Baker) A. Berger

CRASSULACEAE

Short, spreading branches densely covered with truncate leaves, variable in colour; inflorescence to 35 cm tall; pink flowers.

Adromischus cuneatus Poelln.; *A. festinus* C.A. Sm.; *A. halimovensis* Ullenhwaal
South Africa (Cape Province)

**Adromischus cooperi**

CRASSULACEAE

The pink flowers borne on the tall inflorescence.

**Adromischus cristatus** (Haw.) Lem.

CRASSULACEAE

Short branching stems; green leaves 2–4 cm long, convex on both sides and covered with soft hairs; inflorescence to 2 cm long; whitish-red flowers.

South Africa (Cape Province)

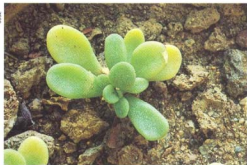
**Adromischus herrei** (W.F. Barker) Poelln.

CRASSULACEAE

Rootstock thick; no more than 7 red-brown leaves, which are coated with wax and papillae; red flowers. Considered to be a form of *A. maritima* var. *antidorcadum*.

South Africa (Cape Province)

0432



Adromischus humilis (Marloth) Poelln.

CRASSULACEAE

Stemless plants; thick roots; grey leaves 1.5 cm long and 8 mm wide, concave on upper surface and arranged in dense rosettes; red flowers.

South Africa (Cape Province)



Adromischus kubosensis Uitewaal

CRASSULACEAE

Reddish-brown stems 8–10 cm high and coated with wax; erect, club-shaped leaves, tapering at end, green when young, becoming pruinose with age; purple flowers.

South Africa (Cape Province)

0433



Adromischus maculatus (Salm-Dyck) Lem.

CRASSULACEAE

Purple-spotted, obovate-spatulate leaves to 5 cm, constricting at base; pink flowers.

South Africa (Transvaal)

0434



Adromischus marianae (Marloth) A. Berger

CRASSULACEAE

Small clumps; flat, dark grey-green to bright brownish-green leaves, 1.5 cm long with brownish markings; green flowers with red tips.

South Africa (Cape Province)

0435



Adromischus rhombifolius (Haw.) Lem.

CRASSULACEAE

Shrub; grey-green leaves 5–9 cm long and 3–5 cm wide, convex on lower surface, cartilaginous margins and short tips; pink flowers.

South Africa (Cape Province)

0436



Adromischus roaneanus Uitewaal

CRASSULACEAE

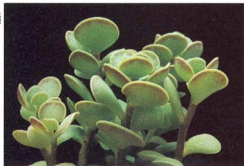
Erect, freely branching stems; grey-green leaves 3 cm long with numerous waxy markings; flowers light green with pink tips.

South Africa (Cape Province)



Adromischus tricolor
C.A. Sm.

CRASSULACEAE
Erect stems to 35 cm high, prostrate when longer, green to grey-green leaves 4–8 cm long, with purple spots; purplish-red flowers.
South Africa (Cape Province)



Adromischus triflorus (L.f.) A. Berger

CRASSULACEAE
Stems to 10 cm with few branches at base; leaves convex on both sides and pale green with waxy dots; inflorescence to 35 cm; pale pink flowers.
Adromischus procerus C.A. Sm.; *A. subcompressus* Poelln.; *A. subpetiolaris* Poelln.
South Africa (Cape Province)



Adonium arboreum var. atropurpureum (W.A. Nicholson)
A. Berger

CRASSULACEAE
Erect stems to 1 m high with dense rosettes 20 cm in diameter; leaves dark purple (light green in the type species); inflorescence to 30 cm tall; yellow flowers.
Canary Islands, Morocco; naturalized (?) in several Mediterranean countries



Aeonium canariense Webb & Berth.

CRASSULACEAE
Short stems with large, offsetting rosettes to 50 cm in diameter; leaves green, covered with hairs; pale green flowers.
Canary Islands (Tenerife)



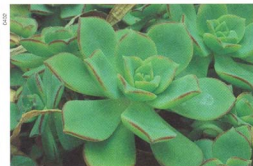
Aeonium glandulosum Webb & Berth.

CRASSULACEAE
Rosettes with rhomboidal leaves covered by soft hairs; yellow flowers.
Aeonium meyerheimii Bolle
Madeira



Aeonium glutinosum (Aiton) A. Berger

CRASSULACEAE
Low shrub with red branches; light green leaves with finely ciliate margins, sometimes with reddish stripes, in open rosettes 5–6 cm in diameter; inflorescence 30 cm tall; yellow to white flowers.
Madeira

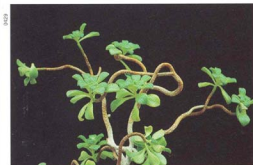


Aeonium gomerense Praeger

CRASSULACEAE

Bush to 50 cm high with many side branches; leaves arranged in rosettes 6 cm in diameter; white flowers.

Canary Islands (Gomera)

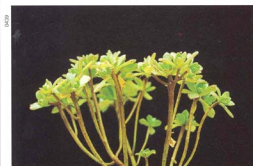


Aeonium lindleyi Webb & Berth.

CRASSULACEAE

Hemispherical bush to 30 cm high, with several thin branches ending in small rosette; leaves hairy and light green; yellow flowers.

Canary Islands



Aeonium sedifolium Pit. & Proust

CRASSULACEAE

Bush to 15 cm high; rosettes of green to yellowish-green leaves with red stripes; yellow flowers.

Canary Islands (La Palma, Tenerife)

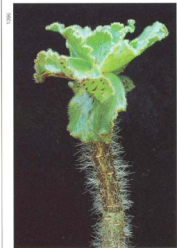


Aeonium simsii (Sweet) Stearn

CRASSULACEAE

Broad rosettes forming low clumps; leaves green with reddish lines; yellow flowers.

Canary Islands (Tenerife)



Aeonium smithii (Sims) Webb & Berth.

CRASSULACEAE

Branched stems to 60 cm long covered with white hairs; rosettes 10 cm in diameter; green leaves with reddish lines; yellow flowers.

Canary Islands (Tenerife)



Aeonium spatulatum Praeger

CRASSULACEAE

Branches to 90 cm high with small rosettes; leaves 3-4 cm long with cartilaginous margins; yellow flowers.

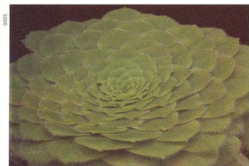
Canary Islands



Aeonium subplanum Praeger

CRASSULACEAE

Similar to *A. canariense* but the rosettes are flatter and to 50 cm in diameter; green, spatulate leaves 30 cm long. Canary Islands (Gomera)



Aeonium tabulaeforme (Haw.) Webb & Berth.

CRASSULACEAE

Low stems with large rosettes to 50 cm in diameter; leaves green; branching inflorescence to 60 cm high; yellow flowers. The rosette dies after flowering. *Aeonium herbsterianum* Bolle, *A. macrolepium* Webb. Canary Islands (Tenerife)



Aeonium urbicum Webb & Berth

CRASSULACEAE

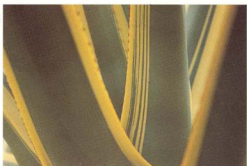
Stems to 1 m high, branching from base; oblong leaves in rosettes to 25 cm in diameter; greenish-white or whitish-pink flowers borne in large pyramid. Canary Islands (Tenerife)



Aeonium viscatum Bolle

CRASSULACEAE

Stems thin; pale green, sticky leaves 4–5 cm long and 4 mm thick; numerous yellow flowers. Canary Islands (Gomera)



Agave americana var. *marginata* Trel.

AGAVACEAE

Offsetting, stemless rosettes with 20–30 leaves to 1.4 m long and 25 cm wide, ending in thick spine 3 cm long and with several marginal spines; branching inflorescence to 9 m high; yellow flowers 8–10 cm long. This variety has yellow leaf margins.

Mexico; naturalized in several Mediterranean countries



Agave americana var. *mediopicta* Trel.

AGAVACEAE

Variagated form; green leaves have yellowish central stripes. Mexico



Agave americana var. mediopicta f. alba Hort.

AGAVACEAE

Variegated form with white stripes in centre of leaves.

Mexico



Agave angustifolia var. marginata Hort.

AGAVACEAE

Stem to 40 cm high with offsets; rosettes 1 m in diameter with several leaves 30–80 cm long and ending in 18 mm long terminal spine; inflorescence to 2.7 m tall. This variety has white leaf margins.

From Costa Rica to Mexico (Sonora)



Agave attenuata Salm-Dyck

AGAVACEAE

Stem to 1.5 m high and 10 cm thick; rosettes with 20–25 spineless, glaucous grey to pale yellowish-green leaves 70 cm long; pendent inflorescence to 2 m long; greenish-yellow flowers.

Agave glaucocens Hook.

Mexico



Agave bracteosa S. Watson

AGAVACEAE

Stemless, offsetting rosettes, 80 cm in diameter; yellow-green leaves to 40 cm long, recurved at tip; inflorescence to 2 m tall with numerous white to pale yellow flowers.

Mexico



Agave celsii var. albicans (Jacobi) Gentry

AGAVACEAE

Rosettes of pale green, undulate leaves to 70 cm long and armed with 3 mm long teeth and brown terminal spines 2 cm long; inflorescence 2–3 m tall; yellow to reddish flowers.

A. mitis Jacobi

Mexico



Agave colimana Gentry

AGAVACEAE

Short-stemmed rosettes; green leaves, 50–70 cm long, with brown margins and dark brown terminal spines 8 mm long; inflorescence to 3 m tall; yellow flowers. The specimen illustrated is young. It is sometimes cultivated under the name *A. nigra* or *A. nigram*.

Mexico

D613



Agave echinoides Jacobi

AGAVACEAE

A small species; rosettes to 30 cm across with numerous leaves, 15 cm long and ending in brown terminal spine; inflorescence to 2 m tall; yellow or red flowers. Gentry considers this to be a synonym of *A. striata*.

Mexico

D614



Agave ellemeetiana Jacobi

AGAVACEAE

Stemless rosettes to 1 m in diameter with few spineless, bright green leaves to 20 cm long; inflorescence to 5 m tall; greenish-yellow flowers.

Mexico

D615



Agave ferdinandi-regis A. Berger

AGAVACEAE

Small rosettes of folded leaves to 13 cm long with horny stripes in lower part and black, terminal spine 15 mm long; inflorescence to 4 m tall; varicoloured flowers tinged with red or purple. Gentry considers this to be a synonym of *A. victoriae-reginae*.

Mexico

CITES App. II

D616



Agave ferox C. Koch

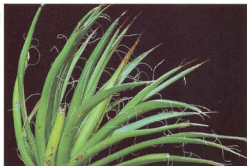
AGAVACEAE

Stemless rosettes of 20–30 leaves to 1 m long and 35 cm wide with black, marginal spines 2–3 cm long and hooked, terminal spines to 9 cm long; inflorescence to 10 m high; yellow flowers.

Agave colorii Hort.; possibly a variety of *A. solimiana*

Mexico

D617



Agave filifera Salm-Dyck

AGAVACEAE

Stemless rosettes to 65 cm in diameter with lateral shoots; numerous shiny green leaves to 25 cm long and 3 cm wide with white lines and filiferous margins; inflorescence to 3 m tall; greenish-yellow flowers.

A. filamentosae Salm-Dyck

Mexico

D618



Agave geminiflora Ker Gawl.

AGAVACEAE

Stemless, branching rosettes of more than 100 leaves to 50 cm long and 5 mm wide with 4 mm long terminal spine and filiferous margins; inflorescence to 4 m high; flowers greenish below, flushed with red above.

Agave angustissima Engelm.

Mexico

1190

**Agave ghiesbreghtii** C. Koch

AGAVACEAE

Stemless, offsetting rosettes with dark green, strongly armed leaves to 40 cm long; inflorescence to 3 m tall; greenish-brown to purplish flowers.

Mexico

1030

**Agave horrida** Lem.

AGAVACEAE

Strongly armed, solitary rosettes; numerous, dark green to yellow-green leaves with grey teeth 1.5 cm long and terminal spine to 4 cm long, grey with darker tip; inflorescence to 2.5 m tall; pale yellow-green flowers.

Mexico

1020

**Agave karwinskii** Zucc.

AGAVACEAE

Stems to 4 m high; green leaves to 70 cm long and 4 cm wide, with dark brown terminal spine 5 cm long; inflorescence to 6 m high; greenish to pale yellow flowers.

Agave bakeri Ross; *A. coronary* Baker

Mexico

1030

**Agave kerchovae** Lem.

AGAVACEAE

Rosettes to 70 cm in diameter and 40 cm high; green-grey leaves 30–40 cm long with horny edges and ending in 4 cm long terminal spine; inflorescence 2.5–5 m high; greenish-purple flowers.

Mexico

1130

**Agave lechuguilla** Torr.

AGAVACEAE

Suckering rosettes 50–60 cm in diameter; light green leaves to 30 cm long; inflorescence to 3 m tall; yellow flowers often tinged with red.

Mexico, USA (New Mexico, Texas)

1030

**Agave x leopoldii** Hort.

AGAVACEAE

Rosettes with numerous, filiferous leaves 30–40 cm long with 5 mm long terminal spine; inflorescence 2–4 m tall; greenish-yellow flowers. Garden hybrid: *A. filifera* x *A. schottigera*.



Agave lophantha Schiede

AGAVACEAE

Short-stemmed rosettes; pale or yellow-green leaves 50–70 cm long with horny margins and grey-brown terminal spine 2 cm long; inflorescence 3–4 m tall; glaucous green to yellow flowers.

Mexico



Agave palmeri Engelm.

AGAVACEAE

Rosettes to 120 cm in diameter; glaucous green or pale green leaves armed with teeth and brown terminal spine 4–6 cm long; inflorescence 4–5 m tall; greenish-yellow flowers.

Mexico, USA (Arizona, New Mexico)



Agave macroacantha Zucc.

AGAVACEAE

Stemless or short-stemmed rosettes; leaves can be to 55 cm long (average length 15–30 cm) with 3 cm long terminal spine; inflorescence to 3 m tall; numerous reddish flowers flushed with grey.

Mexico (Oaxaca, Tehuacán)



Agave parrasana A. Berger

AGAVACEAE

Dense rosettes 60 cm in diameter, rarely offsetting; blue-grey leaves to 30 cm long and 10–15 cm wide, with terminal spine 2.5 cm long; inflorescence 3–4 m tall; flowers yellow, flushed with red.

A. wrightii Engelm.

Mexico (Coahuila)



Agave marmorata Roeb.

AGAVACEAE

Stemless rosettes to 2 m in diameter with 30–50 leaves to 1 m long and to 30 cm wide at base, their margins armed with curved spines and terminal spine 2–3 cm long; inflorescence to 6 m tall; golden yellow flowers.

Agave fodorii Baker

Mexico



Agave parryi Engelm.

AGAVACEAE

Compact rosettes 50–80 cm in diameter; grey to light green leaves to 30 cm long and 6–10 cm wide; inflorescence 2–3 m tall; greenish-yellow flowers.

Agave chihuahuensis Trell.; *A. pitoni* Trell.

Mexico, USA (Arizona, New Mexico)

11101



Agave parryi var. *couesii* Gentry

AGAVACEAE

This variety has broader leaves.

Mexico

11117



Agave parviflora Torr.

AGAVACEAE

Small rosettes 15–25 cm in diameter and 10–15 cm high, with numerous, dark green leaves to 10 cm long with 5 mm long terminal spine and filiferous margins; inflorescence 1–1.5 m tall; pale yellow flowers.

Mexico, USA (Arizona)

CITES App. I

0905



Agave potatorum Zucc.

AGAVACEAE

Rosette with 30–80 glaucous green to white leaves 30 cm long and 11 cm wide at base, armed with sharp spines and terminal spine to 4 cm long; inflorescence 3–6 m tall; light green to yellowish flowers.

Agave saundersii Hook. f.; *A. scolymus* Karw.

Mexico

0902



Agave potatorum var. *verschafflii* (Lem.) A. Berger

AGAVACEAE

Similar to the type species; whitish-grey leaves with short, red-brown or yellow-brown spines.

Mexico (Oaxaca, Puebla)

11108



Agave pumila De Smet ex Baker

AGAVACEAE

In the juvenile stage, which may persist for several years, rosettes are 3–4 cm in diameter with 5–8 short, thick leaves. Inflorescence unknown. When cultivated in the ground plants lose their dwarf habit. It could be a hybrid of *A. lechuguilla* Torr.

Mexico

0902



Agave schidigera Lem.

AGAVACEAE

Solitary rosettes with green or yellowish-green leaves 30–40 cm long and 7 cm wide and with terminal spine 1.5 cm long; inflorescence 3–4 m tall; green to yellow flowers. Considered by Ulrich to be a variety of *A. filifera* Salin-Dyck.

Agave discrepata Drum; *A. vestita* S. Watson

Mexico



Agave sisalana Perrine

AGAVACEAE

Stems to 1 m high, offsetting; green leaves 1.5 m long and 7-8 cm wide with short terminal spine; inflorescence 5-7 m tall; greenish-yellow flowers. Cultivated for fibre production in warm climates.

Mexico

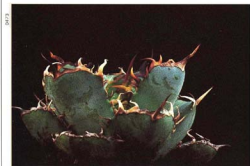


Agave stricta 'Nana'

AGAVACEAE

Offsetting rosettes with several leaves; this cultivar is smaller than the type species; inflorescence not seen.

Garden origin

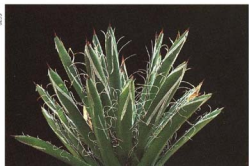


Agave sp. FO 076

AGAVACEAE

A dwarf species, strongly armed with brown teeth and terminal spine. It is common in cultivation under the name *A. filanotis*.

Mexico (Sierra Mixteca)



Agave toumeyana Trel.

AGAVACEAE

Rosettes to 30 cm in diameter with stiff leaves to 25 cm long with filiferous margins and 15 mm terminal spine; inflorescence 1.5-2.5 m tall; whitish-green flowers.

USA (Arizona)



Agave stricta Salm-Dyck

AGAVACEAE

Spherical rosette 60-110 cm in diameter forming thick, branched stem with many leaves; green leaves about 35 cm long, thick at base then narrowing, with terminal spine 2 cm long; inflorescence 2 m tall; red to purplish flowers.

Mexico (Tehuacán)



Agave triangularis Jacobi

AGAVACEAE

Olive-green, deltoid leaves 30-50 cm long with terminal spine 2 cm long and marginal spines 5-7 mm long; leaves variable in size and shape.

Mexico

**Agave univittata** Haw.

AGAVACEAE

Offsetting rosettes with 30–50 leaves; glossy green leaves to 1 m long with darker longitudinal stripes, marginal hooked spines and 3 cm long terminal spine; inflorescence 4 m tall; light grey-green to yellow flowers. Considered by Gentry to be a synonym of *A. leptantha* Schiede.

Mexico

**Agave utahensis** Engelm.

AGAVACEAE

Rosettes 25–40 cm in diameter with 70–80 grey-green leaves to 17 cm long with noticeable terminal spine; inflorescence to 2.5 m tall; yellow flowers. A hardy species.

USA (Arizona)

**Agave utahensis var. discreta** M.E. Jones

AGAVACEAE

Similar to type species but with slight differences in colour and rosette shape. Although it should be considered a synonym of *A. utahensis*, it is still found in cultivation under the varietal name.

USA (Arizona)

**Agave utahensis var. nevadensis** Engelm.

AGAVACEAE

Similar to *A. utahensis* but smaller and with more erect rosettes, 15–25 cm tall. USA (California, Nevada)

**Agave victoriae-reginae** T. Moore

AGAVACEAE

Solitary, spherical rosettes with numerous green leaves 10–15 cm long with white margins and terminal spine 2 mm long; inflorescence to 4 m tall; varicoloured flowers, often tinged with red.

Agave consideranti Duch.; *A. nickelsii* R. Gosselin

Mexico

CITES App. II

**Agave victoriae-reginae x asperirma**

AGAVACEAE

Stemless rosettes with numerous grey-green to light green leaves to 18 cm long with terminal spine 4 cm long; inflorescence 2–3 m tall; yellow flowers. A natural hybrid.

Mexico



Agave victoriae-reginae x lechuguilla

AGAVACEAE

A compact hybrid; grey-green leaves with brown teeth and stout terminal spine; inflorescence 2–3 m tall; flowers variable in colour.
Mexico



Agave xylonacantha Salm-Dyck

AGAVACEAE

Short-stemmed rosettes 50–60 cm in diameter; numerous leaves to 20 cm long with 3–4 cm long terminal spines; inflorescence to 4 m tall; greenish to pale yellow flowers.

Agave carchariasifolia Pamp.

Mexico



Aichryson bethencourtianum Webb

CRASSULACEAE

Low shrub 20–30 cm high with hairy branches ending in small rosettes; leaves 2 cm long and 1 cm wide; yellow flowers.

Canary Islands



Alluaudia ascendens
Drake

DIDIEREACEAE

Thick stems with few branches to 15 m high; thorns 15 mm long; leaves 13–25 mm long and 13–22 mm wide; small, white to reddish flowers borne on 5–10 cm stalk.

Didierea ascendens Drake
Madagascar

CITES App. II



Alluaudia comosa Drake

DIDIEREACEAE

In the juvenile stage this is a shrub, but at maturity it forms a short, thick stem, 1 m high; branching into secondary stems; thorns 3.5 cm long in pairs; leaves 1.5–2 cm long and 1–1.5 cm wide; small, white flowers.

Madagascar

CITES App. II



Alluaudia dumosa Drake

DIDIEREACEAE

A shrub in the juvenile stage but growing to 10 m at maturity, with several ascending branches and few thorns; leaves very small and caducous; whitish flowers.

Madagascar

CITES App. II

**Alluaudia humbertii** Choux

DIDIEREACEAE

Branched shrub to 7 m high; oval leaves 7–15 mm long and 5–10 mm wide, borne in pairs below the thorns; inflorescence 10 cm long; small flowers: male flowers greenish, female flowers white.

Madagascar

CITES App. II

**Alluaudia montagnacii** Rath

DIDIEREACEAE

Similar in habit to *A. adscendens* but small, white flowers borne laterally on branches. Possibly a natural hybrid.

Madagascar

CITES App. II

**Alluaudia procera** Drake

DIDIEREACEAE

Tree 3–15 m tall with few branches armed with conical thorns; ovate leaves to 2.5 cm long and 5–10 mm wide; inflorescence 30 cm long; small yellowish- or whitish-green flowers.

Madagascar

CITES App. II

**Aloe albiflora** Guill.

LILIACEAE

Stemless rosettes; grey-green leaves to 15 cm long with many white spots; inflorescence 60 cm high; white flowers.

Madagascar

CITES App. II

**Aloe aristata** Haw.

LILIACEAE

Up to 12 rosettes, each with 100–150 dark green leaves 8 cm long, ending in transparent spinous process and with soft spines, especially on underside; leaf margins with horny teeth; inflorescence to 50 cm tall with several orange-red flowers.

Aloe olsenbergeri Guill.; *A. longiaristata* Roem. & Schult.
South Africa (Cape Province, Natal, Orange Free State)

CITES App. II

**Aloe bakeri** Scott-Elliot

LILIACEAE

Green leaves 8–10 cm long with white markings and white marginal spines; leaves sometimes tinged with reddish-pink.

Madagascar

CITES App. II

**Aloe bellatula** Reynolds

LILIACEAE

Rosettes freely suckering from base and forming dense groups; green leaves 15–20 cm long with pale green areas; inflorescence about 50 cm tall; coral-red flowers.

Madagascar

CITES App. II

**Aloe broomii** Schönland

LILIACEAE

Solitary rosettes to 1 m in diameter; leaves bright green with horny edges; inflorescence to 1.5 m tall; yellow flowers.

South Africa (Cape Province)

CITES App. II

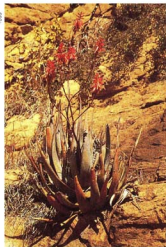
**Aloe bowiea** Roem. & Schult.

LILIACEAE

Stemless rosettes; slender, green to pale green leaves with white spots and soft prickles along centre; inflorescence 25 cm tall, greenish flowers.

South Africa (Cape Province)

CITES App. II

**Aloe cameronii** Hems.

LILIACEAE

Stems to 1 m high, branching from base; leaves green to copper-red during dry season, 40–50 cm long, 3–7 cm wide at base and narrowing towards leaf apex, margins armed with teeth 2–3 mm long; inflorescence to 1 m tall; red flowers. Plant photographed in habitat. Malawi, Mozambique, Zimbabwe

CITES App. II

**Aloe brevifolia** Mill.

LILIACEAE

Stemless rosettes 8 cm in diameter with several offshoots from base forming large clumps; leaves 6 cm long and 2 cm wide at base with little white teeth; inflorescence 40 cm tall; pale scarlet flowers.

Aloe prolifera Haw.

South Africa (Cape Province)

CITES App. II

**Aloe ciliaris** Haw.

LILIACEAE

Long stems with leaves on terminal portion; leaf base covered with white cartilaginous teeth; red flowers.

South Africa (Cape Province)

CITES App. II

**Aloe concinna** Baker

LILIACEAE

Short-stemmed rosettes; light green leaves 10–15 cm long with white markings and dentate margins; red flowers.

Distribution unknown

CITES App. II

**Aloe confusa** Engl.

LILIACEAE

Branched stem to 1 m high; spreading leaves, spirally arranged, 20–30 cm long with dentate margins; red flowers.

Tanzania

CITES App. II

**Aloe confifera** H. Perrier

LILIACEAE

Stemless or short-stemmed rosettes; 15–20 leaves armed with short teeth; inflorescence to 50 cm long; yellow flowers.

Madagascar

CITES App. II

**Aloe cooperi** Baker

LILIACEAE

Stem to 15 cm long, solitary or offsetting from base; spotted green leaves 30–50 cm long and 6 cm wide at base with cartilaginous margins; inflorescence to 1 m tall; pink flowers.

Aloe sclautiana Regel

South Africa (Natal)

CITES App. II

**Aloe cryptopoda** Baker

LILIACEAE

Stemless or short-stemmed rosettes of 20–30 leaves; glossy green leaves to 60 cm long with pinkish marginal teeth; red flowers.

Mozambique, Zambia, Zimbabwe

CITES App. II

**Aloe descoingsii** Reynolds

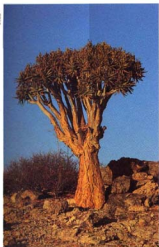
LILIACEAE

Stemless rosette forming dense groups; dull green, recurved leaves 3 cm long and 1.5 cm wide at base with white excrescences giving leaves appearance of being covered with white spots; inflorescence 15 cm tall; scarlet-orange flowers.

Madagascar

CITES App. II

0040

**Aloe dichotoma** L.f.

LILIACEAE

Dichotomously branching tree to 10 m high and 1 m across; leaves 20–30 cm long arranged in rosettes at ends of branches; yellow flowers. Plant photographed in habitat. Namibia, South Africa (Cape Province)

CITES App. II

0035

**Aloe erinacea** Hardy

LILIACEAE

Rosettes forming large clumps; greyish-green, spreading leaves, well armed with black spines, which are white on younger leaves; inflorescence 1 m tall; red flowers.

Namibia

CITES App. II

1214

**Aloe eru** A. Berger

LILIACEAE

Branching stems 40–50 cm long; dark green leaves to 50 cm long with white spots and 4–5 mm long marginal teeth; inflorescence 1 m tall; orange flowers.

Aloe abyssinica Baker

Ethiopia

CITES App. II

0087

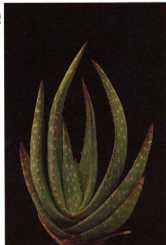
**Aloe ferox** Mill.

LILIACEAE

Tall, single stems; remains of old leaves persistent; leaves to 1 m long with spiny upper surface; young plants are always spiny; orange-red flowers. South Africa

CITES App. II

0127

**Aloe gariensis** Pillans

LILIACEAE

Branching stems to 1 m high form small groups; dark green leaves with white spots and horny edges are arranged in rosettes; persistent dry leaves cover stems; inflorescence to 1.2 m tall; yellow flowers.

Aloe gariisana Dinter

Namibia, South Africa (Cape Province)

CITES App. II

1115

**Aloe globuligemma**
Pole-Evans

LILIACEAE

Creeping stems to 50 cm long; bluish leaves 40 cm long with white marginal teeth 1 cm apart; inflorescence 1 m high; yellow flowers.

South Africa (Transvaal)

CITES App. II

**Aloe haworthioides** Baker

LILIACEAE

Stemless rosettes 3–5 cm in diameter; leaves 4 cm long with terminal spine and marginal spines; inflorescence 30 cm tall; red flowers.

Madagascar

CITES App. II

**Aloe hemmingii** Reynolds

LILIACEAE

Stemless or short-stemmed rosettes; recurved brownish-green leaves 10–14 cm long and 3 cm wide at base with dull white streaks and marginal spines; inflorescence 35 cm tall; rose-red flowers.

Somalia

CITES App. II

**Aloe hereroensis** Engl.

LILIACEAE

Short-stemmed rosettes; grey-green leaves 25–35 cm long with scattered spots and red-brown teeth; inflorescence 1–2 m tall; orange to scarlet flowers.

Namibia, South Africa (Cape Province, Orange Free State)

CITES App. II

**Aloe hereroensis** var. **lutea** A. Berger

LILIACEAE

A yellow-flowering variety. Central Namibia

CITES App. II

**Aloe humilis** (L.) Mill.

LILIACEAE

Offsetting, clump-forming rosettes; green leaves 10 cm long and 10–15 mm wide, tuberculate with whitish teeth; inflorescence 40 cm tall; coral-red flowers.

Aloe. humilis var. *candollei* Mill.; *A. perfoliata* var. *humilis* L. South Africa (Cape Province)

CITES App. I

**Aloe humilis** var. **echinata** (Willd.) Baker

LILIACEAE

A smaller variety with fleshy spines on upper surface of leaves.

Aloe echinata Willd.; *A. tuberculata* Haw.

South Africa (Cape Province)

CITES App. I

**Aloe jucunda** Reynolds

LILIACEAE

Short-stemmed, dense rosettes 8 cm in diameter, recurved, dark green leaves 4 cm long and 2–5 cm wide with numerous transparent spots and 2 mm long marginal teeth; inflorescence 35 cm tall; pale rose- to coral-pink flowers.

Somalia

CITES App. II

**Aloe melanacantha** A. Berger

LILIACEAE

Stemless rosettes; brownish-green leaves to 20 cm long with sharp black thorns (white in younger specimens); inflorescence to 1 m tall; flowers variable in colour.

Namibia

CITES App. II

**Aloe littoralis** Baker

LILIACEAE

Unbranched stem to 4 m high; numerous leaves arranged in rosettes; grey-green leaves to 60 cm long with brown marginal teeth; inflorescence to 1.5 m tall; pink to red flowers. Plant photographed in habitat.

Angola, Botswana, Mozambique, Namibia, South Africa (Transvaal), Zambia

CITES App. II

**Aloe microstigma** Salm-Dyck

LILIACEAE

Stems, solitary or branched, to 50 cm long and covered with remains of old leaves; leaves 30 cm long and 6 cm wide at base with whitish, H-shaped markings on both surfaces; orange flowers.

Namibia, South Africa (Cape Province)

CITES App. II

**Aloe mcloughlinii** Christian

LILIACEAE

Stemless or short-stemmed rosettes; green leaves about 40 cm long with numerous pale green markings and marginal teeth; inflorescence 1 m high; red flowers.

Ethiopia

CITES App. II

**Aloe millottii** Reynolds

LILIACEAE

Stems 20–25 cm long, branched from base; leaves 8–10 cm long and 7 mm wide with white markings and white, cartilaginous, marginal teeth; pink to red flowers.

Madagascar

CITES App. II

0632

**Aloe obscura** Mill.

LILIACEAE

Short-stemmed rosettes; leaves 20–25 cm long with oblong spots and triangular marginal teeth; inflorescence 20 cm tall; red flowers.

Aloe maculosa Lam.; *A. picta* Thunb.

Namibia

CITES App. II

0633

**Aloe pachygaster** Dinter

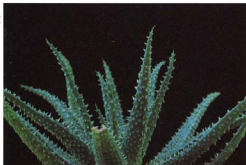
LILIACEAE

Stemless rosettes 20 cm in diameter with spirally arranged grey-green leaves 12–16 cm long with yellow marginal teeth; inflorescence 90 cm tall; red flowers.

Namibia

CITES App. II

0634

**Aloe parvula** A. Berger

LILIACEAE

Small plants, solitary or forming small groups; bluish-grey, thick and fleshy leaves 10 cm long armed with cartilaginous, white, marginal teeth; reddish flowers.

Aloe sempervivoides H. Perrier

Madagascar

CITES App. II

0635

**Aloe plicatilis** (L.) Mill.

LILIACEAE

Tree-like species to 5 m high with short, dichotomously branching stems; 10–16 leaves at branch apices; dull green leaves 30 cm long and 4 cm wide with flat margins with slightly cartilaginous edges; inflorescence 50 cm tall; scarlet flowers.

Aloe lingua Thunb.; *A. linguiformis* L.; *A. tripetala* Medik.

South Africa (Cape Province)

CITES App. II

0636

**Aloe ramosissima** Pillans

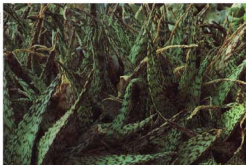
LILIACEAE

Shrubs to 2 m high with freely branching, dichotomous stems covered with waxy white powder; inflorescence 20 cm high; greenish-yellow flowers.

Namibia, South Africa (Cape Province)

CITES App. II

0636

**Aloe rauhii** Reynolds

LILIACEAE

Stemless or short-stemmed rosettes 10 cm in diameter forming dense groups; grey-green leaves, sometimes with brownish tinge, 10 cm long, 2 cm wide at base and narrowing to acute point at apex with white spots and small marginal spines; inflorescence 30 cm tall; scarlet flowers.

Madagascar

CITES App. II

**Aloe saponaria** Haw.

LILIACEAE

Stemless rosettes; light green leaves 15–20 cm long with horny, dark brown, marginal teeth; orange flowers.

Lesotho, South Africa (Cape Province, Natal), Zimbabwe

CITES App. II

**Aloe somalensis** Watson

LILIACEAE

Stemless rosettes of 12–16 leaves; brownish-green leaves about 20 cm long with numerous spots and reddish-brown marginal teeth; pink flowers.

Somalia

CITES App. II

**Aloe spinosissima** Hort.

LILIACEAE

A hybrid, *A. humilis* x *A. arborescens*, with stems over 1 m high; leaves 25–30 cm long with horny marginal teeth; orange-red flowers.

CITES App. II

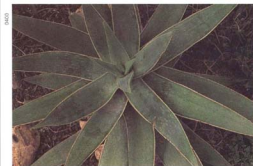
**Aloe squarrosa** Baker

LILIACEAE

Thin stems 20 cm long with leaves in loose rosette; green leaves 8 cm long and 2 cm wide with spots and bands and sharp marginal teeth; inflorescence 10–15 cm long; red flowers.

South Yemen (Socotra)

CITES App. II

**Aloe striata** Haw.

LILIACEAE

Stemless rosettes; leaves 40–50 cm long and 10–15 cm wide with white marginal teeth; inflorescence branching; coral-red flowers.

Aloe albocincta Haw.; *A. humboldtii* Naudin; *A. pinnulata* Jacq.; *A. rhodocincta* Hort.

Namibia

CITES App. II

**Aloe striata subsp. karasbergensis** Glen & D.S. Hardy

LILIACEAE

Leaves conspicuously veined; flowers paler and tipped with green.

Namibia, South Africa (Cape Province)

CITES App. II

**Aloe suprafoliata** Pole-Evans

LILIACEAE

Solitary, stemless rosettes; greyish-green or bluish-green leaves. Young plants (like the illustrated specimen) are distichous.

South Africa (Natal), Swaziland)

CITES App. II

**Aloe variegata** L.

LILIACEAE

Stemless, elongated rosettes to 20 cm high, offsetting and forming dense groups; dark green leaves to 15 cm long and 4 cm wide at base with white spots arranged in bands; inflorescence 30 cm tall; pink flowers.

Aloe punctata Haw.

South Africa (Cape Province)

CITES App. II

**Aloe vera** L.

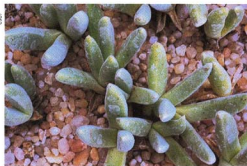
LILIACEAE

Plant with short stems, suckering and forming dense groups; green leaves to 50 cm long with or without white spots; yellow flowers. Long known in cultivation for its pharmaceutical properties.

Aloe barbadensis Mill.; *A. indica* Royle; *A. jansae* Tod.; *A. vulgaris* Lam.

Canary Islands, Cape Verde Islands; widely naturalized in temperate regions

CITES App. II

**Aloinopsis hilmari** L. Bol.

MESEMBRYANTHEMACEAE

Large taproot; branches with 2-4 leaves, forming clumps to 7 cm in diameter, grey-green, erect leaves 2 cm long and 1 cm wide; yellow flowers 3 cm in diameter.

Cheritopsis hilmari L. Bol.

South Africa (Cape Province)

**Aloinopsis luckhoffii** L. Bol.

MESEMBRYANTHEMACEAE

Large taproot; bluish-green leaves 20 cm long with triangular apex and greyish tubercles; yellow flowers 2.5 cm in diameter.

Titanopsis luckhoffii L. Bol.; *Nananthus luckhoffii* L. Bol.

South Africa (Cape Province)

**Aloinopsis malherbei** L. Bol.

MESEMBRYANTHEMACEAE

Erect, lanceolate, glaucous green leaves 2 cm long covered with small tubercles more evident at margins; yellow flowers 2.5 cm in diameter.

Nananthus malherbei L. Bol.

South Africa (Calvinia District)



Aloinopsis orpenii (N.E. Br.) L. Bol.

MESEMBRYANTHEMACEAE

Dense clumps of bluish-green leaves 15–20 cm long with dark dots; yellow flowers 3.5 cm in diameter.

Nananthus orpenii L. Bol.

South Africa (Cape Province)



Aloinopsis schooneesii L. Bol.

MESEMBRYANTHEMACEAE

Small plants with tuberous roots and small, bluish-green leaves; silky, yellowish-red flowers 1–2 cm in diameter.

Nananthus schooneesii L. Bol.

South Africa (Cape Province)



Aloinopsis setifera L. Bol.

MESEMBRYANTHEMACEAE

Rosettes 2–3 cm wide forming clumps; leaves 2 cm long, triangular at end and covered with small white tubercles, upper part with 5–10 teeth 1 mm long; yellow flowers 2.5 cm in diameter.

Titanopsis setifera L. Bol.

South Africa (Cape Province)



Ammocharis coranica Herb.

AMARYLLIDACEAE

Ovoid bulb to 20 cm in diameter; 5–20 striated leaves, ranging in length from 10 to 80 cm; inflorescence to 35 cm tall; pink flowers.

Amaryllis coranica Ker Gawl.

Angola, Namibia, Zimbabwe



Anacamperos albissima Marloth

PORTULACACEAE

Several thin stems 40 cm high with tuberous root; small leaves covered by papery, white stipules; white flowers.

Namibia

CITES App. II



Anacamperos alstonii Schönland

PORTULACACEAE

Caudex to 6 cm in diameter with numerous branches 2 cm long; leaves in rows covered with silvery stipules; white flowers.

Namibia

CITES App. II

**Anacamperos buderiana** Poelln.

PORTULACACEAE

Tuberous root with many prostrate branches 30 cm long and 6 mm thick; leaves covered by white stipules; white flowers.

Namibia/South Africa (Namaqualand)

CITES App. II

**Anacamperos densifolia** Dinter

PORTULACACEAE

Branching plants with stems to 5 cm long; obovate leaves to 8 mm long with hairs from axils; pink flowers.

Namibia

CITES App. II

**Anacamperos comptonii** Pillans

PORTULACACEAE

Small caudex 1–2 cm in diameter with short branches bearing 2–4 opposite leaves 3–5 cm long and covered with white hairs; red flowers.

Namibia, South Africa (Cape Province)

CITES App. II

**Anacamperos filamentosa** (Haw.) Sims

PORTULACACEAE

Tuberous root with stem to 5 cm long; thick leaves ovoid to spherical 6–10 mm long with long white hairs; pink flowers.

Anacamperos intermedius G. Nicholson

Namibia, South Africa (Cape Province)

CITES App. II

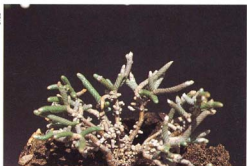
**Anacamperos crinita** Dinter

PORTULACACEAE

Stems with small branches 8 cm long and 1 cm thick; light green leaves 4 mm long covered with hairs to 15 mm long; flowers carmine with white margins.

Namibia/South Africa (Namaqualand)

CITES App. II

**Anacamperos papyracea** E. Mey.

PORTULACACEAE

Tuberous root with many prostrate branches 5 cm long and 1 cm thick; leaves completely hidden by white hairs; white flowers.

Namibia/South Africa (Namaqualand), South Africa (Karoo)

CITES App. II

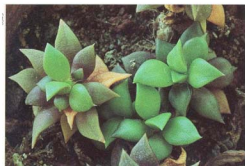
**Anacampseros retusa** Poelln.

PORTULACACEAE

Branches to 4 cm long; rosettes of compressed, hairy, brownish leaves 1.5 cm long; pink flowers.

South Africa (Cape Province)

CITES App. II

**Anacampseros rufescens** (Haw.) Sweet

PORTULACACEAE

Tuberos root; dichotomously branched stems 5–10 cm long; green leaves 2 cm long with reddish lower surface and covered with bristly hairs; pink flowers.

Anacampseros arachnoidea Hout.

South Africa (Cape Province)

CITES App. II

**Anacampseros telephiastrum** DC.

PORTULACACEAE

Several stems to 5 cm high arising from thickened root; green or brownish leaves 1 cm long and 8 mm wide, covered with bristly hairs; pink flowers.

South Africa (Cape Province)

CITES App. II

**Anacamperos tomentosa** A. Berger

PORTULACACEAE

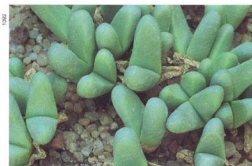
Brownish-green leaves, ovate to roundish and to 2 cm long, with few hairs; inflorescence 15 cm tall; pink flowers.

Anacamperos pseltiziana

Dinter

Namibia

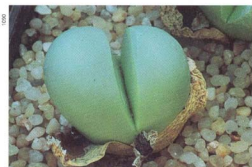
CITES App. II

**Argyroderma fissum** (Haw.) L. Bol.

MESEMBRYANTHEMACEAE

Leaves 3–5 cm long, forming clumps; older plants form short stems; red flowers.

South Africa (Cape Province)

**Argyroderma schuldthii** Schwantes

MESEMBRYANTHEMACEAE

Solitary plants; leaves 1–2 cm long and 3 cm wide, rounded at apex; pink flowers.

South Africa (Cape Province)

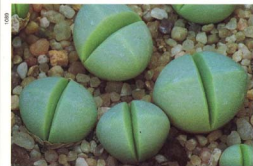


Argyroderma subalbum (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Whitish leaves 1.5–2 cm long and wide borne in pairs with short stems, forming clumps with age; white flowers.

South Africa (Cape Province)



Argyroderma testiculare (Aiton) N.E. Br.

MESEMBRYANTHEMACEAE

Pairs of equal sized green to yellow-green or glaucous green leaves 2–3 cm long; white or purple flowers.

South Africa (Cape Province)



Aspazoma amplexens
(L. Bol.) N.E. Br.

MESEMBRYANTHEMACEAE

Shrubs to 15 cm high; leaves 1–3 m long; yellow flowers.

South Africa (Cape Province)



Astridia hallii L. Bol.

MESEMBRYANTHEMACEAE

Shrub to 30 cm high; leaves 5–8 cm long and 3 cm in diameter narrowed towards tip; white flowers.

Namibia

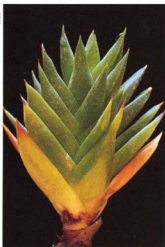


Astridia velutina var. lutata L. Bol.

MESEMBRYANTHEMACEAE

Shrub to 30 cm high; arcuate leaves 3–3.5 cm long; white flowers. Type species has grey-green leaves; this variety has yellowish leaves.

Namibia



Astroloba pentagona
(Haw.) Uitewaal

LILIACEAE

Rosette to 8 cm in diameter; stem about 25 cm high; light green, triangular leaves to 4 cm long; yellow flowers.

Janusorthia pentagona Haw.
South Africa (Cape Province)



Bergeranthus glenensis N.E. Br.

MESEMBRYANTHEACEAE

Freely branching plant with stems 5 cm long; leaves 3–4 cm long with dark green dots; yellowish flowers.

South Africa (Orange Free State)



Bergeranthus scapiger (Haw.) N.E. Br.

MESEMBRYANTHEACEAE

Green leaves to 12 cm long and with cartilaginous edges, borne in pairs; yellow flowers.

South Africa (Cape Province)



Bilja cana N.E. Br.

MESEMBRYANTHEACEAE

Rosettes of 4–6 leaves 3 cm long and 1.2 cm wide; yellow flowers 3.5 cm in diameter.

South Africa (Cape Province)



Bombax ellipticum
H.B. & K.

BOMBACACEAE

Tree with clavate to spherical, large, grey-brown caudex covered with leaf-scars; several short stems arise from tuberous caudex; caducous, cordate, green leaves 8–15 cm long appear in late spring and fall in autumn (dry season); purplish flowers.

Mexico



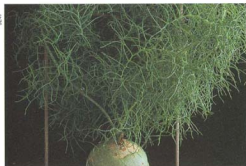
Boussingaultia cordifolia Ten.

BASELACEAE

Tuberous root; twining stems to 6 m; green leaves 10 cm long and 2.5 cm wide; white flowers.

Anacardium cordifolium (Ten.) Steenis

Argentina



Bowicia volubilis Harv.

LILIACEAE

Large, light green, spherical bulbs to 30 cm in diameter, producing long, twining shoots; short, caducous, green leaves; greenish-white flowers 8 mm long.

Schizobryopsis volubilis J.F. Macbr.

Southern Africa

1144



Brachychiton rupestris
Schum.

STERCULIACEAE

Bottle-shaped tree; leaves digi-
tate on young plants, simple
on mature trees; cultivated as
caudiciform plant.

Australia (Queensland)

0774



Brachystelma barberae Harv. ex Hook.

ASCLEPIADACEAE

Flat caudex 10 cm or more in diameter; short stems with caducous leaves
10–20 cm long; malodorous, dirty purple flowers with yellow centres.

South Africa (Cape Province, Natal, Transvaal), Zimbabwe

1330



Brachystelma
brevipedicellatum
Turrill

ASCLEPIADACEAE

Tuber 5–6 cm in diameter; 2–4
stems to 10 cm long; caducous,
green leaves 2–4 cm long and
1–2 cm wide with hairs on
lower surface only; flowers
brown.

South Africa (Transvaal)

0740



Brachystelma circinatum
E. Mey.

ASCLEPIADACEAE

Caudex to 13 cm in diameter;
stems 25 cm long branching
from base; caducous leaves
10–20 cm long; flowers of vari-
able colour borne in clusters.
Namibia, South Africa (Cape
Province)

0625



Brachystelma dinteri Schltr.

ASCLEPIADACEAE

Caudex 3–5 cm in diameter; stems to 20 cm long; hairy, pale green, caducous
leaves 4 cm long and 1–2 mm wide; brown flowers.

South Africa (Cape Province)

0775



Brachystelma pygmaeum (Schltr.) N.E. Br.

ASCLEPIADACEAE

Caudex napiform (turnip-shaped) with flattened apex; stems 5–10 cm long;
caducous, green leaves 2 cm long; yellow flowers.

South Africa (Transvaal)



Brachystelma swazicum R.A. Dyer

ASCLEPIADACEAE

Caudex 5–8 cm in diameter with 2–3 prostrate stems to 30 cm long; caducous, green leaves 2 cm long and wide with reddish lower surface; dark purple flowers.

South Africa (Transvaal), Swaziland



Bulbine margarethae L.I. Hall

LILIACEAE

Caudex 2–4 cm in diameter, offsetting; erect, light green leaves 3–5 cm long; yellow flowers.

South Africa (Cape Province)



Bulbine sp.

LILIACEAE

Caudex to 2 cm in diameter; green leaves 1–4 cm long and spirally arranged; inflorescence 15 cm tall, yellow flowers.

Namibia, South Africa (Cape Province)



Bursera fagaroides var. *elongata* McVaugh & Rzed.

BURSERACEAE

Shrub or small tree to 5 m high; bark of trunk pale reddish-orange; pinnate leaves 5–7 cm long; white flowers.

Bursera odorata Brandegee

Mexico



Bursera hindsiana (Benth.) Engl.

BURSERACEAE

Small tree to 3 m high with reddish bark on trunk; younger branches reddish; green, oval leaves 4.5 cm long with rounded tips; white flowers.

Mexico (Baja California)



Bursera microphylla
(Rose) A. Gray.

BURSERACEAE

Freely branching shrub or tree 2–5 m high (to 10 m in Mexico), covered with papery, white bark; leaflets in pairs of 8–18; leaves 5–10 cm long and 1–2 mm wide; white flowers in small clusters.

Mexico, USA (California)



Calibanus hookeri Trel.

AGAVACEAE

Hemispherical caudex 40–50 cm in diameter and covered with corky bark; several branches bearing grass-like leaves 40 cm long; branched inflorescence to 60 cm tall; insignificant pinkish-purple flowers.

Calibanus caespitosus Rose

Mexico (Jaumave)



Callisia repens L.

COMMELINACEAE

Creeping stems forming mats; glabrous, variable leaves to 4 cm long and 1–2 cm wide; spike-like inflorescence; small white flowers.

USA (Texas), West Indies to Argentina



Caralluma burchardii
N.E. Br.

ASCLEPIADACEAE

Olive-green or grey-green, 4-angled stems 20–40 cm long; small, caducous leaves; reddish-brown flowers borne in clusters.

Canary Islands, Morocco



Caralluma dummeri (N.E. Br.) A.C. White & Sloane

ASCLEPIADACEAE

Roundish or 4-angled stem 10 cm long; grey-green teeth 1.5 cm long and 5 mm wide at base with red stripes; olive-green, hairy flowers borne on short stalks. Transferred by M.G. Gilbert to the genus *Pachycymbium*.

Stapefia dummeri N.E. Br.

Kenya, Tanzania, Uganda



Caralluma europaea (Guss.) N.E. Br.

ASCLEPIADACEAE

Grey-green, 4-angled branches 1–2 cm thick with reddish spots; small, caducous leaves; 6–10 red-brown flowers with yellow stripes.

Stapefia europaea Guss.

Algeria, Italy (Lampedusa Island), Morocco, southern Spain, Tunisia



Caralluma europaea
(Guss.) N.E. Br.

ASCLEPIADACEAE

A flowering stem, photographed in habitat.



Caralluma europaea
(Guss.) N.E. Br.
ASCLEPIADACEAE
A mature foliic releasing seeds.



Caralluma hesperidum Maire

ASCLEPIADACEAE
Green, 4-angled stems, branching from base and with spine-like teeth; purple-brown flowers. Transferred by M.G. Gilbert to the genus *Pachycymbium*. *Caralluma cuneolata* subsp. *hesperidium* (Maire) Maire
Morocco



Caralluma luntii N.E. Br.

ASCLEPIADACEAE
Grey to green, 4-angled stems 10–20 cm high with red dots and conical teeth; flowers greenish-yellow at base and brown above. Transferred by M.G. Gilbert to the genus *Pachycymbium*.
South Yemen



Caralluma petraea
Lavranos

ASCLEPIADACEAE
Freely branching, 4-angled, green stems to 20 cm high and 10–15 mm thick with rounded teeth; small, caducous green leaves; flowers dark brown or yellowish with brown dots.
Saudi Arabia, Yemen



Caralluma prigionium
Schum.

ASCLEPIADACEAE
Brown stems 20–50 cm long with 4 acute angles bearing sharp teeth; leaves to 4 mm long; flowers purple with white spots.
Caralluma elata Chiov.
Ethiopia, Kenya, Somalia, Tanzania, Uganda



Caralluma socotrana
(Balf.) N.E. Br.

ASCLEPIADACEAE
Freely branching, 4-angled, erect, glaucous grey to reddish stems 15 cm high with deltoid teeth; dark red flowers.
Caralluma corrugata N.E. Br.; *C. risae* Chiov.
Ethiopia, Kenya, Somalia, South Yemen (Socotra)

0035



Caralluma speciosa
(N.E. Br.) N.E. Br.

ASCLEPIADACEAE

Clump-forming, 4-angled stems to 1 m high; dark brown flowers 5 cm in diameter with orange to yellow tubes.

Caralluma colowoides K. Schum.
Ethiopia, Kenya, Somalia,
Sudan, Tanzania, Uganda

0036



Caralluma stalagmifera
C. Fisch

ASCLEPIADACEAE

Erect, 4-angled stems 5 mm thick with angular branches; dark red flowers with hairs.
India

0278



Caralluma stalagmifera C. Fisch

ASCLEPIADACEAE

A flowering stem.

0037



Caralluma turneri
E.A. Bruce.

ASCLEPIADACEAE

Branching, intensely green stems with purple spots to 50 cm long; several inflorescences bearing clusters of 2-4 brown flowers.

Caralluma dicapsus subsp.
turneri (E.A. Bruce)
P.R.O. Bally
Ethiopia, Kenya, Uganda

0038



Caralluma ubomboensis
I. Verd.

ASCLEPIADACEAE

Branching and clump-forming green stems 4-5 cm long with 4 dentate angles; small, erect leaves; dark purple flowers. Transferred by M.G. Gilbert (1990) to the genus *Pachycymbium*.

South Africa (Natal,
Transvaal), Zimbabwe

0279



Carruanthus peersii L. Bol.

MESEMBRYANTHEMACEAE

Short, branched stems; leaves 5 cm long and narrowed towards apex with few teeth on margins; yellow flowers.

South Africa (Cape Province)

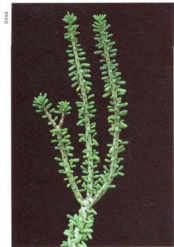
**Cephalopentandra****ecirrhosa** (Chiouv.)

C. Jeffrey

CUCURBITACEAE

Tuberous root with climbing stems; elliptical leaves 3–9 cm long; yellow flowers.

Ethiopia, Kenya, Uganda

**Ceraria namaquensis**

(Sonder) Pearson & Stephens

PORTULACACEAE

Shrub to 2 m high with numerous grey-white branches, covered with small, succulent leaves; white flowers. Namibia

**Cephalophyllum numeeseense**

H.E.K. Hartmann

MESEMBRYANTHEMACEAE

Short stems; grey-green, cylindrical, erect leaves 6–8 cm long, united at base to form spherical body; yellow flowers.

South Africa (Cape Province)

**Ceraria pygmaea** (Pillans) Pillans

PORTULACACEAE

Branched shrub to 20 cm high; stem woody at base; fleshy, dichotomous branches; leaves 1.5 cm long and 4 mm thick; inflorescence with small white flowers with pink outer petals.

South Africa (Cape Province)

**Cephalophyllum regale** L. Bol.

MESEMBRYANTHEMACEAE

Low-growing plant with elongated branches; leaves 7–10 cm long and 8 mm wide are borne in pairs; purple-pink flowers.

South Africa (Cape Province)

**Cerochlamys pachyphylla** L. Bol.

MESEMBRYANTHEMACEAE

Stemless, clump-forming leaves 6 cm long in 2 pairs; purple-red flowers.

South Africa (Cape Province)

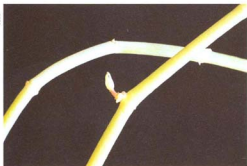
**Ceropegia africana** R. Br.

ASCLEPIADACEAE

Small tubers with trailing, proliferous stems; leaves 2 cm long; green flowers with hairs inside.

South Africa (Cape Province)

CITES App. II

**Ceropegia ampliata** E. Mey.

ASCLEPIADACEAE

Fusiform roots with thin, leafless, grey-green stems to 2 m long; pale green flowers with transverse purple band inside.

South Africa (Cape Province)

CITES App. II

**Ceropegia armandii** Rauh

ASCLEPIADACEAE

Erect or prostrate green stems 10–15 cm long and 2 cm thick, with black spots; caducous leaves 5–7 mm long; grey-green flowers.

Madagascar

CITES App. II

**Ceropegia bulbosa** Roxb.

ASCLEPIADACEAE

Tuberos roots; thin, twining stems; green leaves with white marbling 2–8 cm long; flowers greenish in basal part and purple above.

West Indies

CITES App. II

**Ceropegia conrathii** Schltr.

ASCLEPIADACEAE

Tuberos roots to 10 cm in diameter and 2–7 cm high, with several stems 10–15 cm long; leaves 3 cm long and 1 cm wide; yellowish-brown flowers.

South Africa (Natal, Transvaal)

CITES App. II

**Ceropegia dichotoma** Haw.

ASCLEPIADACEAE

Dichotomously branching stems to 1 m tall; erect, linear, grey-green leaves to 4 cm long and 2–3 mm wide; yellow flowers with lobes remaining attached.

Ceropegia hians Svent.

Canary Islands (Tenerife)

CITES App. II



***Ceropegia dimorpha*
Humbert**

ASCLEPIADACEAE

Erect, green stem 15 cm tall and 15 mm thick; green leaves to 3.5 cm long; purplish-white flowers.

Madagascar

CITES App. II



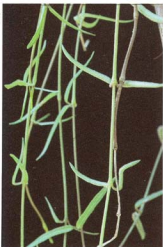
***Ceropegia fusca* Bolle**

ASCLEPIADACEAE

Erect stems to 1 m high with several spreading, greyish or purplish, cylindrical branches; leaves 4 cm long and 3 mm wide borne only during growing season; brown flowers.

Canary Islands

CITES App. II



***Ceropegia linearis*
subsp. *debilis* (N.E. Br.)
H. Huber**

ASCLEPIADACEAE

Twining, pendent stems forming tubers at nodes; linear leaves 3 cm long and 3 mm wide; flowers greenish outside with dark purple-brown lobes.

Ceropegia debilis N.E. Br.
South Africa (Cape Province),
Zimbabwe

CITES App. II



***Ceropegia linearis* subsp. *debilis* (N.E. Br.) H. Huber**

ASCLEPIADACEAE

A flowering stem.



***Ceropegia multiflora* Baker**

ASCLEPIADACEAE

Tubers 10 cm in diameter; twining stems to 90 cm long die back each year; leaves 3 cm long; greenish flowers.

South Africa (Transvaal)

CITES App. II



***Ceropegia nilotica* Kotschy**

ASCLEPIADACEAE

Twining stems to 1 m or longer, 4-angled or roundish with thickened nodes; dentate; ovate leaves tapering gradually; dark brown flowers.

Kenya, Sudan

CITES App. II

**Ceropegia pachystelma** Schltr.

ASCLEPIADACEAE

Tuber 10 cm in diameter; stems twining; broad, fleshy leaves 1–3 cm long; yellow-green flowers.

Mozambique, Namibia, South Africa (Natal, Transvaal)

CITES App. II

**Ceropegia stapeliiformis** Haw.

ASCLEPIADACEAE

Succulent, trailing, rounded stems to 1.5 m long and 15 mm thick; small leaves; brownish flowers with whitish spots.

South Africa (Cape Province)

CITES App. II

**Ceropegia radicans** Schltr.

ASCLEPIADACEAE

Creeping stems; elliptical, succulent leaves 1–2 cm long; pale greenish-white flowers.

South Africa (Cape Province)

CITES App. II

**Ceropegia woodii** Schltr.

ASCLEPIADACEAE

Creeping, filamentous branches with tubers at nodes; dark green, heart-shaped leaves with white marks; brown flowers. Some authors consider this to be a variety of *C. linearis* E. Mey.

South Africa (Natal), Zimbabwe

CITES App. II

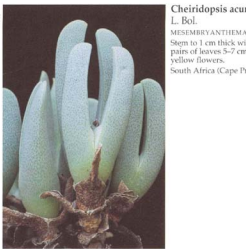
**Ceropegia sandersonii** Decne. ex Hook.f.

ASCLEPIADACEAE

Succulent, twining stems; leaves 4–5 cm long and 3 cm wide; green flowers.

Mozambique, South Africa (Natal, Transvaal)

CITES App. II

**Cheiridopsis acuminata**

L. Bol.

MESEMBRYANTHEMACEAE

Stem to 1 cm thick with 2–3 pairs of leaves 5–7 cm long; yellow flowers.

South Africa (Cape Province)



Cheiridopsis bibracteata (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Stemless plants; leaves to 8 cm long and united at base; yellow flowers.
South Africa (Cape Province)



Cheiridopsis borealis L. Bol.

MESEMBRYANTHEMACEAE

Clumps of 4-leaved branches; leaves to 3 cm long and united at base; yellow flowers.
Namibia



Cheiridopsis brownii Tischer

MESEMBRYANTHEMACEAE

Clumps 5–10 cm in diameter; green leaves 3–5 cm long with darker green dots, united to form body; yellow flowers.
South Africa (Cape Province)



Cheiridopsis candidissima (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

One of the largest species of the genus with branches 20–30 cm long and 2 cm in diameter; stems to 9 cm long and 1 cm in diameter; whitish-grey leaves 8–10 cm long limited to 1 pair to each stem; white flowers.
Namibia, South Africa (Cape Province)



Cheiridopsis caroli-schmidthii (Dinter & A. Berger) N.E. Br.

MESEMBRYANTHEMACEAE

Stems with several pairs of leaves united at base, leaf pairs being of unequal length; light green leaves 2–3 cm and with darker spots; yellow flowers.
Namibia



Cheiridopsis cigaretifera (A. Berger) N.E. Br.

MESEMBRYANTHEMACEAE

Stems with 2–4 pairs of leaves of unequal size, the longest pair being 3–6 cm long; leaves grey-green or green with translucent spots; yellow flowers.
South Africa (Cape Province)

1078



Cheiridopsis cuprea (L. Bol.) N.E. Br.

MESEMBRYANTHEACEAE

Large clumps of stems with 2 pairs of greenish leaves 3–4 cm long and united at base; flowers yellow.

South Africa (Cape Province)

1079



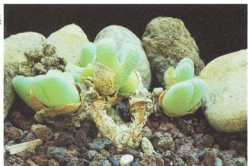
Cheiridopsis inspersa (N.E. Br.) N.E. Br.

MESEMBRYANTHEACEAE

Stemless leaves, glaucous or tinged with purple, 5–7 cm long and united for one-third of their length to form body; yellow flowers.

South Africa (Cape Province)

1080



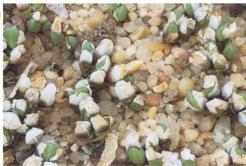
Cheiridopsis meyeri N.E. Br.

MESEMBRYANTHEACEAE

Small plants; grey-green leaves with darker dots borne in 2 pairs; yellow flowers.

Namibia/South Africa (Little Namaqualand)

1105



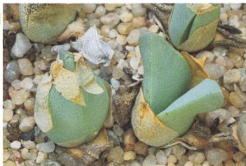
Cheiridopsis meyeri var. *minor* N.E. Br.

MESEMBRYANTHEACEAE

Similar to the type species but smaller.

South Africa (Cape Province)

1083



Cheiridopsis peculiaris N.E. Br.

MESEMBRYANTHEACEAE

Small plants; grey-green leaves with darker dots borne in 2 pairs; yellow flowers.

Namibia/South Africa (Little Namaqualand)

1079



Cheiridopsis pillansii L. Bol.

MESEMBRYANTHEACEAE

Short, clump-forming stems; stems with 1–2 pairs of leaves 3–4 cm long and united for one-third of their length; grey-green leaves with darker spots; yellow flowers.

South Africa (Cape Province)



Cheiridopsis pulverulenta L. Bol.

MESEMBRYANTHEACEAE

Short branches with 2 pairs of pale green leaves covered with minute papillae; yellow flowers.

South Africa (Cape Province)



Cheiridopsis purpurea N.E. Br.

MESEMBRYANTHEACEAE

Stems with grey- to blue-green leaves to 6 cm long; yellow flowers. Namibia/South Africa (Little Namaqualand)



Cheiridopsis robusta (Haw.) N.E. Br.

MESEMBRYANTHEACEAE

Short stems with 4 velvety, unequal sized leaves 4-5 cm long; yellow flowers. South Africa (Cape Province)

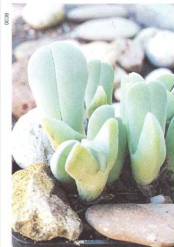


Cheiridopsis rostrata (L.) N.E. Br.

MESEMBRYANTHEACEAE

Stemless plants with 4-6 unequally sized, grey- or blue-green leaves with darker spots; leaves 4-5 cm long and 17 mm wide, united at base for 9 mm; yellow flowers.

South Africa (Cape Province)

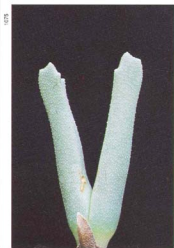


Cheiridopsis truncata L. Bol.

MESEMBRYANTHEACEAE

Plant growing in clumps with branches consisting of 1-2 pairs of opposite, glaucous leaves, to 4 cm long and 1 cm wide; yellow flowers.

South Africa (Cape Province)



Cheiridopsis umdauensis L. Bol.

MESEMBRYANTHEACEAE

Elongated branches 13 mm long with 1-2 pairs of green leaves 3-4 cm long and united at base; leaf apex bears few teeth.

South Africa (Cape Province)

Chorisia insignis Kunth

BOMBACACEAE

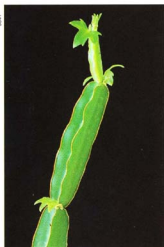
Tree to 15 m tall; bottle-shaped, spineless trunk to 2 m in diameter; leaves 10–15 cm long; white to yellow flowers. Seedlings are cultivated for their caudiciform appearance. Argentina



Cissus cactiformis Gilg

VITACEAE

Climbing 4- or 5-angled stems 4–5 cm in diameter; stems winged and constricted at nodes from which adventitious roots develop; leaves caducous; inflorescence 20 cm long; yellowish-green flowers. Southern and tropical Africa



Cissus olearacea L. Bol.

VITACEAE

Subterranean rhizomes to 10 cm in diameter forming several tubers; numerous stems to 60 cm long; leaves 20 cm long and 15 cm wide; inflorescence branched; greenish flowers with pink tips. Southern Africa



Cissus quadrangularis L.

VITACEAE

Succulent, 4-angled, climbing stems, much branched and winged; stems constricted at nodes; leaves borne on growing portions of the stems; inflorescence 5 cm long; green to yellow flowers.

Tropical Africa, southern Asia, Malaysia



Cissus quinquangularis Chiov.

VITACEAE

Similar to *C. quadrangularis* but with 5-angled stems and larger, caducous leaves.

Somalia



Cissus rotundifolia (Forssk.) Vahl

VITACEAE

Thin, cylindrical, 4- or 5-angled stems; thick, fleshy leaves 4–6 cm long; small, greenish flowers.

East Africa to Yemen

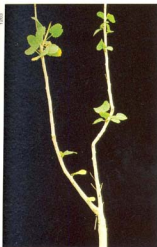


Cissus sicyoides L.

VITACEAE

Climbing stem, large leaves deep green above, paler beneath; inflorescence about 5 cm long; yellow or white flowers.

Wide distribution: central Africa, Ecuador (Galapagos Islands), Mexico



Commiphora sp.

BURSERACEAE

Thick, tuberous caudex with erect branches; small, bilobate leaves.

Namibia



Conophyllum dissitum (N.E. Br.) Schwantes

MESEMBRYANTHEMACEAE

Brown stem to 30 cm tall; 2 types of leaves: 1 type united to form fleshy, conical body 2-4 cm long, the other type united at base and 2-4 cm long, narrowing towards tips, both types grey-green with remains of old leaves; pink flowers.

Mitrophyllum dissitum (N.E. Br.) N.E. Br.
South Africa (Cape Province)



Conophyllum framesii (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE

Similar to *C. dissitum* but with shorter stems and leaves.

Mitrophyllum framesii L. Bol.
South Africa (Cape Province)

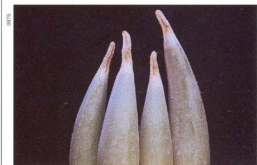


Conophyllum obtusipetalum L. Bol.

MESEMBRYANTHEMACEAE

Stems 30-40 cm high; leaves to 9 cm long and covered with remains of old leaves; white flowers.

South Africa (Cape Province)

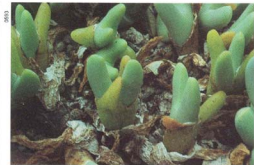


Conophyllum proximus (N.E. Br.) Schwantes

MESEMBRYANTHEMACEAE

Stems 20-30 cm high; 2 types of leaves: 1 type 3-7 cm long and almost completely united, the other type united at base and 2-6 cm long, narrowing towards apex, both types light green and covered with remains of old leaves; yellow flowers.

Mitrophyllum proximus N.E. Br.
South Africa (Cape Province)



Conophytum apiatum (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Elongated body to 4 cm long, separated above into 2 lobes; body whitish-green with dark green spots; flowers yellow. Probably a variant of *C. bilobum* N.E. Br.

Namibia/South Africa (Little Namaqualand)

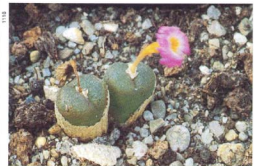


Conophytum areolatum Littlew.

MESEMBRYANTHEMACEAE

Small bodies with opaque windows and ciliate fissures; white to pink flowers. Similar to *C. peltucidum* Schwantes.

Namibia/South Africa (Little Namaqualand)



Conophytum astylum L. Bol.

MESEMBRYANTHEMACEAE

Green to brownish-green bodies 10-15 mm long, with numerous small dots; whitish-pink flowers.

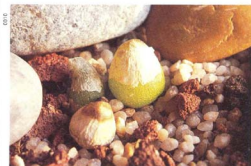
South Africa (Cape Province)



Conophytum avenanii L. Bol.

MESEMBRYANTHEMACEAE
Obconical bodies 1.5-2 cm in diameter, narrowing below; bodies pale green or blue-green scattered with grey dots and covered with persistent sheath; white flowers with long tube.

South Africa (Cape Province)

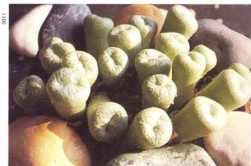


Conophytum burgeri L. Bol.

MESEMBRYANTHEMACEAE

Pale green to deep purple-red, globose bodies 1-2 cm in diameter, with base broader than apex and with persistent, whitish sheath; pink flowers.

Namibia/South Africa (Little Namaqualand)

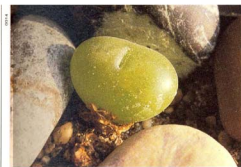


Conophytum catervum N.E. Br.

MESEMBRYANTHEMACEAE

Obconical bodies 2 cm high and 1 cm in diameter forming dense mats; bodies light green with reddish lower part and spotted top; yellow flowers. Hamme ascribes this species to *C. viridatum* N.E. Br.

South Africa (Cape Province)

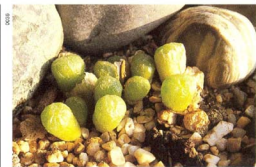


Conophytum concavum L. Bol.

MESEMBRYANTHEACEAE

Up to 8 subconical bodies in clump; soft, velvety bodies 2–3 cm in diameter and 1.5 cm high; white flowers.

South Africa (Cape Province)



Conophytum ectypum N.E. Br.

MESEMBRYANTHEACEAE

Pale green bodies to 1 cm in diameter forming flat clusters with age; white flowers.

South Africa (Cape Province)

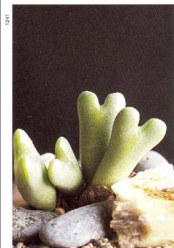


Conophytum conradii L. Bol.

MESEMBRYANTHEACEAE

Compact plants with elongated bodies to 3.5 cm long and 9 mm wide; yellow flowers. Hammer ascribes this species to *C. bilobum* (Marloth) N.E. Br.

South Africa (Cape Province)



Conophytum elishae
(N.E. Br.) N.E. Br.

MESEMBRYANTHEACEAE

Compressed, pale green bodies less than 1 cm in diameter, free only at tips; yellow flowers. Possibly a variety of *C. bilobum* N.E. Br.

South Africa (Cape Province)

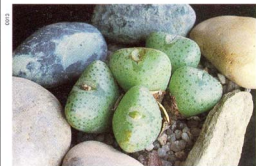


Conophytum dispar N.E. Br.

MESEMBRYANTHEACEAE

Obovate bodies to 1 cm in diameter, green with dark green dots; white flowers.

South Africa (Cape Province)

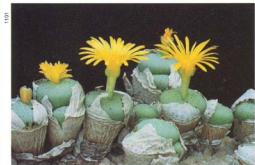


Conophytum extractum Tisch.

MESEMBRYANTHEACEAE

Heart-shaped, dark, glaucous green bodies 2–3 cm long and 1–1.5 cm wide, covered with dots; yellow flowers. According to Hammer this species may be distinguished from *C. farium* L. Bol. only by the abundant dots.

South Africa (Cape Province)



Conophytum flavum N.E. Br.

MESEMBRYANTHEMACEAE

Bodies to 2.5 cm in diameter and truncate or concave at top, whitish-green with many green spots, fissure 2-6 mm long; yellow flowers.

Namibia/South Africa (Little Namaqualand)

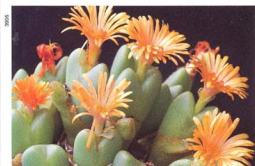


Conophytum fragile Tisch.

MESEMBRYANTHEMACEAE

Caespitose plant; grey-green bodies 1 cm in diameter with numerous dark spots; pink to mauve flowers.

Namibia/South Africa (Little Namaqualand)

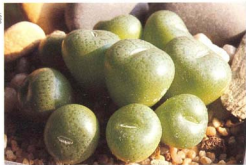


Conophytum frutescens Schwantes

MESEMBRYANTHEMACEAE

Small shrub to 20 cm high; stems with ascending branches; green bodies 1.5-2.5 cm in diameter with lighter dots; orange flowers.

Namibia/South Africa (Little Namaqualand)

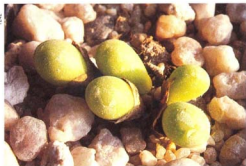


Conophytum giftbergense Tisch.

MESEMBRYANTHEMACEAE

Green to grey-green bodies to 1 cm long and 1 cm in diameter; white flowers. Considered by Hammer to be a form of *C. orbiculatum*.

South Africa (Cape Province)



Conophytum globuliforme Schick & Tisch.

MESEMBRYANTHEMACEAE

Light green bodies to 1 cm long and less than 1 cm in diameter with minute papillae; yellow flowers.

Namibia/South Africa (Little Namaqualand)



Conophytum gratum (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Variable bodies (whitish-green, glaucous green, yellow-green or pink) 2.5 cm long and 2 cm wide with grey dots; magenta flowers.

South Africa (Cape Province)

**Conophytum hirtum** Schwantes

MESEMBRYANTHEACEAE

Light green bodies to 1.5 cm long and to 3 mm thick with short lobes; yellow flowers.

South Africa (Cape Province)

**Conophytum johannis-winkleri** (Dinter & Schwantes) N.E. Br.

MESEMBRYANTHEACEAE

Flat, pale blue to pale green, caespitose bodies to 2 cm high and 2 cm in diameter; yellow flowers. It is a northern form of *C. subrisum* (N.E. Br.) N.E. Br.

Namibia

**Conophytum karamoepense** L. Bol.

MESEMBRYANTHEACEAE

Whitish-green to pale green bodies to 1.5 cm long and 7 mm in diameter; yellow flowers.

Namibia (Bushmanland)

**Conophytum koubergense** L. Bol.

MESEMBRYANTHEACEAE

Rusty brown to yellow-green bodies 1 cm in diameter with top surface sometimes divided into 2 lobes, forming mats of from 4 to more than 20 bodies; pink to magenta flowers. Similar to *C. lithopoides* L. Bol.

South Africa (Cape Province)

**Conophytum lavisianum** L. Bol.

MESEMBRYANTHEACEAE

Bodies to 4 cm long and 15 mm wide with lighter spots; yellow flowers.

South Africa (Cape Province)

**Conophytum lithopoides** L. Bol.

MESEMBRYANTHEACEAE

Rusty brown to yellow-green bodies to 15 mm long and 8 mm wide with fine hairs and windows; flowers purple.

Namibia (Bushmanland)

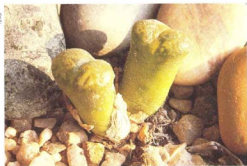


Conophytum longitubum L. Bol.

MESEMBRYANTHEMACEAE

Considered to be a variant of *C. viridicatum*, from which it is usually distinguished only by its 'greener' colour.

South Africa (Cape Province)

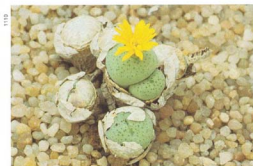


Conophytum meridianum L. Bol.

MESEMBRYANTHEMACEAE

Elongated bodies less than 1 cm in diameter with remains of old leaves persistent towards base; pink flowers.

Namibia/South Africa (Little Namaqualand)



Conophytum luteum N.E. Br.

MESEMBRYANTHEMACEAE

Grey-green, pear-shaped bodies 15 mm in diameter with dark green spots; yellow flowers.

Namibia/South Africa (Little Namaqualand)

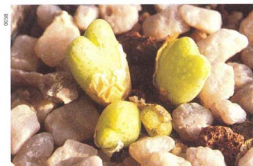


Conophytum meyeri N.E. Br.

MESEMBRYANTHEMACEAE

Caespitose plant; 2-lobed, keeled, green to whitish-green bodies 1.5 cm high and 2 cm in diameter covered with dots; white to yellow flowers.

South Africa (Cape Province)

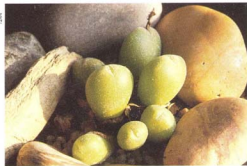


Conophytum marginatum Lavis

MESEMBRYANTHEMACEAE

Light green bodies to 2.5 cm high and 6 mm in diameter, usually densely covered with darker spots; pink flowers.

Namibia (Bushmanland)

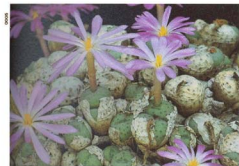


Conophytum microstoma L. Bol.

MESEMBRYANTHEMACEAE

A variant of *C. meyeri*, distinguished by small fissure and smaller size.

South Africa (Cape Province)



Conophytum minutum (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Bluish-green bodies to 12 mm high and 1 cm wide covered with spots; pale pink to reddish-magenta, rarely pure white, flowers.
South Africa (Cape Province)

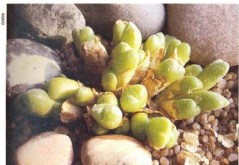


Conophytum obcordellum (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Caespitose plant forming large clumps; round or elliptical, green to blue-green bodies to 2 cm in diameter with numerous black lines and dots; nocturnal, white flowers.

South Africa (Cape Province)



Conophytum misellum N.E. Br.

MESEMBRYANTHEMACEAE

Grey-green bodies 8 mm high and 6 mm in diameter with several dots; yellow flowers. Considered by Hammer to be a variety of *C. saxetanum* (N.E. Br.) N.E. Br.

South Africa (Cape Province)



Conophytum pageae (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Bodies glaucous above, usually reddish on side to 1 cm high and 8 mm wide with flat apices; yellow flowers.

Namibia/South Africa (Little Namaqualand)



Conophytum mundum (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Grey-green bodies 12 mm high with translucent dots; yellow flowers.
South Africa (Cape Province)



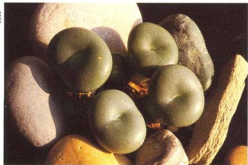
Conophytum pardicolor Tisch.

MESEMBRYANTHEMACEAE

Green to brownish, cylindrical bodies to 1 cm in diameter with ochre markings; remains of old leaves persistent; white to pink flowers.

Namibia/South Africa (Little Namaqualand)

0644

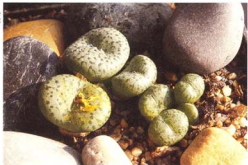


Conophytum pearsonii N.E. Br.

MESEMBRYANTHEMACEAE

Clump-forming, green to yellowish-green bodies to 16 mm high and 18 mm in diameter; violet-pink flowers.
South Africa (Cape Province)

0643

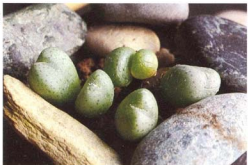


Conophytum pictum (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Green, obconical bodies 15 mm long and 1 cm in diameter, often with red stripes and several dots; cream flowers. A variable species.
South Africa (Cape Province)

1245

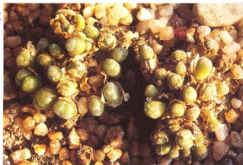


Conophytum polyandrum Lavis

MESEMBRYANTHEMACEAE

Pale green bodies divided into 2 short lobes and covered with darker dots; pink to white flowers.
South Africa (Cape Province)

1246



Conophytum pubicalyx Lavis

MESEMBRYANTHEMACEAE

Small, green, papillate and pear-shaped bodies 5 mm long and 2-3 mm in diameter; reddish flowers.
South Africa (Cape Province)

0655



Conophytum pulchellum Tischer

MESEMBRYANTHEMACEAE

Caespitose plants; light green bodies 15 mm long and 7 mm in diameter with darker dots; white flowers.
South Africa (Cape Province)

1159



Conophytum rarum N.E. Br.

MESEMBRYANTHEMACEAE

Caespitose, subglobose, pale green to bluish-green bodies 1-2 cm in diameter; white flowers.
South Africa (Cape Province)

1087

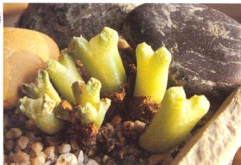
**Conophytum recisum**

N.E. Br.

MESEMBRYANTHEACEAE

Pale green to yellowish-green bodies 10–15 mm in diameter and 5 cm high, with tips of lobes to 2 cm long; yellow flowers. Considered by Hammer to be a variant of *C. bilobum* (Marloth) N.E. Br. South Africa (Cape Province)

1085

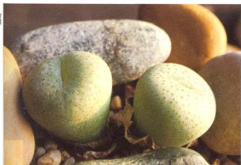
**Conophytum reconditum** A.R. Mitch.

MESEMBRYANTHEACEAE

Short, cylindrical pale green bodies 2 cm in diameter and 1.5–2 cm high with densely tuberculate lobes; deep fissure between lobes; white flowers.

South Africa (Cape Province)

1083

**Conophytum robustum** Tischer

MESEMBRYANTHEACEAE

Green bodies 2.5 cm high and 1.8 cm in diameter with darker green dots; pink flowers. A variant of *C. gratum* N.E. Br.

Namibia

1088

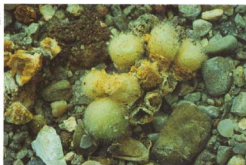
**Conophytum ruschii** Schwantes

MESEMBRYANTHEACEAE

A small form of *C. wettsteinii* N.E. Br.

Namibia/South Africa (Little Namaqualand)

1078

**Conophytum stephanii** Schwantes

MESEMBRYANTHEACEAE

Grey-green bodies 4–8 mm long and 4–6 mm wide densely covered with 1 mm long hairs; white, nocturnal flowers.

South Africa (Cape Province)

1089

**Conophytum stipitatum** L. Bol.

MESEMBRYANTHEACEAE

Green bodies to 15 mm long and 1 cm in diameter with dark dots and lines; pink to magenta flowers. A form of *C. uniforme* (Haw.) N.E. Br.

South Africa (Cape Province)

1130



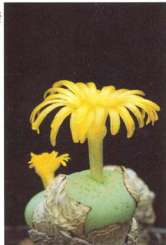
Conophytum subglobosum Tischer

MESEMBRYANTHEMACEAE

Green bodies 2 cm long and to 15 mm in diameter with darker dots; white, nocturnal flowers.

South Africa (Cape Province)

1134



Conophytum tetracarpum Lavis

MESEMBRYANTHEMACEAE

Pear-shaped, pale green bodies 2 cm long and 12 mm in diameter with darker dots; yellow flowers.

South Africa (Cape Province)

0015



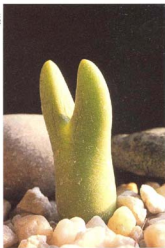
Conophytum truncatum (Thunb.) N.E. Br.

MESEMBRYANTHEMACEAE

Clump-forming plant; grey-green or bluish-green bodies to 15 mm long and 15 mm in diameter; leaves variable in shape (truncate, flat, semi-lobed or convex); white flowers.

South Africa (Cape Province)

0041



Conophytum umdaense L. Bol.

MESEMBRYANTHEMACEAE

Velvety green bodies to 5 cm long with lobes to 15 mm long; flowers yellow.

South Africa (Cape Province)

0038



Conophytum ursprungianum Tischer

MESEMBRYANTHEMACEAE

Light green bodies to 2.5 cm high and 15 mm in diameter with prominent, dark green to purple dots; white flowers. Considered by Hammer to be an extremely beautiful form of *C. abconditum* N.E. Br.

South Africa (Calvinia District)

0048

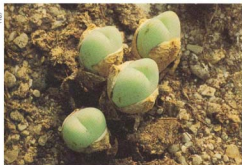


Conophytum uviforme (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Grey-green to reddish bodies 1 cm high and wide with dark green or reddish dots and stripes; whitish-yellow flowers.

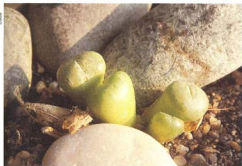
South Africa (Cape Province)

**Cotyledon variabile** L. Bol.

MESEMBRYANTHEMACEAE

Cylindrical, green to brownish-green bodies 2–3 cm long and to 16 mm in diameter with lobes 1–5 mm long; yellow flowers.

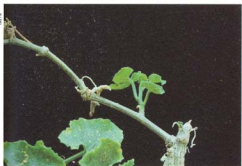
South Africa (Cape Province)

**Cotyledon viridicatum** (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Green bodies 2.5 cm high and 15 mm wide with translucent dots and lines; white flowers.

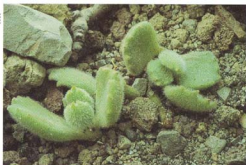
South Africa (Cape Province)

**Corallocarpus** sp.

CUCURBITACEAE

Tuberous rootstock 10–15 cm in diameter with climbing stems; hairy stems and leaves; leaves 2–5 cm long; small, green flowers.

Tropical Africa

**Cotyledon ladismithiensis** Poelln.

CRASSULACEAE

Dwarf, branching shrub; fleshy, spreading leaves 3–5 cm long, covered with hairs and armed with 2–4 teeth near apex; orange-yellow flowers. The plant illustrated is a small, recently propagated cutting.

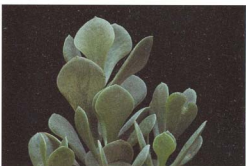
South Africa (Cape Province)

**Cotyledon macrantha** L.

CRASSULACEAE

Shrub to 1 m high; branches with light brown bark; dark green, pruinose leaves 10 cm long; red flowers.

South Africa (Cape Province)

**Cotyledon orbiculata** L.

CRASSULACEAE

Shrub to 1.5 m high; thick stems with erect branches bearing leaves at tips; leaves 4–12 cm long, to 6 cm wide and covered with pruinose wax; inflorescence to 70 cm tall with yellowish-red flowers.

Cotyledon elata Haw.; *C. oblonga* Haw.; *C. ramosa* Haw.
Angola, Namibia, South Africa (Cape Province)

0618

**Crassula pubescens** Thunb.

CRASSULACEAE

Branched stems; green to brownish-green leaves 2 cm long and convex on both surfaces, with fine hairs; yellow to white flowers.

South Africa (Cape Province)

0619

**Crassula pyramidalis** Thunb.

CRASSULACEAE

Small shrub with branches to 15 cm long; triangular, green leaves, densely arranged to form cylindrical column; white flowers.

Crassula archeri Compton; *C. cylindrica* Schönland

South Africa (Cape Province)

0620

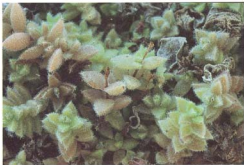
**Crassula rupestris** Thunb.

CRASSULACEAE

Small, much branched shrubs to 50 cm high; fleshy leaves to 1.5 cm long, often with reddish margins; pinkish flowers.

South Africa (Cape Province)

0622

**Crassula setulosa** Harv.

CRASSULACEAE

Clump-forming stems 20–30 cm high; spirally arranged, hairy, red-tinged leaves in pairs, to 2 cm long and ending in acute tips; white flowers tinged with red.

South Africa (Natal, Orange Free State, Transvaal), Swaziland

0623

**Crassula socialis** Schönland

CRASSULACEAE

Plants to 6 cm high with numerous rosettes; pale green, elliptical leaves to 1 cm long and 6 mm wide; white flowers.

South Africa (Cape Province)

0625

**Crassula susannae** Rauh & Friedrich

CRASSULACEAE

Stems 1–4 cm long; truncate leaves 1 cm long, forming rosettes; white flowers.

South Africa (Cape Province)



***Crassula tecta* Thunb.**

CRASSULACEAE

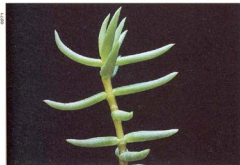
Much branched, clump-forming stems to 15 cm high; rounded, green leaves 2-4 cm long and covered with white warts; white flowers.
South Africa (Cape Province)



***Cyanotis somalensis* C.B. Clarke**

COMMELINACEAE

Creeping stems to 30 cm long, rooting and forming new rosettes; densely hairy leaves 4-8 cm long; blue flowers.
Somalia



***Crassula tetragona* L.**

CRASSULACEAE

Branches to 1 m high, with numerous carnosae or woody stems; lanceolate, green leaves to 8 cm long; white flowers.
South Africa (Cape Province)



***Cylandrophillum comptonii* L. Bol.**

MESEMBRYANTHEMACEAE

Cylindrical leaves to 10 cm long and 1 cm in diameter, forming large clumps 25 cm and more in diameter; silvery-white flowers.
South Africa (Cape Province)



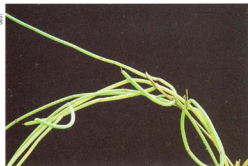
***Crassula tomentosa* Thunb.**

CRASSULACEAE

Plant 50-80 cm high; densely hairy; grey-green leaves 1.5 cm long, arranged in rosettes; white to pale yellow flowers.

Cassula glaberrima Harv.

Namibia



***Cynanchum aphyllum* (Thunb.) Schltr.**

ASCLEPIADACEAE

Freely branching stems rooting at nodes; small leaves 3 mm long and 1 mm wide; green flowers with brown stripes.

Madagascar, Mozambique, South Africa (Natal)

Cynanchum marnierianum Rauh

ASCLEPIADACEAE
 Low bush with several dark green branches covered with tubercles and hairs; caducuous leaves; greenish-brown flowers.
 Madagascar



Cynanchum perrieri CHOUX

ASCLEPIADACEAE
 Leafless shrub, branching from base; erect, grey-green stems over 1.5 m high; white flowers.
 Madagascar



Cynanchum sp.

ASCLEPIADACEAE
 An unidentified specimen with rounded caudex 10-15 cm in diameter and long, thin branches; brown-green flowers.



Cynanchum sp.

ASCLEPIADACEAE
 An unidentified specimen with thick caudex and thin branches.



Cynanchum sp.

ASCLEPIADACEAE
 An unidentified specimen with thick caudex, thin stems and small leaves.



Cyphostemma cirrhosa (Thunb.) Desc.

VITACEAE
 Succulent main stem to 30 cm high with grey bark; climbing branches to 1.5 m long; growing in different directions; leaves to 10 cm long; white flowers.
 South Africa (Cape Province)



Cyphostemma curreri
(Hook.f.) Desc.

VITACEAE

Freely branching stem over 4 m high with yellow, peeling bark; tripartite leaves; inconspicuous flowers 5 mm in diameter. Plant photographed in habitat.

Angola, Namibia



Cyphostemma juttae
(Dinter & Gilg) Desc.

VITACEAE

Stem to 2 m high, forming massive caudex with thick branches above; stem covered with yellow bark and papery skin, which peels off with age; green, acutely oval leaves to 20 cm long and 6 cm wide; inflorescence with red berries. Namibia



Cyphostemma uter
(Exell & Mend.) Desc.

VITACEAE

Swollen trunk with peeling bark, branching repeatedly from apex and forming much branched low trees; green, triangular leaves 8 cm in diameter with undulate margins; greenish-yellow flowers.

Angola



Dactylopsis digitata (Aiton) N.E. Br.

MESEMBRYANTHEACEAE

Stemless mats; cylindrical, grey-green leaves to 15 cm long and 2-3 cm thick; white flowers. The photograph shows the old leaves from which the new ones will emerge.

South Africa (Cape Province)



Dasyliroium longissimum
Lem.

AGAVACEAE

Stem to 3 m tall; numerous green leaves 1-2 m long arranged in rosette; inflorescence 5 m tall; whitish flowers. Mexico



Delosperma cooperi (Hook.f.) L. Bol.

MESEMBRYANTHEACEAE

Low, freely branching shrub; leaves 5 cm long; purple flowers.

South Africa (Orange Free State)

0027



Delosperma echinatum
(Aiton) Schawntes

MESEMBRYANTHEMACEAE

Bush to 30 cm high with dichotomously branched, light green stems; leaves 15 mm long and 7 mm thick and covered with bristly papillae; yellow flowers.
South Africa (Cape Province)

0034



Delosperma pergamentaceum L. Bol.

MESEMBRYANTHEMACEAE

Shrub to 30 cm high; stems with 4–6 leaves 7 cm long and 10–15 mm thick; white flowers.
Namibia/South Africa (Little Namaqualand)

0095



Delosperma nubigenum (Schltr.) L. Bol.

MESEMBRYANTHEMACEAE

Mat-forming plants; stems with branches to 20 cm long; leaves 3–5 cm long and narrowed towards base; yellow flowers. A hardy species.
South Africa (Cape Province)

0098



Delosperma tradescantioides (A. Berger) L. Bol.

MESEMBRYANTHEMACEAE

Freely branching low shrub; branches rooting at nodes; light green leaves 2–3 cm long, 1 cm wide and 1–2 mm thick; flowers white.
South Africa (Cape Province)

0227



Delosperma obtusum L. Bol.

MESEMBRYANTHEMACEAE

Shrub with prostrate branches; leaves 1–2 cm long and triangular in section; purple-red flowers.
South Africa (Orange Free State)

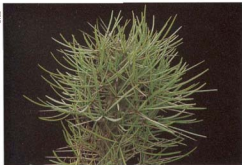
1218



Deuterocohnia longipetala (Baker) Mez

BROMELIACEAE

Stems to 1 m long; rosette-forming leaves 40 cm long; yellow flowers with green apical spots.
Peru

***Didierea madagascariensis* Baill.**

DIDIEREACEAE

Tree to 6 m high; branches with dense thorns 1–4 cm long and groups of leaves 2–3 cm long; small, inconspicuous flowers.

Madagascar

CITES App. II

***Didierea trollii* Capuron & Rauh.**

DIDIEREACEAE

Young stems grow horizontally, forming bush 50 cm high from which adult stems develop into trunks; leaves 1–2 cm long are grouped at centre of thorns; greenish-yellow flowers.

Madagascar

CITES App. II

***Dinteranthus inexpectatus* Dinter**

MESEMBRYANTHEMACEAE

Stemless, grey-green, roundish leaves to 3 cm long and 3 cm wide borne in pairs with translucent green dots; yellow flowers.

Namibia

***Dinteranthus pole-evansii* (N.E. Br.) Schwantes**

MESEMBRYANTHEMACEAE

Greyish-white leaf pairs to 4.5 cm long and 4 cm wide with yellow or red dots; yellow flowers.

South Africa (Cape Province)

***Dinteranthus vanzylii***

(L. Bol.) Schwantes

MESEMBRYANTHEMACEAE

Several grey-green bodies to 4 cm high, similar to *Lithops* species; yellow flowers.*Lithops vanzylii* L. Bol.

South Africa (Cape Province)

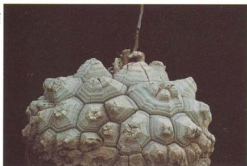
***Dinteranthus wilmotianus* L. Bol.**

MESEMBRYANTHEMACEAE

A single pair of smooth, grey-green leaves with dark dots, 5–6 cm long and united for half their length; yellow flowers.

South Africa (Cape Province)

1176



Dioscorea elephantipes (L'Hér.) Engl.

DIOSCOREACEAE

Semi-globose caudex to 1 m in diameter; fissured bark; twining stems 1-2 m long with cordate to reniform, green leaves; greenish-yellow to yellow flowers 4 mm in diameter.

Testudinaria elephantipes (L'Hér.) Lindl.

Southern Africa

1178



Dioscorea elephantipes (L'Hér.) Engl.

DIOSCOREACEAE

A young specimen.

1187



Dioscorea elephantipes (L'Hér.) Engl.

DIOSCOREACEAE

A flowering stem.

1116



Dioscorea sylvatica var. *paniculata* Burch.

DIOSCOREACEAE

Flattened caudex; spreading stems; heart-shaped leaves 6 cm long and wide; greenish flowers 4 mm in diameter.

Testudinaria paniculata Dummer

Southern Africa

1183



Dischidia rafflesiana Wall.

ASCLEPIADACEAE

Thin, cylindrical, climbing stems 50-90 cm long; fleshy-green, opposite leaves; yellowish flowers.

Australia, Malaysia

1182



Dolichos seineri Harms

LEGUMINOSAE

Giant subterranean caudex with 3-4 aerial stems forming bush; rounded leaves; violet flowers borne from leaf axils.

Namibia

***Dorstenia bornimiana* Schweinf.**

MORACEAE

Tuber 3-7 cm in diameter from which short stems arise; roundish, green leaves 7 cm in diameter; greenish-yellow, disc-shaped inflorescence.

Central and southern Africa

***Dorstenia crisa* Engl.**

MORACEAE

Cylindrical stems 30-40 cm high; oblong to narrowly lanceolate leaves 10-15 cm long, with slightly undulate to dentate margins, borne at growing apices; greenish-yellow, disc-shaped inflorescence 2 cm in diameter on 10 cm long stalk.

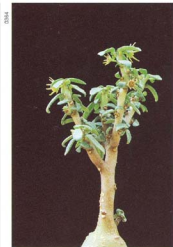
Kenya, Somalia

***Dorstenia foetida* (Forssk.) Schweinf.**

MORACEAE

Stems to 15 cm high, developing small basal caudex 2-3 cm in diameter; leaves 5-10 cm long with dentate margins; greenish-yellow, disc-shaped inflorescence.

Kenya, Tanzania

***Dorstenia hildebrandtii* Engl.**

MORACEAE

Fleshy, subglobose caudex, with succulent stems and few branches; leaves with undulate margins; greenish-yellow, disc-shaped inflorescence.

Kenya

***Dorstenia radiata* Lam.**

MORACEAE

Greyish to brownish, branching, cylindrical stems 1-2 cm in diameter and to 30 cm high; thin, obovate leaves; greenish-yellow, disc-shaped inflorescence.

Southern Arabian peninsula

***Dorstenia* sp.**

MORACEAE

Thick, succulent stems; green leaves with dentate margins; greenish-yellow, disc-shaped inflorescence. A vigorous plant.

Somalia (?)

1078

**Dracaena draco** (L.) L.

AGAVACEAE

Tree to 10 m high; thick stem, unbranched until first inflorescence is produced, then with several spreading branches; leaves 30–60 cm long arranged in rosettes at ends of branches; white flowers tinged with green outside.
Canary Islands

0624

**Dracophilus delaetianus** (Dinter) Dinter

MESEMBRYANTHEMACEAE

Branches bearing 4 light green (sometimes blue-tinged), rounded leaves with brown marks, 3–5 cm long and 15 mm in diameter, triangular in section; pink flowers.

Namibia, South Africa (Cape Province)

0011

**Dracophilus proximus** (L. Bol.) Walgate

MESEMBRYANTHEMACEAE

Branches 4–6 cm long bearing 4–8 smooth, grey-green leaves 4–5 cm long; pink flowers.

Jutalinteria proxima L. Bol.

Namibia, South Africa (Cape Province)

0090

**Drosanthemum eburneum** L. Bol.

MESEMBRYANTHEMACEAE

Elongated, hairy stems forming shrubs to 30 cm high; semi-cylindrical leaves, narrower towards apex, 1–2 cm long; white flowers.

South Africa (Cape Province)

0158

**Dudleya albiflora** Rose

CRASSULACEAE

Stems to 30 cm long and 2 cm in diameter, branching and forming dense clumps; rosettes 2–10 cm in diameter with 15–25 green leaves; white flowers.

Dudleya narraii D.A. Johans.

Mexico (Baja California)

0123

**Dudleya brittonii** D.A. Johans.

CRASSULACEAE

Unbranched stems with rosettes of 40–120 leaves; whitish-green, varinose leaves to 20 cm long and 8 cm wide; pale yellow flowers.

Mexico (Baja California)

0042

**Dudleya pauciflora** Rose

CRASSULACEAE

Short stems 2 cm in diameter; rosettes to 7 cm in diameter, growing in clumps, with 15–20 deltoid to oblong leaves 3–7 cm long and to 1.5 cm wide; yellow flowers tinged with red.

Mexico (Baja California)

0041

**Duvalia polita** N.E. Br.

ASCLEPIADACEAE

Dark green to brown, hexagonal, elongated stems to 10 cm long with tuberculate teeth; dark brownish-red flowers.

Angola, Mozambique

0040

**Duvalia angustiloba** N.E. Br.

ASCLEPIADACEAE

Short, subspherical, 4- or 5-angled stems with tuberculate teeth; dark brown flowers.

South Africa

0039

**Duvalia reclinata** (Masson) Haw.

ASCLEPIADACEAE

Green, 4- to 6-angled stems to 10 cm long with tuberculate teeth; green-brown flowers.

South Africa

0038

**Duvalia elegans** (Masson) Haw.

ASCLEPIADACEAE

Stems 4- or 5-angled, 4–6 cm long and 1–1.5 cm in diameter with tuberculate teeth; red-brown to brown flowers with yellowish-brown inner whorl.

South Africa

0037

**Dyckia brevifolia** Baker

BROMELIACEAE

Stemless rosettes; leaves 10–20 cm long with marginal spines 2 mm long; yellow flowers.

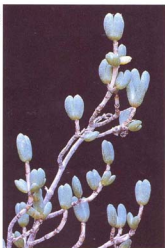
Brazil

***Dyckia ebbingii*** L.B. Sm.

BROMELIACEAE

Leaves arranged in rosettes 20–25 cm long with spiny margins; yellow flowers.

Brazil

***Eberlanzia disarticulata*** (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE

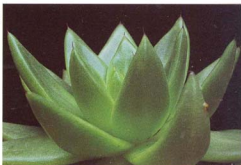
Shrub to 20 cm high; red-brown stems; grey-green, erect leaves; purple flowers.

Ruschia disarticulata L. Bol.
South Africa (Cape Province)***Eberlanzia spinosa*** (L.) Schwantes

MESEMBRYANTHEMACEAE

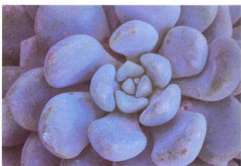
Shrub to 60 cm high with branched thorns; grey-green leaves 1–2 cm long with darker dots; pink flowers.

Namibia, South Africa (Cape Province)

***Echeveria agavoides*** Lem.

CRASSULACEAE

Stemless, usually solitary rosette; few glossy green leaves to 8 cm long and 3 cm wide; inflorescence 20–25 cm tall; red or yellow flowers.

Echeveria obscura Poelln.; *Urbiniia agavoides* Rose
Mexico (San Luis Potosí)***Echeveria amoena*** De Smet.

CRASSULACEAE

Stemless or short-stemmed rosettes; bluish-green, pruinose leaves 35 cm long borne in dense rosettes; red flowers.

Mexico

***Echeveria caricolor*** E. Morren

CRASSULACEAE

Stemless rosettes; pruinose leaves tinged with pink to 7 cm long and 15 mm wide; inflorescence to 15 cm tall; pink flowers.

Mexico (Veracruz)



Echeveria desmetiana De Smet.

CRASSULACEAE

Stemless or short-stemmed rosettes; bluish-white, pruinose leaves with reddish margins 3–7 cm long and 2–4 cm wide; red flowers.

Mexico



Echeveria elegans Rose

CRASSULACEAE

Stemless, clump-forming rosettes; thick, pointed, pruinose, grey-green leaves 3–7 cm long; pink flowers.

Mexico

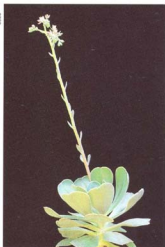


Echeveria gibbiflora var. *carunculata* Hort.

CRASSULACEAE

Rosettes of 15–20 leaves; grey-green leaves flushed with red 15–30 cm long; inflorescence to 1 m tall; pink flowers. This variety has protuberances on upper surface of leaves.

Mexico



Echeveria gibbiflora var. *metallica* E. Morren

CRASSULACEAE

Stems 30–50 cm tall; solitary rosettes with 15 leaves to 15 cm long. This variety is considered by E. Walther to be a cultivar.

Mexico



Echeveria lauii Moran & J. Meyrán

CRASSULACEAE

Rosettes to 25 cm in diameter; whitish-blue, tongue-shaped leaves; pinkish flowers.

Mexico (Oaxaca)



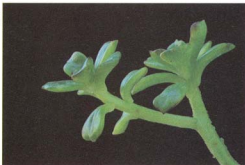
Echeveria leucotricha J.A. Purpus

CRASSULACEAE

Shrublet to 15 cm high; stems and leaves covered with white hairs; leaves to 10 cm long and 2.5 cm wide; red flowers.

Mexico (Puebla)

0038

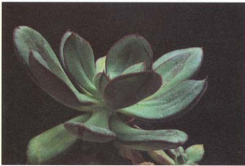
**Echeveria multicaulis** Rose

CRASSULACEAE

Branching stems 10–20 cm high; rosettes at tips of branches; glossy green leaves 2–3 cm long, 1–2 cm wide and tinged with red towards apex; reddish flowers yellow on inner surface.

Mexico

0039

**Echeveria nodulosa** (Baker) Otto

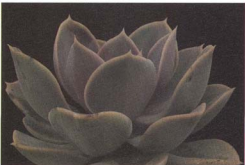
CRASSULACEAE

Branching stem to 20 cm tall; green leaves 5 cm long and 5 mm wide narrowing towards base; inflorescence 30 cm tall; pinkish-white flowers.

Echeveria discolor De Smet.

Mexico (Oaxaca, Puebla)

0040

**Echeveria 'Perle von Nurnberg'**

CRASSULACEAE

Rosettes to 15 cm in diameter with pink-tinged leaves. A hybrid of *E. gibbiflora* var. *metallica* x *E. putosana*.

0041

**Echeveria pumila** var. *glauca* E. Walther

CRASSULACEAE

Rosettes with numerous green to dark green leaves to 5 cm long and 2 cm wide forming large clusters; inflorescence to 15 cm tall; flowers rose-pink with scarlet centres.

Echeveria glauca E. Morren

Garden origin

0042

**Echeveria purpusorum** A. Berger

CRASSULACEAE

Stemless rosettes; green, acuminate leaves 4 cm long and 2 cm wide with red-brown spots; yellow flowers.

Mexico (Oaxaca)

0043

**Echeveria 'Rundelli'**

CRASSULACEAE

Large clumps of rosettes 4–6 cm in diameter; thick, blue leaves with tufts of hairs at tip.

Garden origin

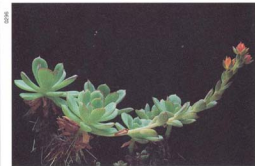


Echeveria setosa Rose & J.A. Purpus

CRASSULACEAE

Stemless rosettes with numerous offsets in older plants; each rosette with to 300 green leaves 5 cm long, 2 cm wide and densely covered by fine white hairs to 3 mm long; yellowish-red flowers.

Mexico (Puebla)



Echeveria x kirchneriana

CRASSULACEAE

Rosettes 10–15 cm in diameter; leaves 5–8 cm long; varicoloured flowers (pink, orange and yellow). Hybrid of *Echeveria carnicolor* E. Morren and *E. sclerbergii* J.A. Purpus.

Garden origin



Echeveria shaviana E. Walther

CRASSULACEAE

Short-stemmed rosettes with numerous glaucous green leaves 4–8 cm long with undulate margins and teeth near apex; pink flowers.

Mexico



Echeveria x scheideckeri De Smet

CRASSULACEAE

Short-stemmed, grey-green, pruinose leaves 8 cm long and 2 cm wide; red flowers with yellow tips. This is a hybrid of *Pachyphyton bracteosum* Link, Klotzsch & Otto and *Echeveria secundata* Booth.

x *Pachyveria scheideckeri* E. Walther

Garden origin



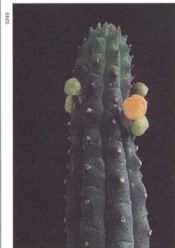
Echeveria subrigida (Robinson & Seaton) Rose

CRASSULACEAE

Short-stemmed, solitary rosettes; silvery-white leaves to 25 cm long and 10 cm wide with red margins; inflorescence to 1 m tall; red flowers.

Echeveria angustata Poelln.

Mexico



Echidnopsis cereiformis Hook.f.

ASCLEPIADACEAE

Spreading stems to 30 cm long, often rooting; ribs on branches and stems covered in 4-angled tubercles; 2–4 yellow flowers borne together.

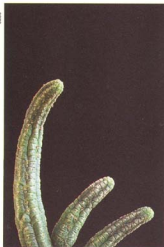
Somalia, Yemen

Echidnopsis dammaniana Sprenger

ASCLEPIADACEAE

Stems to 20 cm long, spreading, erect or curved and rooting when touching the soil; 2-5 green-brown flowers borne at end of stems.

Echidnopsis somalensis N.E. Br.
Ethiopia, Kenya, Somalia



Echidnopsis nubica N.E. Br.

ASCLEPIADACEAE

Branched, 8-angled stems 20 cm long; tubercles separated by deep furrows; purple flowers.

Considered by Bruyns to be a synonym of *E. cereiformis* Hook.f.

Sudan



Echidnopsis repens R.A. Dyer & I. Verd

ASCLEPIADACEAE

Little-branched, creeping and rooting, 8- to 10-angled stems with thin, caducous leaves borne on tubercles of young stems; deep wine-red flowers.

Considered by Bruyns to be a variety of *E. sharpii* A.C. White & B. Sloane.

Kenya, Tanzania



Echidnopsis scutellata (Deflers) A. Berger

ASCLEPIADACEAE

Dark green, 8-angled stems to 10 cm long, with thick, dark green, caducous leaves and 6-angled tubercles; yellow flowers often mottled with purple-red.

Kenya



Echidnopsis scutellata
subsp. *dhofarensis*

Bruyns

ASCLEPIADACEAE

Grey-green, 8-angled, tuberculate stems; thick, caducous leaves; yellow flowers.

Oman

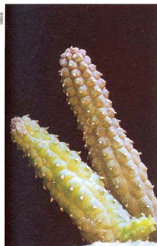


Echidnopsis scutellata
subsp. *planiflora* (Bally)
Bruyns

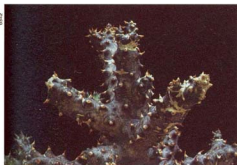
ASCLEPIADACEAE

Stems 8- to 15-angled; leaves longer than they are wide at the base, persisting as spines; bright yellow to brown campanulate flowers.

Echidnopsis chrysanthia Lavranos
Somalia



Echidnopsis squamulata
(Decne.) P.R.O. Bally
ASCLEPIADACEAE
Green, 5- to 8-angled stems
50 cm long and rooting along
their length; low, hexagonal
tubercles with caducous
leaves; red-brown flowers.
Yemen



Edithcolea grandis N.E. Br.

ASCLEPIADACEAE
Stems 5-angled, to 30 cm high and with sharp thorny teeth; single, pale yellow
flowers with red-brown spots borne at ends of shoots.
Kenya, Somalia, Tanzania



Enarganthe octonaria (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE
Shrub 10-15 cm high; grey-green leaves 2-3 cm long and 6 mm in diameter;
red flowers.
Namibia/South Africa (Little Namaqualand)



Eriospermum dregei
Endl.

LILIACEAE
Tuber 5-10 cm wide with
stolons; basal leaves reduced,
1 or more well developed,
hairy and with parallel veins;
leafless inflorescence; white to
yellow flowers.
Southern Africa



Euphorbia abdelkuri
Balf.

EUPHORBIAEAE
Grey stems to 2 m high with
5- to 8-angled branches and
prominent tubercles; rudimentary, caducous leaves;
yellow, poisonous latex;
yellow-green, sessile inflorescence with several cyathia
clustered at base of tubercles.
South Yemen (Socotra)

CITES App. II



Euphorbia acurensis
N.E. Br.

EUPHORBIAEAE
Tree to 10 m high; thorny,
4-angled, dark green branches
30-40 cm long with callous
veins towards leaf buds;
caducous, green leaves 3-4 cm
long; inflorescence borne at
end of shoots.
Eritrea

CITES App. II

***Euphorbia aeruginosa* Schweick.**

EUPHORBACEAE

Small caudex with numerous branches from base; 4- to 5-angled branches 15 cm high with thorns to 7 mm long; yellow inflorescence borne at end of stems.

South Africa (Transvaal)

CITES App. II

***Euphorbia albipollinifera* L.C. Leach**

EUPHORBACEAE

Tuberous root continuing into the stem and forming caudex; tuberculate branches 5-10 cm long with small, caducous leaves; inflorescence borne on short peduncle from new growth.

South Africa (Cape Province)

CITES App. II

***Euphorbia alicornis* Svent.**

EUPHORBACEAE

Main stem 1-5 m tall; secondary branches thick, thorny and 3-angled; rudimentary, caducous leaves; inflorescence borne on short peduncle from branch apices.

Madagascar

CITES App. II

***Euphorbia alfredii* Rauh**

EUPHORBACEAE

Stems 3-4 cm in diameter; dark green leaves 5-8 cm long and 2-3 cm wide borne in terminal rosettes; inflorescence borne on peduncle 2-4 cm long arising from stem apices; pink bracts.

Madagascar

CITES App. II

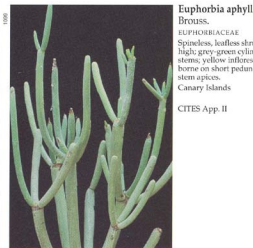
***Euphorbia ambovombensis* Rauh & Razaf.**

EUPHORBACEAE

Tuberous plant branching from base; branches 5-15 cm long; dark green (often purple) leaves 2-5 cm long with crinkled margins and upturned apices arranged in rosette; inflorescence borne on short peduncle near branch apices.

Madagascar

CITES App. I

***Euphorbia aphylla* Brouss.**

EUPHORBACEAE

Spineless, leafless shrub 1 m high; grey-green cylindrical stems; yellow inflorescence borne on short peduncle from stem apices.
Canary Islands

CITES App. II

***Euphorbia arida* N.E. Br.**

EUPHORBIAEAE

Main stem to 5 cm high and 5 cm thick with numerous spineless, tuberculate branches; caducous leaves 2–3 mm long; persistent peduncles; inflorescence borne at tips of branches; green bracts.

South Africa (Cape Province)

CITES App. II

***Euphorbia avasmontana* Dinter**

EUPHORBIAEAE

Plant to 2 m tall; stem branching from base; yellowish-green, 5- to 8-angled branches 6–10 cm in diameter with spines in pairs; rudimentary, caducous leaves; inflorescence borne near stem apices.

Namibia, South Africa (Cape Province)

CITES App. II

***Euphorbia avasmontana* Dinter**

EUPHORBIAEAE

A specimen in habitat.

***Euphorbia baiensis***

S. Carter

EUPHORBIAEAE

Plants branching from base; erect, cylindrical branches to 30 cm high and 2 cm in diameter with 8–10 ribs and red to black spines; yellow, almost sessile inflorescence borne along ribs.

Kenya

CITES App. II

***Euphorbia balsamifera* Aiton**

EUPHORBIAEAE

Shrub to 2 m high; grey, spineless branches; leaves 2–5 cm long arranged in rosettes; yellow inflorescence borne at branch apices.

Canary Islands, Morocco, Somalia

CITES App. II

***Euphorbia beharensis***

Leandri

EUPHORBIAEAE

Tuberous root with thin, spiny branches 30–50 cm long; green leaves 25 cm long; green inflorescence borne on short peduncle from branch apices.

Madagascar

CITES App. II

1006



**Euphorbia
breviararticulata Pax**

EUPHORBIAACEAE

Shrub 4-5 m high; triangular, blue-green branches with yellow-green bands; spines 3-8 cm long; inflorescence borne on short peduncle from branch apices; yellow cyathia. Ethiopia, Kenya, Somalia, Tanzania

CITES App. II

0746



Euphorbia brevitorta P.R.O. Bally

EUPHORBIAACEAE

Tuberous root with several branches spreading and forming clumps to 1 m in diameter; small, triangular, caducous leaves; pairs of grey spines with brown tips; yellow, sessile inflorescence borne on new growth at branch apices.

Kenya

CITES App. II

0700



Euphorbia brunellii Chiov.

EUPHORBIAACEAE

Conical caudex 2-5 cm high and 1-3 cm in diameter with dark bark and several caducous, green leaves 3-6 cm long with reddish margins; inflorescence borne on peduncle 2-4 cm long.

Somalia

CITES App. II

0811



Euphorbia bubalina Boiss.

EUPHORBIAACEAE

Spineless, cylindrical, solitary or branched stems 1-1.5 m high; lanceolate, light green leaves 10 cm long at apex of growing stems; inflorescence borne on peduncle to 15 cm long; green bracts with red margins.

South Africa (Cape Province)

CITES App. II

0707



Euphorbia bupleuritolia Jacq.

EUPHORBIAACEAE

Solitary stems, globose to elongate, 10-20 cm high; light green leaves 7 cm long borne at stem apices; inflorescence on peduncle to 5 cm long; green bracts.

South Africa (Cape Province, Natal)

CITES App. II

0808



Euphorbia burmannii

E. Mey.

EUPHORBIAACEAE

Spineless shrub 80-180 cm high with small, green leaves persistent; reddish-brown leaf petioles; forked inflorescence to 5 cm long.

South Africa (Cape Province)

CITES App. II

Euphorbia buruana Pax

EUPHORBACEAE

Triangular, grey-green undulate branches with dark green stripes; rudimentary, caducous leaves; yellow inflorescence borne on short peduncle from newest growth.

Tanzania

CITES App. II

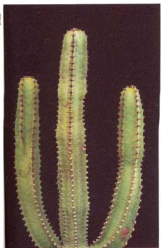
**Euphorbia canariensis** L.

EUPHORBACEAE

Shrub with numerous 4- to 6-angled branches to 2-3 m high (12 m in habitat) arising from base; pairs of small spines; rudimentary, caducous leaves; greenish-red inflorescence borne on short peduncle.

Canary Islands

CITES App. II

**Euphorbia cap-saintemariensis** Rauh

EUPHORBACEAE

Subterranean caudex 5-10 cm in diameter; branches tipped with rosette of green to reddish-green leaves to 2.5 cm long with undulate edges; pale yellow to olive-green inflorescence borne on forked peduncle 5 cm long.

Madagascar

CITES App. II

**Euphorbia caput-medusae** L.

EUPHORBACEAE

Short caudex to 20 cm in diameter with several spreading branches to 60 cm long; leaves 2-3 cm long; yellowish-green inflorescence borne at stem apices.

Euphorbia fructus-pisii Mill.; *E. medusae* Thunb.; *E. tessellata* Haw.

South Africa (Cape Province)

CITES App. II

**Euphorbia clava** Jacq.

EUPHORBACEAE

Spineless, cylindrical stem to 1.5 m high with hexagonal tubercles to 6 mm long and 1-1.5 cm wide at base; several light green leaves 10-15 cm long; inflorescence borne on peduncle to 20 cm long; green bracts. Similar to *E. butalana* but tubercles are more prominent and stems stouter.

South Africa (Cape Province)

CITES App. II

**Euphorbia clavifera** N.E. Br

EUPHORBACEAE

Tuberous root fused to main stem to form thick caudex; stems 10-15 cm long with tubercles; spines to 1 cm long in pairs; rudimentary leaf scales; inflorescence borne on short peduncle.

Swaziland

CITES App. II

04712



Euphorbia coerulescens
Haw.

EUPHORBIAACEAE
Shrub to 1.5 m high; numerous bluish-grey, 4- to 6-angled branches 5 cm thick; bluish-grey stems; white to dark brown spines to 1.5 cm long in pairs; yellow inflorescence borne near branch apices. South Africa (Cape Province)

CITES App. II

1102



Euphorbia columnaris P.R.O. Bally

EUPHORBIAACEAE

Plant 1-1.5 m high; solitary, 10- to 15-sided, dark green stem; pairs of recurved, whitish-grey spines 1-2 cm long; inflorescence on short peduncle with numerous cyathia borne near stem apex.

Somalia

CITES App. II

1140



Euphorbia copiapina Phil.

EUPHORBIAACEAE

Thick, tuberous grey-brown root 10 cm long and 1-4 cm in diameter; many branches 5-10 cm long with spirally arranged, greenish-grey leaves with reddish margins; red inflorescence borne on branched peduncle 5-10 cm long. Plant photographed in habitat.

Euphorbia calderensis Phil.; *E. subumbellata* Steud.

Chile

CITES App. II

04703



Euphorbia cremersii
Rauh & Razaf.

EUPHORBIAACEAE

Tuberous root 2-5 cm in diameter; thin stem, 10-15 cm long with few caducous leaves at apex; leaves 8 cm long with red margins; pale brown inflorescence borne on reddish peduncle 2-3 cm long. Madagascar

CITES App. II

04705



Euphorbia cryptospinosa
P.R.O. Bally

EUPHORBIAACEAE

Tuberous root with erect stem 20-100 cm long with 5-10 ribs; spines forming longitudinal stripes; rudimentary, caducous leaves 3 mm long; ivory to pale red inflorescence. Ethiopia, Kenya, Somalia

CITES App. II

02710



Euphorbia cylindrica
A.C. White, R.A. Dyer, B. Sloane

EUPHORBIAACEAE

Stem solitary or with few cylindrical branches 5 cm in diameter, covered with tubercles 5 mm long; light green leaves 4-6 cm long at top of growing apices; inflorescence borne on short peduncle from axil of tubercles. South Africa (Cape Province)

CITES App. II



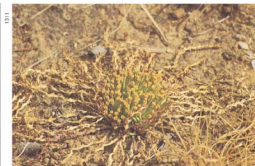
Euphorbia cylindrifolia Marn.-Lap. & Rauh

EUPHORBIALES

Plant with whitish subterranean branches; stems 10–15 cm long covered with leaf scars; cylindrical dark green leaves 2–3 cm long and 3 mm wide; brownish-pink inflorescence on peduncle 5–8 mm long. The illustration shows a form with a thick root forming a caudex.

Madagascar

CITES App. I



Euphorbia decida P.R.O. Bally & L.C. Leach

EUPHORBIALES

Thick, subterranean stem bearing leaves 12 mm long in juvenile stage. At maturity the plant produces caducous branches to 12 cm long and 6 mm thick, with small, green, caducous leaves. Plant photographed in habitat.

Angola, Malawi, Zambia, northern Zimbabwe

CITES App. II



Euphorbia dauana
S. Carter

EUPHORBIALES

Dark green to brown stem and branches with paler markings and prominent tubercles bearing spines in pairs; yellow inflorescence on short peduncle borne from tubercles.

Kenya

CITES App. II



Euphorbia didiereoides
Denis

EUPHORBIALES

Thorny stems to 2 m high; rosettes of green, often red-margined leaves 5–10 cm long at apex; yellowish-green or orange inflorescence borne on branched peduncle.

Madagascar

CITES App. II



Euphorbia decaryi Guill.

EUPHORBIALES

Sukkuliferous stems to 12 cm high with tubercles; silvery-green leaves 3–4 cm long and 2 cm wide with undulate margins borne at ends of stems; yellowish-pink inflorescence on peduncle to 2 cm long.

Madagascar

CITES App. I



Euphorbia echinus Hook.f. & Coss.

EUPHORBIALES

Shrub to 1.5 m high; hexagonal, multi-branched stems; grey spines 1.5 mm long; rudimentary, caducous leaves; inflorescence borne on short peduncle near stem apices.

Morocco

CITES App. II

**Euphorbia enopla** Boiss.

EUPHORBACEAE

Leafless shrub to 1 m high freely branching from base; branches blue- or grey-green with red spines to 6 cm long; inflorescence borne on peduncle to 3 cm long; dark red bracts.

South Africa (Cape Province)

CITES App. II

**Euphorbia enormis** N.E. Br.

EUPHORBACEAE

Thick, tuberous root with spiralling stems to 20 cm long and 2-3 cm thick, tubercles 6 mm long with spines in pairs; rudimentary, caducous leaves to 1 mm long; yellowish-green inflorescence borne on short peduncle.

South Africa (Transvaal)

CITES App. II

**Euphorbia enterophora**

Drake

EUPHORBACEAE

Arborescent plant with trunk to 2 m high; 2-angled, flat branches; green leaves growing only at apices; inflorescence borne at stem apices. Similar to *E. xylotylifolius* from which it is distinguished by reddish fuzz on new growth.

Madagascar

CITES App. II

**Euphorbia espinosa** Pax

EUPHORBACEAE

Shrub to 3 m high; cylindrical stems with brown bark; rudimentary, caducous leaves; sessile inflorescence borne from leaf scars.

Euphorbia gynophora Pax
Tanzania, Zimbabwe

CITES App. II

**Euphorbia fasciculata**

Thunb.

EUPHORBACEAE

Clavate stems to 50 cm high with spine-like leaf clumps; rudimentary, caducous leaves; inflorescence borne on persistent peduncle 10-15 cm long from stem apex.

South Africa (Cape Province)

CITES App. II

**Euphorbia ferox** Marloth

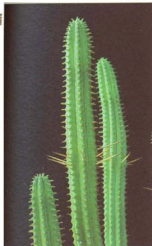
EUPHORBACEAE

Spiny clumps to 60 cm in diameter with branches 8-25 cm long, partly hidden in soil; numerous brown spines (modified peduncles) greying with age; rudimentary, caducous leaves; inflorescence borne on peduncle 4-6 mm long at end of branches; brown bracts.

Euphorbia atepitose N.E. Br.

South Africa (Cape Province)

CITES App. II

***Euphorbia fimbriata***

Scop.

EUPHORBIAEAE

Main stem cylindrical 30 cm or more high, 7–12 light green, ribbed, tuberculate, rebranching branches; spines to 4 cm long; rudimentary, caducous, green leaves with red tips; inflorescence borne on short peduncle from axils of tubercles.

South Africa (Cape Province)

CITES App. II

***Euphorbia fractiflexa***

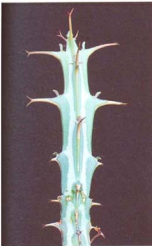
S. Carter & J.R.I. Wood

EUPHORBIAEAE

Sharply 3-angled, green stems to 2.5 m high and 3 cm thick; stem angles are arranged in zigzag line; rudimentary, caducous leaves; yellow inflorescence with 2–8 cyathia on short peduncles.

Saudi Arabia, Yemen

CITES App. II

***Euphorbia fluminis***

S. Carter

EUPHORBIAEAE

Green 4-angled stems with green variations to 2 m high; solitary spines 15 mm long and forked apically; green, caducous leaves 3–8 mm long; reddish inflorescence.

Kenya

CITES App. II

***Euphorbia francoisii***

Leandri

EUPHORBIAEAE

Stoloniferous plants; variegated green leaves 5–7 cm long with red mid-rib and undulate margins arranged in rosettes; yellowish-green inflorescence on peduncle to 1 cm long.

Madagascar

CITES App. I

***Euphorbia fortuita***

A.C. White, Dyer & B. Sloane

EUPHORBIAEAE

Tuberous root continuing into stem to form caudex 8–16 cm thick; branches 5–30 cm long; rudimentary, caducous leaves; cyathia clustered at end of branches; short peduncles.

South Africa (Cape Province)

CITES App. II

***Euphorbia friedrichiae***

Dinter

EUPHORBIAEAE

Caudex 15–20 cm high with several blue-green, spineless, tuberculate branches; milky-blue, waxy leaves 4 cm long; cyathia borne at tips of new growth on persistent peduncles.

Namibia

CITES App. II

0083

**Euphorbia fruticosa** Forssk.

EUPHORBIAEAE

Spiry shrub 50 cm high, green-grey stems branching from base and forming clumps to 30 cm in diameter; black spines in pairs; bright yellow inflorescence born on ribs of new growth.

Yemen

CITES App. II

0011

**Euphorbia fusiformis** A. Ham. ex Don

EUPHORBIAEAE

Cylindrical root with stems 1-2 cm long; lanceolate, green leaves with red margins and mid-vein 4-5 cm long; pink to reddish inflorescence with several cyathia arising from apex of cylindrical stems. The photograph shows a young seedling.

India

CITES App. II

0084

**Euphorbia globosa** (Haw.) Sims

EUPHORBIAEAE

Tuberous root with numerous dark green, later grey, globose branches 15 cm long; green to red-dish, caducous leaves 1-2 mm long; inflorescence borne on persistent, much-branched peduncle 10 cm long.

Euphorbia glomerata Marieth
South Africa (Cape Province)

CITES App. II

0083

**Euphorbia gorgonis** A. Berger

EUPHORBIAEAE

Globose, subterranean stem producing small, dull green, tuberculate branches often tinged with red and 1-2.5 cm long (to 5 cm in cultivation) from stem apex; rudimentary, caducous leaves; inflorescence borne at ends of main stem and branches on peduncle to 1 cm long.

South Africa (Cape Province)

CITES App. II

1172

**Euphorbia grandialata**
R.A. Dyer

EUPHORBIAEAE

Plant to 3 m high, branching from base; stems 10-15 cm in diameter divided into segments 10-15 cm long; spines in pairs; rudimentary, caducous leaves; inflorescence borne from stem apices on short peduncle.

South Africa (Transvaal)

CITES App. II

0085

**Euphorbia grandidens** Haw.

EUPHORBIAEAE

Main trunk 6-10 m high, branching freely to form several stem-like, green branches ending in slender terminal branchlets; rudimentary, caducous leaves; inflorescence borne on short peduncle from ends of branches.

South Africa (Transvaal)

CITES App. II



Euphorbia greenwayi
P.R.O. Bally & S. Carter

EUPHORBACEAE

Branched, blue-green stems with whitish stripes; spines 1 cm long; rudimentary, caducous leaves; inflorescence borne on forked peduncle near branch apices; cyathia whitish outside and yellow inside with protruding red stamens.

Tanzania

CITES App. II



Euphorbia groenewaldii R.A. Dyer

EUPHORBACEAE

Tuberous root 5–10 cm thick and to 20 cm high, continuing into main stem from which small, spirally twisted branches arise; rudimentary, caducous leaves; inflorescence borne on short peduncle from new and old branches.

South Africa (Transvaal)

CITES App. II



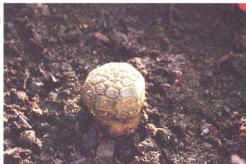
Euphorbia guillemetii Ursch & Leandri

EUPHORBACEAE

Spiry shrub similar to *E. mii* but with smaller leaves.

Madagascar

CITES App. II



Euphorbia gymnocalyoides M.G. Gilbert & Carter

EUPHORBACEAE

Short, cylindrical, tuberculate, bluish-green stem to 10 cm high and 8 cm in diameter; rudimentary, caducous leaves; inflorescence borne on previous year's growth; cyathia white outside, reddish-brown inside.

Ethiopia

CITES App. II



Euphorbia hadramautica Baker aff.

EUPHORBACEAE

Brown stem, green when young; green leaves 10–15 cm long and to 4 cm wide with reddish veins; inflorescence borne amid leaves on peduncle 12 mm long from stem apices.

Arabian peninsula

CITES App. II



Euphorbia hamata

(Haw.) Sweet

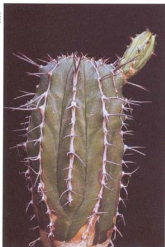
EUPHORBACEAE

Shrub to 40 cm high with short caudex and tuberous root; stems branching from base; branches and stems tuberculate; caducous, green leaves 1–2 cm long of variable shape; sessile inflorescence borne at branch apices; yellowish bracts.

South Africa (Cape Province)

CITES App. II

0106



Euphorbia handiensis
Burchard

EUPHORBIAEAE

Shrub to 80 cm high branching from base; branches with 8-14 ribs; spines 3 cm long in pairs; rudimentary, caducous leaves; reddish inflorescence borne on stem apices.
Canary Islands (Fuerteventura)

CITES App. II

0107



Euphorbia heptagona L.

EUPHORBIAEAE

Shrub to 1 m high branched at base and towards apices; grey-green branches; inflorescence borne on persistent, reddish-brown peduncle to 3 cm long at branch apices.

Euphorbia maritimi A. Berger
South Africa (Cape Province)

CITES App. II

0108



Euphorbia horombensis Ursch & Leandri

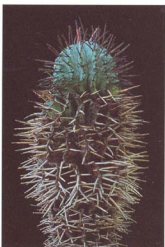
EUPHORBIAEAE

Thorny, branched stems to 1 m high; green leaves 5-30 cm long with red margins crowded at stem apices; reddish-brown inflorescence borne on branched peduncle 8-10 cm long.

Madagascar

CITES App. II

0109



Euphorbia horrida Boiss.

EUPHORBIAEAE

Densely spined stems to 15 cm thick with 10-20 prominent angles (to 5 cm); rudimentary caducous leaves; inflorescence borne near base of spine; peduncle to 1 cm long. Variable species growing in clumps to 1 m high. At least 6 varieties have been described.
South Africa (Cape Province)

CITES App. II

0105



Euphorbia horrida var. *striata* A.C. White, Dyer & B. Sloane

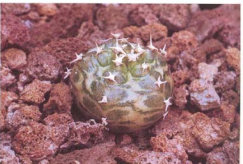
EUPHORBIAEAE

Grey-green branches with wavy angles and often with white stripes; otherwise similar to the type species.

South Africa (Cape Province)

CITES App. I

0102



Euphorbia horwoodii S. Carter & Lavranos

EUPHORBIAEAE

In the juvenile stage spherical, but when the plant's body increases in size 5-7 lateral branches develop and grow to 15 cm long; yellow inflorescence borne on forked peduncle 1 cm long.

Somalia

CITES App. II



Euphorbia hypogaea
Marloth

EUPHORBACEAE

Caudex and branches grow underground with secondary branches 2–5 cm long appearing above soil level; branches covered with conical tubercles bearing rudimentary, caducous, glabrous leaves; inflorescence borne near apex of secondary branches on peduncle 1–1.5 cm long.
South Africa (Cape Province)

CITES App. II



Euphorbia infausta N.E. Br.

EUPHORBACEAE

This is a variant of *E. meliformis* Aiton but is more caespitose and has taller stems. It should be regarded as synonym but is still found in many collections and trade catalogues under this name.

South Africa (Cape Province)

CITES App. II



Euphorbia inermis Mill.

EUPHORBACEAE

Tuberous root with thick caudex to 15 cm in diameter from which several branches to 30 cm long arise; rudimentary, caducous leaves are arranged in spiral row; inflorescence clustered at branch ends on peduncle 3–4 mm long; wholly white bracteoles on male flowers.

South Africa (Cape Province)

CITES App. II



Euphorbia jansvillensis Nel

EUPHORBACEAE

Spineless, erect 5-angled, glaucous green stems to 15 cm long, branched and suckering from base; rudimentary, caducous leaves; inflorescence borne on short peduncle at upper ends of stems.

South Africa (Cape Province)

CITES App. II



Euphorbia inermis var. huttonae A.C. White & Dyer

EUPHORBACEAE

Similar to *E. inermis* from which it is mainly distinguished by lack of bracteoles on male flowers.

Euphorbia juttiae N.E. Br.

South Africa (Cape Province)

CITES App. II



Euphorbia juttiae Dinter

EUPHORBACEAE

Spineless, bluish-green shrub 10–15 cm high, freely branching from base; grey-green leaves 2–3 cm long; inflorescence borne on short peduncle at apex of new branches.

Namibia

CITES App. II

0678

**Euphorbia knobelii** Letty

EUPHORBACEAE

Subterranean trunk with numerous erect, spiny, pale green, 5-angled stems to 1 m high and with dark green markings; spines 1 cm long in pairs; rudimentary caducous leaves; inflorescence borne on short peduncle at upper ends of stems.

South Africa (Transvaal)

CITES App. II

0778

**Euphorbia knuthii** Pax

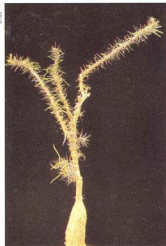
EUPHORBACEAE

Tuberous plant with subterranean rhizomes; tuberculate, light green, aerial branches 5–15 cm long with grey-green stripes; pairs of spines 4–8 mm long; rudimentary, caducous leaves; inflorescence borne on short peduncle from stem apices; green bracts.

South Africa (Cape Province)

CITES App. II

0889

**Euphorbia kondoi**

Rauh & Razaf.

EUPHORBACEAE

Plants to 70 cm high with thick root and several thin, spiny branches; green leaves 3 cm long and 3.5 mm wide with prominent mid-vein beneath; lemon yellow inflorescence borne just below branch apices on peduncle 2–4 mm long.

Madagascar

CITES App. II

0978

**Euphorbia lactea** Haw.

EUPHORBACEAE

Shrub to 2 m tall with 3- or 4-angled dark green branches with paler band; rudimentary, caducous leaves; yellow inflorescence borne on short peduncle from new stem growth.

India

CITES App. I

1188

**Euphorbia laikipiensis** S. Carter

EUPHORBACEAE

Stems branching from base; cylindrical, toothed branches 5–10 cm long, single white spines to 1 cm long; rudimentary, caducous leaves; yellow inflorescence borne on short peduncle.

Kenya

CITES App. II

1194

**Euphorbia lavranii** Leach

EUPHORBACEAE

Dwarf shrub to 20 cm high with numerous branches 5 mm thick; tubercles arranged in pairs; rudimentary, caducous leaves; inflorescence with numerous cyathia borne on short peduncle at branch apices.

Namibia

CITES App. II

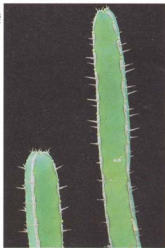
**Euphorbia ledienii** A. Berger

EUPHORBACEAE

Shrub to 2 m high with 5-angled stems arising from base; spines to 2 cm long in pairs; rudimentary, caducous leaves; sessile, yellow inflorescence borne near branch apices.

South Africa (Cape Province)

CITES App. II

**Euphorbia lyndenburgensis**

Schweick & Letty

EUPHORBACEAE

Trunk 60–100 cm high, branching from base and near apex; 4-angled, green or pale greenish-yellow stems; pairs of brown spines 5–8 mm long borne on ridges of stems; rudimentary, caducous leaves; sessile inflorescence with scale-like bracts.

South Africa (Transvaal)

CITES App. II

**Euphorbia lignosa**

Marloth

EUPHORBACEAE

Stems to 30 cm high, branching and rebranching from apex to form hemispherical mass to 1 m in diameter; branches hard and spiny; small, green leaves; sessile inflorescence borne near branch apices.

Namibia

CITES App. II

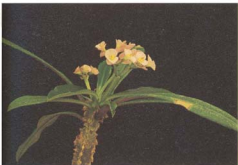
**Euphorbia maleolensis** E. Phillips

EUPHORBACEAE

Short caudex to 10 cm thick developing from thick root; several tuberculate branches to 20 cm long; green leaves to 1 cm long in branch apices; inflorescence on peduncle 1 cm long borne among leaves in upper one-third of branches.

South Africa (Transvaal)

CITES App. II

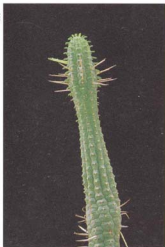
**Euphorbia lophogona** Lam.

EUPHORBACEAE

Shrubs to 50 cm high with spiny, 5-angled branches; showy, bright green leaves 15–20 cm long; flamboyant pink, cream or white inflorescence borne on peduncle 2–3 cm long.

Madagascar

CITES App. II

**Euphorbia mammillaris**

L.

EUPHORBACEAE

Small plants to 18 cm high; green branches 6 cm in diameter with hexagonal tubercles; solitary grey spines 1 cm long; rudimentary, caducous leaves; inflorescence with cyathia in clusters covering branch apices on peduncle 1–2 mm long.

South Africa (Cape Province)

CITES App. II

**Euphorbia meloformis** Aiton

EUPHORBACEAE

Solitary, globose stems, rarely branched from base, to 10 cm in diameter; green stems with 8–12 ribs and lighter bands; rudimentary, caducous leaves; inflorescence with several cyathia borne on centre of stem apex; persistent, dichotomously forked peduncles.

South Africa (Cape Province)

CITES App. II

**Euphorbia memorialis** R.A. Dyer

EUPHORBACEAE

Shrub to 2 m high; 5- to 7-angled, segmented, pale green stems with horny margins and brown spines 6 mm long; pale green, caducous leaves to 2 cm long; inflorescence borne on short peduncle near stem apices. Plant photographed in habitat.

Zimbabwe

CITES App. II

**Euphorbia milii** Des Moul.

EUPHORBACEAE

Shrub to 1.5 m high in cultivation; large, caducous, green leaves with reddish margins at ends of thorny branches; cyathia are on long peduncles with red bracts; several varieties have been described.

Euphorbia splendens Bojer

Madagascar

CITES App. II

**Euphorbia milii** 'Lutea' Rauh

EUPHORBACEAE

A cultivar with white bracts.

Madagascar

**Euphorbia milii** var. *tananarivae* Leandri

EUPHORBACEAE

A little-branched variety with yellow bracts; stems 2–3 cm in diameter; green leaves with reddish margins 7–10 cm long.

Madagascar

CITES App. II

**Euphorbia millotii** Ursch & Leandri

EUPHORBACEAE

Shrub to 20 cm high, branched from base; green-red leaves to 4 cm long at growing apices; reddish inflorescence with pendent cyathia borne on peduncle to 1 cm long.

Madagascar

CITES App. II

0153

***Euphorbia morattii* Rauh**

EUPHORBACEAE

Subterranean caudex to 4 cm in diameter; 10–20 caducous leaves arranged in rosette; dark green leaves to 9 cm long and 2 cm wide with whitish spots, red mid-vein and crisped margins; brownish-red inflorescence borne from apex among leaves on peduncle 2–3 cm long.

Madagascar

CITES App. I

1155

***Euphorbia multiceps* A. Berger**

EUPHORBACEAE

Plant to 30 cm high and to 20 cm in diameter at base with many tuberculate, horizontally spreading branches; green leaves 12 mm long; inflorescence borne at ends of branches on peduncle 4–6 mm long.

South Africa (Cape Province)

CITES App. II

0157

***Euphorbia mosaica* P.R.O. Bally & S. Carter**

EUPHORBACEAE

Stems 3–5 cm high and 1–2 cm thick with many short branches; stems and branches 6- to 9-angled with tubercles; spines 1.5 mm long in pairs; rudimentary, caducous leaves; sessile, whitish inflorescence borne near stem and branch apices.

Senegal

CITES App. II

1158

***Euphorbia namuskluftensis* L.C. Leach**

EUPHORBACEAE

Tuberous, rhizomatose root with several tuberculate branches 6 cm long and 5 mm thick; green, caducous leaves 2–3 mm long; purplish-green inflorescence borne at branch apices.

Namibia

CITES App. II

0154

***Euphorbia muirii* N.E. Br.**

EUPHORBACEAE

Spineless stems to 20 cm long and 15 mm thick arising from base of caudex; mat leaves to 2 cm long and 1 mm wide; inflorescence near tips of branches on peduncle 2 cm long.

Southern Africa

CITES App. II

0157

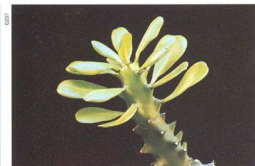
***Euphorbia neohumbertii* Boiteau**

EUPHORBACEAE

Shrub to 40 cm high; 5-angled, green stems with prominent greyish leaf scars and spines 8 mm long; green leaves to 10 cm long; red inflorescence borne at stem apices.

Madagascar

CITES App. II

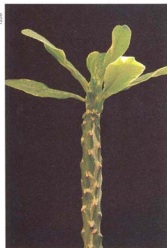
**Euphorbia neriifolia L.**

EUPHORBIAEAE

Cylindrical or 5-angled, light green stems with black spines; light green leaves 8-15 cm long, at apex of stems; yellow-green inflorescence borne on short peduncle on upper leaf axil.

India

CITES App. II

**Euphorbia nivulia**

Buch.-Ham.

EUPHORBIAEAE

Shrub freely branching to 1.5 m high; green leaves 10 cm long; inflorescence borne on short peduncle.

India

CITES App. II

**Euphorbia obesa Hook.f.**

EUPHORBIAEAE

Spineless, grey-green, dwarf, spherical plants with transverse red-brown or purplish bands; rudimentary, caducous leaves; small inflorescence borne on short peduncle from stem apices; female and male flowers are borne on different plants.

South Africa (Cape Province)

CITES App. II

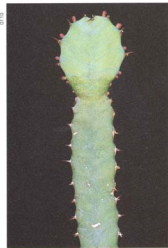
**Euphorbia officinarum L.**

EUPHORBIAEAE

Shrub 90-120 cm high; stem branched; branches 8- or 15-sided with horny margins; whitish-grey spines in pairs; rudimentary, caducous leaves; yellow inflorescence borne from apex of stems.

Morocco

CITES App. II

**Euphorbia opuntoides**

N.E. Br.

EUPHORBIAEAE

Low shrub with characteristic, flattened, 2-angled branches 10-30 cm long; rudimentary, caducous leaves; red inflorescence borne near branch apices.

Angola

CITES App. II

**Euphorbia opuntoides N.E. Br.**

EUPHORBIAEAE

The flowering stem.



***Euphorbia ornithopus* Jacq.**

EUPHORBACEAE

Branches 4–10 cm long arising from thick main stem and forming mats; rudimentary, caducous leaves; inflorescence produced from branch apices on simple or branched peduncle to 10 cm long.

South Africa (Cape Province)

CITES App. II



***Euphorbia pauliana* Ursch & Leandri**

EUPHORBACEAE

Solitary stems 30–50 cm high with thorns on tubercles arranged in spiral rows; leaves 15–25 cm long with undulate margins and, sometimes, red veins; long-stalked inflorescence with pendent, yellow cyathia. Each plant may have to 300 flowers.

Madagascar

CITES App. II



***Euphorbia pachypodioides* Boiteau**

EUPHORBACEAE

Stems 30–80 cm high covered with old leaf scars arranged in spiral; bluish-green leaves 10–15 cm long and to 3.5 cm wide borne at ends of stems; several reddish-purple cyathia borne on peduncles to 15 cm long arising from stem apices.

Euphorbia antinarum Leandri

Madagascar

CITES App. II



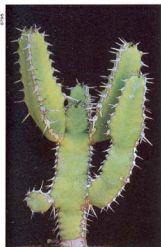
***Euphorbia pedilanthoides* Denis**

EUPHORBACEAE

Subterranean caudex with several branches to 1 m high; spines 1 cm long in pairs; green leaves 2–4 cm long; yellowish-green to orange-red inflorescence borne near branch apices on peduncle 5 mm long.

Madagascar

CITES App. II



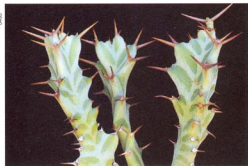
***Euphorbia parciramulosa* Schweinf.**

EUPHORBACEAE

Short-stemmed shrub to 2 m high with grey spines 4–5 cm long; caducous leaves 3–5 mm long; yellowish inflorescence borne from tips of branches.

Yemen

CITES App. II



***Euphorbia persistens* R.A. Dyer**

EUPHORBACEAE

Subterranean stems with many glaucous green, 3- to 5-angled branches 15–20 cm long with darker stripes; brown spines 15 mm long; inflorescence borne near branch apices on short peduncle.

South Africa

CITES App. II

**Euphorbia phosphorea** Mart.

EUPHORBIAEAE

Shrub with many stems 5 mm thick; tiny green leaves at growing apices; small inflorescence borne near stem apices.

Brazil

CITES App. II

**Euphorbia pillansii** N.E. Br.

EUPHORBIAEAE

Plants with 7- to 10-angled, green branches to 30 cm long with pale and dark green bands; robust; grey spines 1-5 cm long; rudimentary, green, caducous leaves; inflorescence borne at branch apices on peduncle to 12 mm long.

South Africa (Cape Province)

CITES App. II

**Euphorbia piscidermis** M.G. Gilbert

EUPHORBIAEAE

Globular to cylindrical stem to 5 cm in diameter and 5-8 cm high; stem covered in greyish-white or yellowish, pine-cone shaped tubercles arranged in spiral and covered with scale-like growths; inflorescence borne on short peduncle; cyathia green outside, yellow inside.

Ethiopia, Somalia

CITES App. II

**Euphorbia platyclada**
Rath

EUPHORBIAEAE

Tuberous root with erect, rebranching, grey-green, spineless branches to 50 cm long with black and red markings; caducous leaves leaving evident leaf scar; red-brown inflorescence borne on short peduncles.

Madagascar

CITES App. II

**Euphorbia poissonii** Pax

EUPHORBIAEAE

Plant 1-1.5 m high; stems with cylindrical branches 4 cm in diameter; single spines; green leaves 10-15 cm long and 7 cm wide at apex; almost sessile, yellowish-green inflorescence.

Ghana, Nigeria

CITES App. II

**Euphorbia polyacantha**
Boiss.

EUPHORBIAEAE

Shrub 1-1.5 m high; 4- to 5-angled branches 4 cm in diameter; spines 6 mm long; small, grey, caducous leaves; almost sessile, yellow inflorescence borne at stems apices.

Ethiopia

CITES App. II

**Euphorbia pseudocactus**

A. Berger

EUPHORBIAACEAE

Shrub to 1 m high and 2 m in diameter with numerous, spreading, 4- or 5-angled, green, segmented stems with V-shaped yellow lines; spines in pairs 1 cm long; rudimentary, caducous leaves; yellow, sessile inflorescence arising from new stems.

South Africa (Natal)

CITES App. II

**Euphorbia pugniformis** Boiss.

EUPHORBIAACEAE

Main stem arises from root forming subglobose body 5-8 cm thick crowned with cylindrical, tuberculate branches 5-10 cm high; lanceolate, caducous, green leaves 4-6 mm long; inflorescence with numerous cyathia and short peduncle arising from central part of body, less often from tips of branches.

South Africa (Cape Province)

CITES App. II

**Euphorbia pseudocactus**
var. *lyttoniana* Frick

EUPHORBIAACEAE

A spineless variety.

South Africa

CITES App. II

**Euphorbia pulvinata** Marloth

EUPHORBIAACEAE

Green, 7- to 10-angled branches 15-30 cm long arising from base to form dense clumps to 1.5 m in diameter, persistent red peduncles to 15 cm long, form spines, greying with age; rudimentary, caducous leaves; sessile inflorescence clustered at branch apices.

Lesotho, South Africa (Cape Province, Natal, Transvaal)

CITES App. II

**Euphorbia pteroneura**

A. Berger

EUPHORBIAACEAE

Shrub 40-70 cm long; 4- to 6-angled, spineless branches; green, caducous leaves 4 cm long; yellow-green inflorescence borne at branch apices.

Mexico

CITES App. II

**Euphorbia quadrispina**

S. Carter

EUPHORBIAACEAE

Dark green, cylindrical branches to 20 cm long with lighter green markings; dark spines 1-2 cm long; rudimentary, caducous leaves; pinkish-orange inflorescence borne along stems.

Kenya

CITES App. II

0391



Euphorbia ramiglans
N.E. Br.

EUPHORBIAEAE

Caudex with spineless, tuberculate branches 2-4 cm long; caducous leaves to 1 cm long; inflorescence borne on short peduncle at ends of branches. South Africa (Cape Province)

CITES App. II

0485



Euphorbia ramipressa Croizat

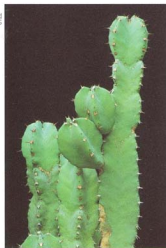
EUPHORBIAEAE

Shrub with many 2-angled stems; rudimentary, caducous leaves; grey spines to 6 mm long; greenish inflorescence borne from branch apices. Known only in cultivation.

Distribution unknown

CITES App. II

0329



Euphorbia resinifera
A. Berger

EUPHORBIAEAE

Shrub freely branching from base; 4-angled stems to 40 cm high; grey-green spines 5-8 mm long in pairs; yellow inflorescence borne on short peduncle from stem apices.

Euphorbia esquadrensis Hort.;
E. sam-salvador Hort.
Morocco

CITES App. II

0315



Euphorbia restricta R.A. Dyer

EUPHORBIAEAE

Stems 8 cm in diameter with numerous, 4- to 6-angled branches 10-15 cm long with honey margins; grey, black-tipped spines 1 cm long; yellow inflorescence borne near stem apices.

South Africa (Transvaal)

CITES App. II

1182



Euphorbia richardsiae L.C. Leach

EUPHORBIAEAE

Plant to 15 cm high; thin, 4- to 5-angled stems with rudimentary, caducous leaves; inflorescence borne on short peduncle from stem apices.

Malawi

CITES App. II

0373



Euphorbia samburuensis

P.R.O. Bally & S. Carter

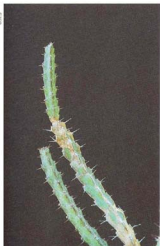
EUPHORBIAEAE

Grey-green stems 2 cm in diameter; red to pale grey spines 2-5 cm long; small leaves; yellow inflorescence borne on short peduncle near stem apices.

Kenya

CITES App. II

0675



Euphorbia saxorum
P.R.O. Bally & S. Carter

EUPHORBIAEAE

Branching stems; main stem 50–60 cm long and decumbent; secondary, 4-angled branches erect, 10–20 cm high and 8 mm in diameter; stems and branches green; reddish-brown spines to 1 cm with continuous sheaths; rudimentary, caducous leaves; red inflorescence borne near branch apices.

Kenya

CITES App. II

0778



Euphorbia schizacantha Pax

EUPHORBIAEAE

Mature plants to 1.5 m high and 5 cm thick, with numerous green branches 8–10 cm long and 5 cm thick with pale green, longitudinal stripes; grey spines to 3 cm long; rudimentary, caducous leaves; red inflorescence borne from upper part of branches.

Ethiopia, Somalia

CITES App. II

0834



Euphorbia schoenlandii
Pax

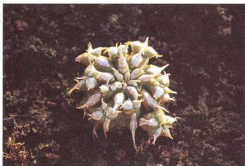
EUPHORBIAEAE

Solitary plant to 1 m high; stems 20 cm in diameter with spiny tubercles; pale brown spines to 5 cm long, becoming whitish with age; rudimentary, caducous leaves; inflorescence borne on peduncle 1–3 cm long.

South Africa (Cape Province)

CITES App. II

0915



Euphorbia sepulta P.R.O. Bally & S. Carter

EUPHORBIAEAE

Tuberous root with truncate, grey-green stems forming clumps to 30 cm in diameter; rudimentary, caducous leaves; grey spines 2–3 mm long; inflorescence borne from stem apices.

Somalia

CITES App. II

0978



Euphorbia sp. Lavranos & Newton 13176

EUPHORBIAEAE

There are 2 forms of this plant; 1 is compact and densely branched; the other (illustrated here) has longer branches; grey spines 2–3 cm long; rudimentary, caducous leaves; yellowish inflorescence on new growth.

Southern Africa

CITES App. II

0984



Euphorbia squarrosa Haw.

EUPHORBIAEAE

Thick, subterranean caudex with numerous prostrate or erect stems 4–15 cm long with pairs of thorns 1–5 cm long on margins; rudimentary, caducous leaves; inflorescence borne on short peduncle with numerous cyathia.

Euphorbia monaniflora Lem.

South Africa (Cape Province)

CITES App. II

0142

**Euphorbia stellaespina** Haw.

EUPHORBIAEAE

Massive clumps with several green stems (brown with age) to 50 cm high and 8 cm in diameter, branching from base; brown, star-like spines 1 cm or more long; rudimentary, caducous leaves; inflorescence borne from branch apices on short peduncle.

South Africa (Cape Province)

CITES App. II

0065

**Euphorbia stellata** Willd.

EUPHORBIAEAE

Dwarf plants with taproot to 15 cm long; leafless, tuberculate, prostrate stems to 15 cm long with spines at apices of tubercles; stems green or purplish-brown with white variegation on upper surface; inflorescence borne on short peduncle with small bracts.

South Africa (Cape Province)

CITES App. II

0078

**Euphorbia stenoclada** Baill.

EUPHORBIAEAE

Shrub to 1 m high with flat, leafless branches with brown spines; yellow inflorescence borne from branch apices.

Madagascar

CITES App. II

0071

**Euphorbia suzannae** Marloth

EUPHORBIAEAE

Spineless, green stems to 10 cm high with taproot; stems with several ribs each bearing prominent tubercles; small, caducous leaves borne at tips of tubercles; inflorescence at apex of main stem and branches.

South Africa (Cape Province)

CITES App. II

0082

**Euphorbia symmetrica** A.C. White, Dyer & Sloane

EUPHORBIAEAE

Similar to *E. obesa* but with long taproot.

South Africa (Cape Province)

CITES App. II

0083

**Euphorbia taruensis**

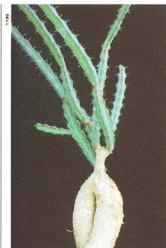
S. Carter

EUPHORBIAEAE

Rhizomatous stems to 20 cm high (to 45 cm in cultivation) branching from base; 4-angled green variegated branches; green, deltoid leaves 12 mm long; inconspicuous spines; almost sessile, yellow-brown inflorescence.

Kenya

CITES App. II

**Euphorbia tenuispinosa**

Gilli

EUPHORBACEAE

Tuberous root with branching stems to 1 m high; 4-angled, olive-green variegated branches with prominent teeth; rudimentary, caducous leaves; blackish spines 3–6 mm long; yellowish-brown inflorescence borne on short peduncle.

Kenya

CITES App. II

**Euphorbia trichadenia**

Pax

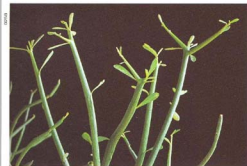
EUPHORBACEAE

Tuberous root with herbaceous stems to 10 cm long; spineless; green leaves

5–8 cm long; inflorescence on short peduncle arising from forks of stems.

South Africa (Cape Province, Transvaal)

CITES App. II

**Euphorbia tirucalli**

L.

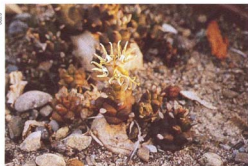
EUPHORBACEAE

Spineless shrub to 4 m tall or tree to 12 m tall; light green branches 7–15 mm thick; few small, glaucous green leaves present only at tips of growing branches; sessile inflorescence clustered at branch apices.

Euphorbia rhyssaloides Welw.; *E. viminalis* Mill.

Tropical East Africa, southern Africa

CITES App. II

**Euphorbia tridentata**

Lam.

EUPHORBACEAE

Short branches arising from thick stem to form mats; tuberous root; cylindrical, dull green, spineless branches with hexagonal tubercles; dark green, caducous leaves 4–6 mm long; inflorescence borne on short peduncle from branch apices.

South: Africa (Cape Province)

CITES App. II

**Euphorbia tortirama**

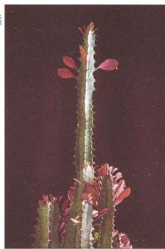
R.A. Dyer

EUPHORBACEAE

Body 30 cm high and 15 cm thick buried in soil with taproot; up to 50 branches 30 cm long arise from caudex; branches with tubercles bearing pairs of greyish spines to 2 cm long; rudimentary, caducous leaves; inflorescence on short peduncle at stem apices.

South Africa (Transvaal)

CITES App. II

**Euphorbia trigona**

Haw.

EUPHORBACEAE

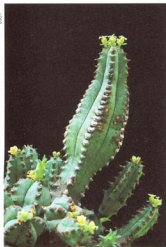
Shrub or small tree with 3- or 4-angled stems; green or pinkish-red leaves to 2 cm long; spines 3 mm long in pairs.

Euphorbia hermetiana Lem.

Namibia

CITES App. II

0801



Euphorbia tubiglans
Marloth

EUPHORBIAEAE

Caudex with taproot 8–10 cm long and 4–5 cm thick; 5-angled, bluish-green, spineless branches to 15 cm long; rudimentary, caducous leaves; inflorescence borne on short peduncle near branch apices. South Africa (Cape Province)

CITES App. II

0802



Euphorbia uhligiana Pax

EUPHORBIAEAE

Stems 4-angled, 30–100 cm long branching from base with prominent teeth; grey spines to 15 mm long with black tips; rudimentary, caducous leaves; yellowish inflorescence borne near stem apices. Kenya, Tanzania

CITES App. II

0876



Euphorbia valida N.E. Br.

EUPHORBIAEAE

Solitary, globose to elongated green stems to 13 cm in diameter and to 30 cm high with markings in lower part; spineless; persistent, yellowish-brown inflorescence 5–10 cm tall on branched, grey, persistent peduncle 10–20 cm long. South Africa (Cape Province)

CITES App. II

0877



Euphorbia viguieri Denis

EUPHORBIAEAE

Shrub to 1.5 m high; 6-angled stems with triangular leaf cushions bearing spine; green leaves 10 cm long and 3 cm wide at ends of branches; red inflorescence borne on 2–3 cm long peduncle arising from stem apices. Madagascar

CITES App. II

0878



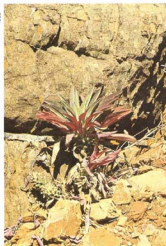
Euphorbia virosa Willd.

EUPHORBIAEAE

Large clumps to 2 m high; 5- to 8-angled, grey-green branches 5 cm in diameter; grey spines 1 cm long; rudimentary, caducous leaves; inflorescence borne on short peduncle at branch apices. Angola, Namibia, South Africa

CITES App. II

1005



Euphorbia wildii Leach

EUPHORBIAEAE

Cylindrical, spineless, tuberculate stems to 2 m high; bluish-green leaves (rod in dry, sunny conditions) 10–12 cm long near apex; green inflorescence borne on 10 cm long peduncle arising near stem apices. Plant photographed in habitat at Great Dyke, Zimbabwe.

CITES App. II



Euphorbia xylophylloides Brongn. ex Lem.

EUPHORBIACEAE

Branching stems to 1.5 m high; 2-angled, flat, pale green branches; spineless; radimentary, caducous leaves; inflorescence borne at branch apices.

Madagascar

CITES App. II



Faucaria longifolia L. Bol.

MESEMBRYANTHEMACEAE

Green leaves to 5 cm long, keeled towards apex and with several teeth; yellow flowers.

South Africa (Cape Province)

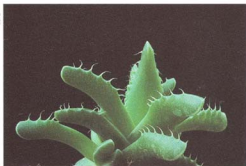


Faucaria bosscheana (A. Berger) Schwantes

MESEMBRYANTHEMACEAE

Glossy green, rhomboidal leaves 3 cm long in groups of 6-8; yellow flowers.

South Africa (Cape Province)



Faucaria peersii L. Bol.

MESEMBRYANTHEMACEAE

Rhomboidal, green leaves 2-4 cm long with whitish margins and 3-8 marginal teeth; yellow flowers.

South Africa (Cape Province)



Faucaria britteniae L. Bol.

MESEMBRYANTHEMACEAE

Grey-green leaves to 2.5 cm long with cartilaginous border and 3-4 or more teeth; yellow flowers.

South Africa (Cape Province)



Faucaria speciosa L. Bol.

MESEMBRYANTHEMACEAE

Green leaves 2-3 cm long and to 3 cm wide with dentate margins; large teeth 4 mm wide at base and tipped with bristles; yellow flowers.

South Africa (Cape Province)



Faucaria tigrina (Haw.) Schwantes

MESEMBRYANTHEACEAE

Grey-green leaves 3–5 cm long with rounded lower surface; leaf margins bear 8–10 teeth, tapering to become hair-fine; yellow flowers.

South Africa (Cape Province)



Faucaria tuberculosa (Rolfe) Schwantes

MESEMBRYANTHEACEAE

Dark green leaves to 2 cm long with several teeth-like tubercles on upper surface and several marginal teeth; yellow flowers.

South Africa (Cape Province)



Fenestraria aurantiaca N.E. Br.

MESEMBRYANTHEACEAE

Clavate, light green leaves 2–3 cm long with translucent tips, forming clumps to 10 cm in diameter; yellow flowers.

Namibia



Fenestraria rhopalophylla (Schltr. & Diels) N.E. Br.

MESEMBRYANTHEACEAE

Light green leaves to 3 cm long with transparent tips and forming clumps 10 cm and more in diameter; white flowers.

Namibia



Ficus petiolaris Kunth

MORACEAE

Small tree with yellow bark and long roots; pale green leaves 6 cm long and 4–5 cm wide with mid-vein often pink or scarlet; cultivated for its caudiciform appearance.

Mexico



Fockea edulis (Thunb.) K. Schum.

ASCLEPIADACEAE

Caudex to 30 cm in diameter; climbing or trailing stems 80 cm and more long; green, oblong leaves; whitish flowers. It may attain huge dimensions in habitat.

Southern Africa



Fockea edulis (Thunb.) K. Schum.

ASCLEPIADACEAE

A seedling showing the small caudex.



Fockea multiflora
K. Schum.

ASCLEPIADACEAE

A thick, succulent caudex with climbing stems. In habitat a large part of the caudex grows under ground and the succulent stems may climb for several metres. Plant photographed in habitat. Zimbabwe



Fockea multiflora K. Schum.

ASCLEPIADACEAE

A mature specimen that has fallen down because of the death of the 'companion' tree. Plant photographed in habitat.



Fockea sp.

ASCLEPIADACEAE

In recent years the interest in caudiciform plants has increased, and several unidentified specimens are being imported from the wild.

Leaves are usually green, and greenish to whitish flowers are borne in leaf axils.

Southern Africa



Fockea sp.

ASCLEPIADACEAE

An unidentified specimen, but probably *F. tugelensis*. Southern Africa



Fouquieria columnaris
(Kellogg) Kellogg

FOUQUIERIACEAE

A large, elongated caudex with numerous spiny stems to 15 m high; smaller branches are arranged in spirals; greyish leaves 2–4 cm long; yellow flowers.

Itria columnaris Kellogg
Mexico, USA (southwest California)

CITES App. II

0580



Fouquieria diguetii
I.M. Johnston.

FOUQUIERIACEAE

Shrub to 4 m tall; trunk
branching from base; leaves
4–5 cm long; red flowers. The
photograph shows a seedling.
Mexico, USA (southwest
California)

1176



Fouquieria diguetii I.M. Johnston.

FOUQUIERIACEAE

A large specimen with several branches from a well-developed caudex.

0607



Freeria indica Dalzell

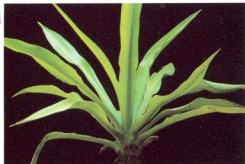
ASCLEPIADACEAE

Grey-green to green stems 5–10 cm long and 2 cm thick; persistent leaves 6 cm
long; brown flowers with yellow central spot.

India

CITES App. II

0644

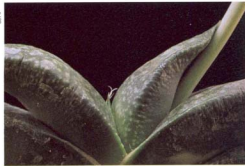


Furcraea selloa K. Koch

AGAVACEAE

Stemless or short-stemmed rosettes 60–110 cm in diameter; bright green leaves
to 1.2 m long and 10 cm wide; inflorescence 1.5 m tall; greenish-white flowers.
Guatemala, Mexico

0374



Gasteria armstrongii Schönland

LILIACEAE

Stemless, with opposite leaves to 5 cm long and 3 cm wide, covered with
white tubercles. Leaves are distichous in young plants, forming rosettes
6–10 cm in diameter in adult plants; red flowers.

South Africa (Cape Province)

0403



Gasteria biformis Poelln.

LILIACEAE

Stem becomes elongated to 14 cm; green, distichous leaves 20–25 cm long with
white spots; red flowers. Van Jaarsveld considers this to be a synonym of
G. bicolor Haw.

South Africa (Cape Province)

**Gasteria brevifolia** Haw.

LILIACEAE

Stemless plants with 10–14 dark green leaves to 15 cm long and 5 cm wide with spots arranged in transverse bands; leaves distichous in young plants, forming rosettes in adult plants; red flowers. Van Jaarsveld considers this a doubtful species.

South Africa (Cape Province)

**Gasteria ernesti-ruschi** Dinter

LILIACEAE

Stoloniferous plants forming dense clumps; up to 12 leaves 7 cm long and 3 cm wide with several white spots; inflorescence 50 cm tall; large, red flowers. Van Jaarsveld considers this to be a variety of *G. pilansii*.

Namibia/South Africa (Little Namaqualand)

**Gasteria fuscopunctata** Baker

LILIACEAE

Rosettes to 50 cm in diameter and 30–40 cm high; leaves 20–30 cm long and 7–8 cm wide with grooved upper surface and keel-shaped lower surface; red flowers.

Gasteria excelsa Baker

South Africa (Cape Province)

**Gasteria gracilis** Baker

LILIACEAE

Rosettes 15–20 cm in diameter; stemless, green leaves 5–10 cm long and 2–3 cm wide with white dots; red flowers. Van Jaarsveld considers this a doubtful species.

South Africa (Natal)

**Gasteria liliputana** Poelln.

LILIACEAE

Short-stemmed rosettes forming clumps; dark green, spotted leaves to 6 cm long; inflorescence 10 cm long; red flowers. Van Jaarsveld considers this to be a variety of *G. bicolor* Haw.

South Africa (Cape Province)

**Gasteria verrucosa** (Mill.) C.-J. Duval

LILIACEAE

Rosettes of 10 grey-green, distichous leaves 15 cm long and 2 cm wide with numerous white tubercles and tuberculate margins; red flowers. Van Jaarsveld considers this to be a variety of *G. arinata* C.-J. Duval.

South Africa (Cape Province)

**Gerrardanthus
macrorhizus** Harv.

CUCURBITACEAE

Spherical caudex to 50 cm in diameter; thin climbing branches; large, lanceolate leaves, dark green above, pale yellow, often purple, below; small, yellowish-brown flowers.

Kenya, Tanzania



Gibbaeum fissoides (Haw.) Nel

MESEMBRYANTHEMACEAE

Unequal sized, clump-forming, grey-green, sometimes red-tinged leaves about 3 cm long and 6-8 mm wide; red flowers.

Antegibbarum fissoides (Haw.) Schwantes
South Africa (Cape Province)



Gibbaeum cryptopodium L. Bol.

MESEMBRYANTHEMACEAE

Stemless rootstock, branched, with subglobose (elongate in cultivation), pale green bodies 1.5-3 cm high; pink flowers.

South Africa (Cape Province)

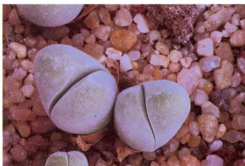


Gibbaeum geminum N.E. Br.

MESEMBRYANTHEMACEAE

Short branches with 2-3 pairs of grey-green leaves to 1.5 cm long and covered with microscopic hairs; red flowers.

South Africa (Cape Province)



Gibbaeum dispar N.E. Br.

MESEMBRYANTHEMACEAE

Clump-forming pairs of unequal sized leaves separated by deep fissure; grey-green leaves covered with fine hairs; reddish-violet flowers.

South Africa (Cape Province)

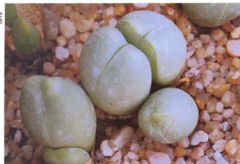


Gibbaeum gibbosum (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Woody rootstock, forming clumps 6-15 cm in diameter; unequal sized, green leaves 2-6 cm long; pale pink flowers.

Gibbaeum periside (Haw.) N.E. Br.
South Africa (Cape Province)

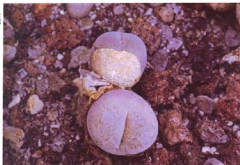


Gibbaeum heathii (N.E. Br.) L. Bol.

MESEMBRYANTHEMACEAE

Plant with long rootstock growing in clumps; whitish-grey to grey-green leaves forming more or less spherical body 2-6 cm in diameter; white or pink flowers.

South Africa (Cape Province)



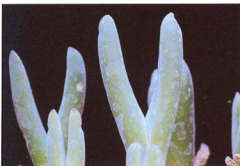
Gibbaeum nebrowni Tisch.

MESEMBRYANTHEMACEAE

Stemless, clump-forming plants of 2-8 whitish-green to grey-green bodies 1-1.5 cm high and 1-2 cm wide covered with microscopic hairs; pink flowers.

Imitaria muriei N.E. Br.

South Africa (Cape Province)



Gibbaeum pachypodium (Kensit) L. Bol.

MESEMBRYANTHEMACEAE

Plants forming clumps 20-40 cm in diameter; greenish or grey-green leaves 6-10 cm long and united at base; pink to pinkish-red flowers.

South Africa (Cape Province)



Gibbaeum petrense (N.E. Br.) Tisch.

MESEMBRYANTHEMACEAE

Stemless, clump-forming plant with fleshy roots; pale green leaves 1 cm long united for one-third of their length; red flowers.

South Africa (Cape Province)

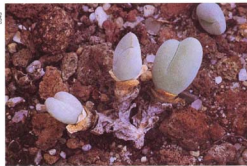


Gibbaeum pubescens (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Short, woody stems with remains of old leaves; whitish-grey leaves of unequal size, the longer 3 cm long, the smaller to 1 cm; purplish-red flowers.

South Africa (Cape Province)



Gibbaeum pubescens var. shandii (N.E. Br.) Glen

MESEMBRYANTHEMACEAE

Variety with hairy, yellow-green or greyish leaves.

Gibbaeum shandii (N.E. Br.) Schwantes

South Africa (Cape Province)

**Gibbaeum schwantesii** Tisch.

MESEMBRYANTHEMACEAE

Similar to *G. velutinum* but with longer, dark green to green-brown or grey leaves; white flowers.

South Africa (Cape Province)

**Gibbaeum velutinum** (L. Bol.) Schwantes

MESEMBRYANTHEMACEAE

Clump-forming, branched plant; divaricate leaves of unequal size, the longer 5–6 cm, the shorter 4 cm long and united at base; pink flowers.

South Africa (Cape Province)

**Glottiphyllum davisii**
L. Bol.

MESEMBRYANTHEMACEAE

Distichous, grey- to yellow-green leaves 3–4 cm long; yellow flowers.

South Africa (Cape Province)

**Glottiphyllum fragans** (Salm-Dyck) Schwantes

MESEMBRYANTHEMACEAE

Forked stems; densely arranged, whitish-green, more or less distichous leaves 6–8 cm long and 2–3 cm wide, 4 or more on each shoot; fragrant, yellow flowers.

South Africa (Cape Province)

**Glottiphyllum jordaanium** Schwantes

MESEMBRYANTHEMACEAE

Distichous leaves, diverse in shape and size; the end of the longer leaf has roundish-keveled lower surface; yellow flowers.

South Africa (Cape Province)

**Glottiphyllum latifolium** N.E. Br.

MESEMBRYANTHEMACEAE

Soft, fleshy, light green leaves of unequal size to 8 cm long with translucent dots; yellow flowers.

South Africa (Cape Province)



Glottiphyllum linguiforme (L.) N.E. Br.

MESEMBRYANTHEACEAE

Distichous, linguiform, upwardly curving, green leaves to 6 cm long; yellow flowers.

South Africa (Cape Province)



Glottiphyllum parvifolium L. Bol.

MESEMBRYANTHEACEAE

Semi-cylindrical, more or less erect, acute, green leaves 3-4 cm long; yellow flowers.

South Africa (Cape Province)



Glottiphyllum nelii Schwantes

MESEMBRYANTHEACEAE

Light green, distichous leaves, 12 cm long and 3-5 cm wide, more or less erect with rounded and hooked tips; yellow flowers.

South Africa (Cape Province)

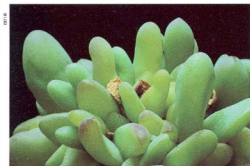


Glottiphyllum regium N.E. Br.

MESEMBRYANTHEACEAE

Erect shoots, each with 2 pairs of unequal sized, light green leaves, the longer 1 to 10 cm long; yellow flowers.

South Africa (Cape Province)



Glottiphyllum oligocarpum L. Bol.

MESEMBRYANTHEACEAE

Several creeping stems with unequal sized, greenish leaves, often red-tinged at tips, 4-5 cm long and arranged in rows; yellow flowers.

South Africa (Cape Province)

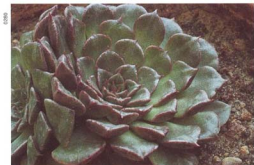


Glottiphyllum surrectum (Haw.) L. Bol.

MESEMBRYANTHEACEAE

Erect, semi-cylindrical, green leaves with triangular tips; yellow flowers.

South Africa (Cape Province)



Graptopetalum bellum (Moran & J. Meyrán) D.R. Hunt

CRASSULACEAE

Compact, almost flat rosettes; grey-green leaves 1–2 cm long; 5–15 vivid magenta-pink flowers over 2.5 cm in diameter.

Tactus bellus Moran & J. Meyrán

Mexico



Graptopetalum filiferum (S. Watson) Whitehead

CRASSULACEAE

Stemless rosettes to 6 cm in diameter with up to 100 light greyish-green leaves 3 cm long and 12 mm wide, ending in filiform brown bristle 12 mm long; inflorescence 8 cm high; whitish flowers with red spots.

Mexico



Graptopetalum macdougallii Alexander

CRASSULACEAE

Stemless; bluish leaves 3–4 cm long and 15 mm wide arranged in dense rosettes; several inflorescences with whitish-yellow flowers.

Mexico

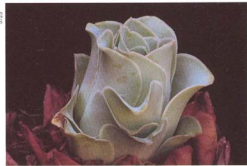


Graptopetalum paraguayense (N.E. Br.) E. Walther

CRASSULACEAE

Decumbent stems to 30 cm long; grey-green leaves 3–5 cm long and 1–2 cm wide; branched inflorescence; spotted red flowers.

Mexico



Greenovia aurea (Chr. P. Sm.) Webb & Berth.

CRASSULACEAE

Low shrub forming clumps of rosettes; blue-green, pruinose leaves 5–10 cm long with undulate margins; yellow flowers. During dry season rosettes close up, protecting the apical meristem.

Canary Islands



Greenovia diplocycla Webb

CRASSULACEAE

Similar to *G. aurea* but not offsetting.

Canary Islands



Greenovia dodrantalis (Willd.) Webb & Berth.

CRASSULACEAE

Procumbent plants forming clumps of small rosettes; roundish, blue-green leaves with waxy surface; bright yellow flowers.

Canary Islands

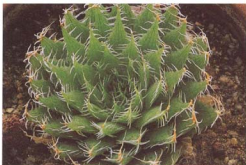


Haworthia angustifolia var. *liliputana* Uitewaal

LILIACEAE

Stemless rosettes 6 cm in diameter; 15–20 yellowish-green leaves to 5 cm long with small, marginal teeth; inflorescence 20 cm high; pinkish-white flowers with brownish-pink veins.

South Africa (Cape Province)



Haworthia arachnoidea (L.) C.-J. Duval

LILIACEAE

Stemless rosettes to 6 cm in diameter with several leaves 15 mm long with white marginal hairs; inflorescence 30 cm tall; white flowers with green veins.

Haworthia gigas Poelln.; *H. setata* Haw.

South Africa (Cape Province)



Haworthia aranea (A. Berger) M.B. Bayer

LILIACEAE

A variant of *H. liliputana* but with larger, recurved leaves.

South Africa (Cape Province)



Haworthia attenuata Haw.

LILIACEAE

Short-stemmed rosettes; 30–40 dark green leaves 8 cm long with white tubercles; inflorescence 40 cm tall; white flowers with green veins.

South Africa (Cape Province)



Haworthia attenuata variegated form

LILIACEAE

A cultivated form with variegated leaves.

South Africa (Cape Province)



Haworthia batesiana Uitewaal

LILIACEAE

Dense clumps of small rosettes 4–5 cm in diameter; light green leaves 2–3 cm long with reticulate pattern; inflorescence 30 cm tall; white flowers with brownish-green veins.

South Africa (Cape Province)



Haworthia bolusii Baker

LILIACEAE

Stemless rosettes 8–15 cm in diameter; 30–50 incurved, pale green leaves to 8 cm long with numerous bristles; inflorescence 50 cm tall; white flowers with green veins.

South Africa (Cape Province)



Haworthia chloracantha Haw.

LILIACEAE

Stemless rosettes 3–8 cm in diameter; 10–40 yellow-green leaves 6–8 cm long; inflorescence 20 cm tall; white flowers with green veins.

South Africa (Cape Province)



Haworthia coarctata Haw.

LILIACEAE

Elongated stem 20 cm high; rosettes of dark green leaves 4–6 cm long with white dots; inflorescence 30 cm tall; white flowers with green veins.

Haworthia chalcidii Marloth & A. Berger; *H. filix* Poelln.; *H. julia* C.G. Sm.; *H. muscullina* C.G. Sm.

South Africa (Cape Province)



Haworthia comptoniana C.G. Sm.

LILIACEAE

Stemless rosettes 5–9 cm in diameter; dark green, triangular leaves 4–5 cm long, 2 cm wide at base with spots and lines; inflorescence 20 cm tall; white flowers with greenish-brown veins.

South Africa (Cape Province)



Haworthia cooperi Baker

LILIACEAE

Caespitose rosettes 4 cm in diameter; pale green leaves 3 cm long with 6 mm long terminal bristle; inflorescence 40 cm tall; pinkish-white flowers with green veins.

South Africa (Cape Province)



Haworthia herbacea (Mill.) Stearn

LILIACEAE

Stemless, caespitose rosettes 5 cm in diameter; numerous green leaves 2 cm long and 8 mm wide with darker lines and transparent marginal teeth; inflorescence 30 cm tall; white flowers with green veins.

Haworthia aegnota Poelln.; *H. latifolia* Uitewaal; *H. paysoni* Poelln.
South Africa (Cape Province)



Haworthia koelmaniorum Oberm. & D.S. Hardy

LILIACEAE

Solitary rosettes; brown, tuberculate leaves 7 cm long and 2 cm wide at base; inflorescence 35 cm tall; flowers greenish-white with grey-green veins. Leaves may be recurved in cultivation.

South Africa (Transvaal)



Haworthia limifolia Marloth

LILIACEAE

Offsetting, caespitose rosettes 8–10 cm in diameter; up to 20 dark green leaves 5–10 cm long with several tubercles arranged in transverse rows; inflorescence 35 cm tall; white flowers with grey-green veins. Several varieties and forms have been described, but only *H. limifolia* var. *piguntata* and var. *nbombensis* are recognized by M.B. Bayer (1982).

South Africa (Transvaal)



Haworthia magnifica var. *notabilis* (Poelln.) M.B. Bayer

LILIACEAE

Stemless rosettes; brownish-green leaves 3–5 cm long with whitish marginal teeth. This variety has erect leaves.

South Africa (Cape Province)



Haworthia maughanii Poelln.

LILIACEAE

Plant 4–8 cm in diameter; greyish-green leaves 2–3 cm long and 1.5 cm wide at base; inflorescence 20 cm tall; white flowers with brown veins.

South Africa (Cape Province)

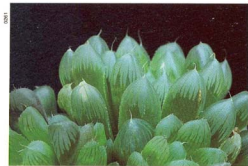


Haworthia mirabilis subsp. *mundula* (Smith) M.B. Bayer

LILIACEAE

Rosette 5 cm in diameter of 15–20 light green leaves 3–5 cm long with pale yellow markings and small marginal teeth; inflorescence 50 cm tall; white flowers with greenish veins. A prolific variety.

South Africa (Cape Province)



Haworthia obtusa var. pilifera (Baker) Uitewaal

LILIACEAE

Rosettes 4 cm in diameter; green, almost translucent leaves 2-3 cm long and 13 mm wide, convex on both sides, with darker lines and transparent teeth ending in fine bristle; inflorescence 35 cm tall; white flowers with green veins. South Africa (Cape Province)



Haworthia papillosa Haw.

LILIACEAE

Stemless rosettes 10 cm in diameter; few, erect, dark green or reddish leaves to 8 cm long, and 8 mm wide with white tubercles; inflorescence 40 cm tall; yellow flowers with green veins. M.B. Bayer regards this species as a synonym of *H. pumila*. South Africa (Cape Province)



Haworthia parksiana Poelln.

LILIACEAE

Rosettes 2-3 cm in diameter; numerous dark green, recurving leaves 1-2 cm long with thin tubercles; inflorescence 25 cm tall; white flowers with green veins. South Africa (Cape Province)



Haworthia pumila (L.) C.-J. Duval

LILIACEAE

Solitary, stemless rosette to 20 cm in diameter and 15-25 cm tall; up to 50 erect, dark green leaves covered with white tubercles; inflorescence 40 cm tall; yellow flowers with green veins. Probably the largest species within the genus.

Haworthia margaritifera (L.) Haw.

South Africa (Cape Province)



Haworthia pygmaea Poelln.

LILIACEAE

Solitary rosette 5 cm in diameter; 10 truncate, green leaves 3 cm long with longitudinal, whitish lines and translucent area; inflorescence 40 cm tall; greyish-white flowers with broad, brownish-green veins. South Africa (Cape Province)



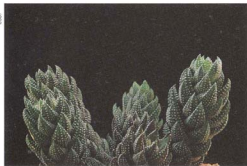
Haworthia radula (Jacq.) Haw.

LILIACEAE

Caespitose, stemless rosettes; green leaves 8 cm long and 2 cm wide at base with white spots; inflorescence 30 cm tall; white flowers with reddish-brown veins.

South Africa (Cape Province)

0067



Haworthia reinwardtii (Salm-Dyck) Haw.

LILIACEAE

Elongated rosettes to 15 cm high and 5 cm in diameter; numerous green leaves 1–2 cm long arranged in spirals and with whitish tubercles; inflorescence 40 cm tall; pinkish-white flowers with greyish-brown veins. A variable species.

South Africa (Cape Province)

1095



Haworthia sordida Haw.

LILIACEAE

Stemless rosettes with few, rigid, finely tuberculate, grey-green leaves to 10 cm long; inflorescence 45 cm tall; greyish-white flowers with brownish-green veins.

South Africa (Cape Province)

0067



Haworthia starkiana Poelln.

LILIACEAE

Stemless rosettes to 15 cm in diameter; up to 30 green leaves 7 cm long and 2 cm wide; inflorescence 35 cm tall; white flowers with brownish veins.

South Africa (Cape Province)

0066



Haworthia tessellata Haw.

LILIACEAE

Stemless rosettes 10 cm in diameter; 10–15 dark green, translucent, recurved leaves 3–5 cm long and 2–3 cm wide at base arranged in spirals and with longitudinal lines; inflorescence 50 cm tall; greenish-white flowers with green veins. M.B. Bayer (1982) considers this to be a variety of *H. tenosa* Haw.

Namibia, South Africa (Cape Province)

3110



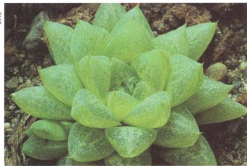
Haworthia truncata Schönland

LILIACEAE

Erect, truncate, green leaves 2–3 cm long with translucent window; inflorescence 25 cm tall; white flowers with green veins.

South Africa (Cape Province)

0413



Haworthia turgida Haw.

LILIACEAE

Rosettes 5–8 cm in diameter; pale green leaves 1–3 cm long with light green longitudinal lines; inflorescence 70 cm tall; white flowers with green veins.

South Africa (Cape Province)

3064

**Haworthia viscosa (L.)**

Haw.

LILLIACEAE

Elongated rosettes to 15 cm high; long, broadly triangular, brownish-green to olive-green leaves 3–4 cm long; white flowers with grey to green veins.

South Africa (Cape Province)

3065

**Hereroa dyeri L. Bol.**

MESEMBRYANTHEMACEAE

Plants to 10 cm in diameter with tuberous root; branches covered with remains of old leaves; leaves 5–8 cm long bilobed at apex; yellow flowers.

South Africa (Cape Province)

1232

**Hechtia epigyna Harms**

BROMELIACEAE

Densely scaly, green to red-brown leaves 40 cm long with spines 3 mm long; cylindrical inflorescence; white flowers.

Mexico

3066

**Hereroa incurva L. Bol.**

MESEMBRYANTHEMACEAE

Plant 3–5 cm high; grey-green, incurved leaves 3–4 cm long; yellow flowers.

South Africa (Cape Province)

0373

**Hereroa carinans (Haw.) L. Bol.**

MESEMBRYANTHEMACEAE

Plant 3–5 cm high; short branches and stems; unequal sized, grey-green leaves 2–4 cm long; yellow flowers.

South Africa (Cape Province)

3067

**Hereroa muirii L. Bol.**

MESEMBRYANTHEMACEAE

Plants 6–10 cm high; branches with 4–6 semi-cylindrical leaves 4–7 cm long; yellow flowers.

South Africa (Cape Province)



Hereroa puttkameriana (A. Berger & Dinter) Dinter

MESEMBRYANTHEACEAE

Grey-green leaves 6–8 cm long, with dark dots and curved outwards towards apex; yellow flowers.

Namibia



Hoodia bainii R.A. Dyer

ASCLEPIADACEAE

Bush with branches to 20 cm high and 3 cm thick, with 15 tuberculate angles; tubercles with pale brown spine; dull yellow flowers 6–7 cm in diameter.

Namibia, South Africa (Cape Province)

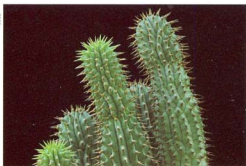


Hoodia currori (Hook.) Decne.

ASCLEPIADACEAE

Stems with 15–25 angles, 30–60 cm high and 3–4 cm in diameter and branching from base to form large clumps; green or pink flowers. Plant photographed in habitat.

Angola, Namibia



Hoodia husabensis Nel

ASCLEPIADACEAE

Tuberculate stems with 16–20 angles, to 70 cm high and 4 cm in diameter; pinkish-violet to grey-violet flowers.

Namibia



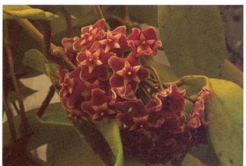
Hoya bella Hook.

ASCLEPIADACEAE

Shrubby species with straight stems to 1 m long and short branches; thick, dark green leaves to 5 cm long; white flowers with purple centre borne in umbels.

Hoya parviflora Hort.

India, Malaysia



Hoya imperialis Lindl.

ASCLEPIADACEAE

Trailing shrubby stems over 6 m long; green, elliptical leaves 15–20 cm long, recurved at tip and rounded at base; dark purple flowers 5–7 mm in diameter borne in pendent umbels.

Eastern India

1171

**Hoya kerrii** Craib

ASCLEPIADACEAE

Climbing stems to 3 m long; dark green leaves 10–15 cm long; up to 20 creamy-white flowers with hairy interiors in each umbel.

Laos, Thailand

1148

**Hoya longifolia** Wall.

ASCLEPIADACEAE

Climbing stems 1–2 m long; dark green, fleshy leaves 10–15 cm long; 15–20 white to pink flowers with rose-pink or red centres, 1–2 cm in diameter, in each umbel.

Himalayas, Malaysia, Thailand

1089

**Huernia aspera** N.E. Br.

ASCLEPIADACEAE

Light green, 4- to 5-angled stems 10–15 cm high; teeth 4–8 mm long; red-brown flowers.

Tanzania

963

**Huernia boleana** M.G. Gilbert

ASCLEPIADACEAE

Tuberculate, 4- to 5-angled stems, grey-green to green mottled with purple, 6–10 cm long and branching from base; cream flowers with red spots.

Ethiopia

8011

**Huernia keniensis** R.E. Fr.

ASCLEPIADACEAE

Light green, 4- to 5-angled stems 5–10 cm high; white flowers with dark purple interiors.

Kenya

8314

**Huernia leachii** Lavranos

ASCLEPIADACEAE

Stem to 1.5 m long and 5–9 mm thick; caducous green leaves 2 mm long; light brownish-green or yellowish flowers with concentric purple lines.

Malawi, Mozambique



Huernia levyi Oberm.

ASCLEPIADACEAE

Green to pinkish-brown, 4- to 5-angled stems to 7 cm high, branching from base; red-brown flowers.

Zambia, Zimbabwe



Huernia macrocarpa var. *schweinfurthii* A.C. White & B. Sloane

ASCLEPIADACEAE

Light green, 4- to 5-angled stems 7–12 cm high with teeth to 1 cm long; red-brown flowers.

Saudi Arabia, Yemen



Huernia pendula E.A. Bruce

ASCLEPIADACEAE

Cylindrical to 4-angled, pendulous stems to 1 m long and branching at right angles to main trunk; light green to pinkish tubercles in pairs; dark brown flowers.

South Africa (Cape Province)



Huernia pillansii N.E. Br.

ASCLEPIADACEAE

Erect stems 3–4 cm high and densely covered with recurved bristles; green tubercles 5 mm long; 1–3 pale yellow flowers with small, reddish spots borne at base of young stems.

South Africa (Cape Province)



Huernia recondita

M.G. Gilbert

ASCLEPIADACEAE

Prostrate, 4- to 6-angled stems 20–50 cm long; flowers with red and yellow bands.

Ethiopia



Huernia schneideriana

A. Berger

ASCLEPIADACEAE

Numerous, slender, 5- to 7-angled, light green stems 10–20 cm long; brown flowers, velvety black inside. Possibly a hybrid of *H. terakari* Stent x *H. aspera* N.E. Br.

Malawi, Mozambique



Huernia verekeri Stent

ASCLEPIADACEAE

Green to reddish, 5- to 7-angled stems 4-8 cm high; teeth to 8 mm long; reddish flowers.

South Africa (Transvaal), Swaziland

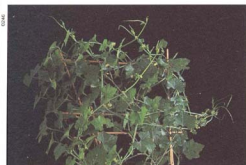


Huernia zebrina N.E. Br.

ASCLEPIADACEAE

Stems 4- to 5-angled, 6-8 cm high; teeth 4-5 mm long; yellowish flowers with numerous transverse, purple-brown bands.

Botswana, Namibia, South Africa (Transvaal)



Ibervillea sonorae (S. Watson) Greene

CUCURBITACEAE

Large, more or less globose caudex with several climbing branches over 3 m long; caducous green leaves; green-yellow flowers.

Mexico



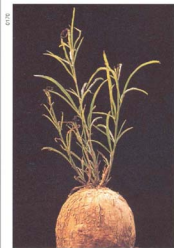
Ipomoea bolusiana

Schinz

CONVOLVULACEAE

Caudex to 20 cm in diameter; thin stems with simple or lobed green leaves; purple flowers borne near base of stem.

Madagascar



Ipomoea holubii Baker

CONVOLVULACEAE

Caudex to 20 cm in diameter with several thin stems and filiform, green leaves; deep pink to purple flowers.

Botswana, Namibia



Ipomoea marmorata

Britten & Rendle

CONVOLVULACEAE

Tuberous root; stems 20-30 cm high; large, silver-green, palmate leaves; red to pink flowers.

Central Africa

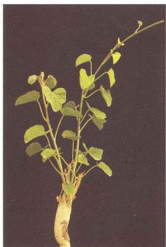
0113

***Ipomoea* sp.**

CONVOLVULACEAE

The genus *Ipomoea* includes species of interest to caudiciform enthusiasts, and several fine specimens have been imported from the wild. Identification is difficult, and unidentified specimens are shown here and in the following two photographs. Central Africa

0114

***Ipomoea* sp.**

CONVOLVULACEAE

An unidentified specimen. Central Africa

1145

***Ipomoea* sp.**

CONVOLVULACEAE

An unidentified specimen. Central Africa

0130

***Jatropha berlandieri* Torr.**

EUPHORBIACEAE

Tuberous base from which stems to 50 cm long arise; green leaves; red flowers. Mexico, USA (Texas)

0685

***Jatropha gossypifolia* L.**

EUPHORBIACEAE

Shrub or small tree 2-4 m tall; 3-lobed leaves with red veins and margins covered with short hairs; younger leaves are deep bronze-red; red flowers. Tropical America

0719

***Jatropha multifida* L.**

EUPHORBIACEAE

Tree to 7 m high; green leaves with 10-15 finely cut lobes, white below; inflorescence with scarlet flowers. Young plants are cultivated for their caudiciform aspect. Central America

**Jatropha podagrica** Hook.

EUPHORBIACEAE

Dichotomously branching shrub with caudex 50 cm high; 3-lobed, green leaves, glaucous white below, about 18 cm long and wide, borne at branch apices; dichotomously branched inflorescence; scarlet flowers.

Guatemala, Panama

**Jatropha urens** L.

EUPHORBIACEAE

Succulent stem 30–50 cm high covered with long hairs; large green leaves with paler veins also covered with hairs; white flowers.

Crotosclus urens (L.) Arthur

West Indies

**Jatropha variabilis**
Radcl.-Sm.

EUPHORBIACEAE

Tuberous root; stems to 40 cm high; green, hairy leaves 5–10 cm long and variable in shape; red flowers.

Somalia

**Jordaniella clavifolia**
(L. Bol.) H.E.K. Hartmann

MESEMBRYANTHEACEAE

Low shrubby stems forming mats; dull grey-green leaves to 22 mm long and acuminate at apex; yellow flowers.

Cephalophyllum clavifolium
(L. Bol.) L. Bol.

South Africa (Cape Province)

**Jovibarba allionii** (Jord. & Fourr.) Webb

CRASSULACEAE

Rosettes 2–3 cm in diameter; hairy, yellowish-green leaves with reddish flush on apices; flower stems 10–15 cm high with greenish-white flowers. Plant photographed in habitat.

France, Italy (southern Alps)

**Jovibarba allionii** (Jord. & Fourr.) Webb

CRASSULACEAE

A close-up of the flowers.



Jovibarba arenaria (C. Koch) Opiz

CRASSULACEAE

Globose rosettes to 2 cm in diameter; bright green leaves flushed with red at apex; offsets on horizontal stems close to parent rosette; pale yellow flowers. Austria (Carinthia, southern Tyrol, Styria), Italy (Carnia)



Jovibarba heuffelii (Schott) Á. & D. Löve

CRASSULACEAE

Rosettes 5–8 cm in diameter; green, grey, brown or red leaves; some forms may have 3 different colours in the same rosette; yellowish-white flowers. This species is not stoloniferous. Europe (Balkans, eastern Carpathians)



Jovibarba hirta (L.) Opiz

CRASSULACEAE

Rosettes 3–7 cm in diameter with leaves glabrous on both sides and ciliate on edges; several small offsets arise from axils of middle leaves of parent rosette. Austria/Italy (eastera Alps), Carpathians, Hungary, Balkans (northwest)



Jovibarba sobolifera (Sims) Opiz

CRASSULACEAE

Rosettes 2–3 cm in diameter; pointed, bright green leaves with red lower surface and ciliate margins; yellow-green flowers. Central and eastern Europe to eastern Carpathians



Juttadinteria albata L. Bol.

MESEMBRYANTHEMACEAE

Erect stems; grey-green leaves 2–3 cm long and triangular towards apex with transparent dots and reddish edges; white flowers. South Africa (Cape Province)



Juttadinteria deserticola (Marloth) Schwantes

MESEMBRYANTHEMACEAE

Erect, densely leaved stems; roundish, grey-green leaves 1.5–2 cm long, with transparent dots; white flowers. Namibia

0003



Juttadinteria insolita (L. Bol.) L. Bol.

MESEMBRYANTHEACEAE

Stems 8–10 cm long with 4–6 leaves; bluish-green, papillose leaves 2–3 cm long; white flowers.

South Africa (Cape Province)

0006



Juttadinteria suavissima (Dinter) Schwantes

MESEMBRYANTHEACEAE

Stems to 20 cm long; 3-angled, grey-green leaves with recurved tips, 2–4 cm long and with indistinct dots; fragrant white flowers.

Namibia

0004



Kalanchoe beauverdii
Raym.-Hamet

CRASSULACEAE

Thin, climbing stems to 6 m long; leaves 5–10 cm long and 3–20 mm wide; plantlets formed near leaf apex; black-violet flowers.

Madagascar

0106



Kalanchoe beharensis Drake

CRASSULACEAE

Stem to 3 m high; green leaves to 20 cm long and 10 cm wide with dense covering of fine hairs on both surfaces; inflorescence 60 cm tall; green-yellow flowers.

Madagascar

0204



Kalanchoe cv

CRASSULACEAE

An interesting cultivar about 20 cm tall; grey-green leaves with reddish margins and horny lower surface. Probably related to *K. beharensis*.

0007



Kalanchoe fedtschenkoi Raym.-Hamet & E.P. Perrier

CRASSULACEAE

Bush with several branches 30–40 cm long; bluish-green leaves 1–2 cm long and 2 cm wide with brown margins; inflorescence 50 cm tall; brownish-pink flowers.

Madagascar



Kalanchoe gastonis-bonnieri Raym.-Hamet & E.P. Perrier

CRASSULACEAE

Shrub to 60 cm high; pruinose leaves 16 cm long and 4 cm wide; inflorescence 30 cm high; pale green flowers.

Madagascar



Kalanchoe integra Kuntze

CRASSULACEAE

Erect, branching stems 1-2 m high; green leaves 5-8 cm long; yellowish or pale orange flowers.

Kalanchoe laciniata (L.) DC.

Eastern Africa, India, Thailand



Kalanchoe x kewensis Dyer

CRASSULACEAE

Decumbent stem; glaucous green leaves to 30 cm long and 5-10 mm thick; whitish flowers. A hybrid of *K. flanaganii* Stapf x *K. tenuis* C.H. Wright ex Hook.f.

Garden origin



Kalanchoe mangini Raym.-Hamet & E.P. Perrier

CRASSULACEAE

Several woody branches to 30 cm long; succulent leaves with red margins; red flowers.

Madagascar



Kalanchoe marmorata Baker

CRASSULACEAE

Stems branching from base; green leaves 10 cm long with large brown spots; inflorescence 8 cm long; white flowers.

Kalanchoe grandiflora A. Rich.

Eritrea



Kalanchoe millottii Raym.-Hamet & E.P. Perrier

CRASSULACEAE

Branched, hairy shrub 30 cm high; leaves 3-6 cm long and 2-4 cm wide covered with hairs; pink or yellow flowers.

Madagascar

**Kalanchoe orgyalis** Baker

CRASSULACEAE

Hairy shrub 50 cm high; bronze-coloured, hairy leaves 5–7 cm long; yellow flowers.

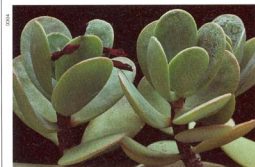
Madagascar

**Kalanchoe rhombopilosa** Mannoni & Boiteau

CRASSULACEAE

Small, little-branched shrub; convex, grey-green leaves 2 cm long and wide narrowing towards stem, with red spots; green-yellow flowers with red lines.

Madagascar

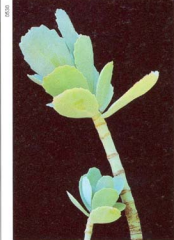
**Kalanchoe scapigera** Welw.

CRASSULACEAE

Shrub to 40 cm high; pruinose leaves 4–5 cm long; red flowers.

Kalanchoe farinacea Bal.f.

Angola, South Yemen (Socotra)

**Kalanchoe somaliensis** Hook.f.

CRASSULACEAE

Shrub 20–30 cm high, branching; from base; pruinose leaves 8–13 cm long with irregularly dentate margins; white flowers.

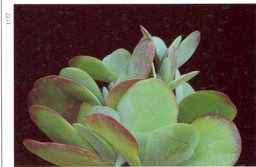
Ethiopia, Kenya, Somalia, Tanzania, Uganda

**Kalanchoe synsepala** Baker

CRASSULACEAE

Erect stems 20–30 cm high; reddish leaves to 15 cm long with dentate margins; yellow-green flowers.

Madagascar

**Kalanchoe thyrsifolia** Harv.

CRASSULACEAE

Densely leafy stems to 1 m high; pruinose leaves 10–15 cm long and 4–6 cm wide with reddish margins; yellow flowers.

South Africa (Cape Province), Transvaal

0117



Kalanchoe tomentosa
Baker

CRASSULACEAE

Densely leafy shrub to 50 cm high branching from base; leaves and stems velvety; leaves 7 cm long and 2 cm wide with blotches on margins and at tips; yellow-green flowers.

Madagascar

0137



Kalanchoe tubiflora (Harv.) Raym.-Hamet

CRASSULACEAE

Erect stems to 1 m high; subcylindrical leaves grooved on upper surface and with several reddish-brown spots and adventitious buds near apex; red to violet flowers.

Brayophyllum verticillatum Scott-Elliot
Madagascar

0144



Kalanchoe zimbabwensis Rendle

CRASSULACEAE

Erect stems 40–50 cm high; hairy leaves 5 cm long and 4 cm wide with sinuate margins and rounded at apex; yellow flowers.

Zimbabwe

0165



Kedrostis africana (L.) Cogn.

CUCURBITACEAE

Caudiciform base; climbing stems to 6 m long; palmate leaves 10 cm in diameter; small, white to yellow-green flowers.

Central and southern Africa

0177



Kedrostis hirtella (Naudin) Cogn.

CUCURBITACEAE

Thick caudex with climbing branches; sagittate, green leaves 5–10 cm long; greenish-yellow flowers.

Central Africa

0189

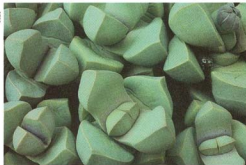


Lampranthus primiverus (L. Bol.) L. Bol.

MESEMBRYANTHEACEAE

Small plant 15–20 cm high; blue-grey leaves 2–3 cm long and 9 mm thick with reddish edges and acuminate apex; pink flowers.

South Africa (Cape Province)



Lapidaria margarethae (Schwantes) Dinter

MESEMBRYANTHEACEAE

Short stems growing in clumps of up to 8 green to whitish or reddish-white leaves together; leaves 1.5 cm long and 1 cm wide; yellow flowers.

Argyrodernis margarethae Schwantes

Namibia



Leiboldtia compacta L. Bol.

MESEMBRYANTHEACEAE

Small shrub 7–10 cm high; 2- to 4-leaved branches offsetting from axils; bluish-green to yellowish-green leaves 1–2 cm long; pink flowers.

South Africa (Cape Province)



Leiboldtia pauciflora
L. Bol.

MESEMBRYANTHEACEAE

Shrub to 35 cm high; spreading branches; leaves 2–3 cm long and 3–4 mm wide and thick; purplish flowers.

South Africa (Cape Province)



Leiboldtia plana (L. Bol.) L. Bol.

MESEMBRYANTHEACEAE

Shrub with branches 10–15 cm long and 2 mm thick; grey-green, roundish leaves 12 mm long; pink flowers.

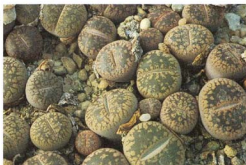
South Africa (Cape Province)



Lewisia sp.

PORTULACACEAE

Fleshy rootstock, often caudex-like; often green leaves in rosettes; pinkish to purple flowers. This is one of several hybrids of *L. cotyledon* B.L. Rob. North America



Lithops aucampiae L. Bol.

MESEMBRYANTHEACEAE

Body 2–3 cm in diameter; unequal sized leaves variable brown in colour (sandy to ochre) with green to brown dots; yellow flowers.

South Africa (Cape Province)



Lithops aucampiae 'Kuruman'

MESEMBRYANTHEMACEAE

A cultivar with larger opaque area in the centre.

South Africa (Cape Province)



Lithops aucampiae var. euniceae (de Boer) D.T. Cole

MESEMBRYANTHEMACEAE

A variety with different shades of yellow, pink or grey.

South Africa (Cape Province)

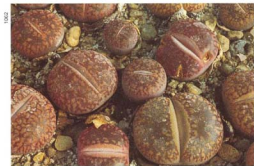


Lithops aucampiae var. fluminalis D.T. Cole

MESEMBRYANTHEMACEAE

A variety with pale grey margins.

South Africa (Cape Province)



Lithops aucampiae var. koelemanii (de Boer) D.T. Cole

MESEMBRYANTHEMACEAE

A rust to grey-brown variety with dark lines.

South Africa (Cape Province)



Lithops bromfieldii L. Bol.

MESEMBRYANTHEMACEAE

Body 1.5–3 cm in diameter; unequal sized, grey to brown leaves with grey-green margins; yellow flowers. A variable species.

South Africa (Cape Province)



Lithops bromfieldii var. insularis (L. Bol.) B. Fearn

MESEMBRYANTHEMACEAE

This variety differs from the type species in having concave upper surface with larger dots.

Lithops insularis L. Bol.

South Africa (Cape Province)



Lithops bromfieldii var. insularis 'Sulphurea'

MESEMBRYANTHEMACEAE
A yellowish-green cultivar.



Lithops bromfieldii var. mennellii (L. Bol.) Fearn

MESEMBRYANTHEMACEAE
A variety with yellow-brown to pink bodies and brown fissures.
Lithops mennellii L. Bol.
South Africa (Cape Province)



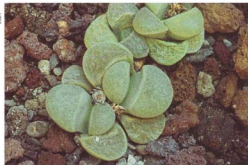
Lithops comptonii L. Bol.

MESEMBRYANTHEMACEAE
Body 2-3 cm in diameter; unequal sized, blue-green to pinkish leaves with opaque margins; yellow flowers. A variable species.
South Africa (Cape Province)



Lithops dinteri Schwantes

MESEMBRYANTHEMACEAE
Body 2-3 cm in diameter; unequal sized, green to brown leaves with blood-red dots in the windows; yellow flowers.
Namibia



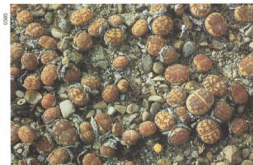
Lithops divergens L. Bol.

MESEMBRYANTHEMACEAE
Body 1.5-2 cm in diameter; divergent, grey leaves with deep fissure and small dots; yellow flowers.
South Africa (Cape Province)



Lithops divergens var. amethystina de Boer

MESEMBRYANTHEMACEAE
This variety is distinguished by its broader and deeper fissure and darker colour.
South Africa (Cape Province)

**Lithops dorotheae** Nel

MESEMBRYANTHEMACEAE

Dark beige body 2-3 cm in diameter; translucent, grey-green windows with red dots and lines; yellow flowers.

South Africa (Cape Province)

**Lithops fulviceps** (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Grey, rose-tinged body 2.5-3 cm in diameter and covered with grey-green spots; shallow fissure; yellow flowers.

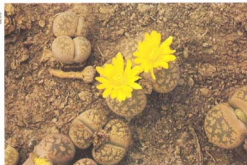
Namibia

**Lithops fulviceps var. lactinea** D.T. Cole

MESEMBRYANTHEMACEAE

Lilac-lined upper surface; many blue-green spots and blood-red rugae.

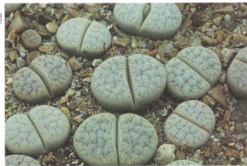
Namibia

**Lithops gesinae** de Boer

MESEMBRYANTHEMACEAE

Unequal sized, opaque leaves with pink or yellow spots; greyish-green windows; yellow flowers.

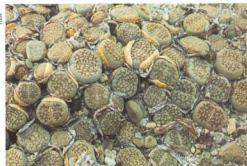
Namibia

**Lithops gracilidelineata** Dinter

MESEMBRYANTHEMACEAE

Body 1.5-3 cm in diameter; deep fissure; pale grey leaves almost equal in size with pattern of dark lines; yellow flowers.

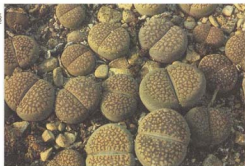
Namibia

**Lithops hallii** de Boer

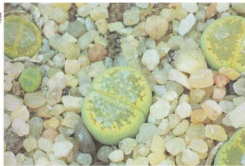
MESEMBRYANTHEMACEAE

Body 1.5-2 cm in diameter; deep fissure; unequal sized, grey to pale brown leaves with translucent windows and red dots; white flowers.

South Africa (Cape Province)



Lithops hallii 'Brown'
MESEMBRYANTHEMACEAE
A cultivar with brown leaves.



Lithops hallii 'Green Soapstone'
MESEMBRYANTHEMACEAE
A cultivar with greenish-yellow leaves.



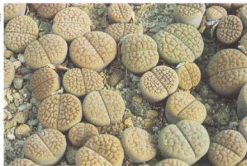
Lithops hallii 'White'
MESEMBRYANTHEMACEAE
A cultivar with whitish-grey leaves.



Lithops herrei L. Bol.
MESEMBRYANTHEMACEAE
Body 2-3 cm in diameter; deep fissure; divergent, grey to pale grey leaves with dark lines; yellow flowers.
Lithops translucent L. Bol.
Namibia, South Africa (Cape Province)



Lithops hookeri (A. Berger) Schawntes
MESEMBRYANTHEMACEAE
Body 2-2.5 cm in diameter; conjunct, pale brown leaves with brown lines and markings forming vermiculate pattern; flowers yellow.
South Africa (Cape Province)



Lithops hookeri 'Vermiculate'
MESEMBRYANTHEMACEAE
A cultivar similar to var. *dabneri*.



Lithops hookeri var. dabneri (L. Bol.) D.T. Cole

MESEMBRYANTHEMACEAE

Grey variety with close vermiculate pattern.

Lithops dabneri L. Bol.

South Africa (Cape Province)



Lithops hookeri var. elephina (D.T. Cole) D.T. Cole

MESEMBRYANTHEMACEAE

Differs from the type species in having leaves in various shades of grey, sometimes tinged with pale pink.

South Africa (Cape Province)



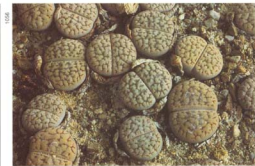
Lithops hookeri var. marginata (Nel) D.T. Cole

MESEMBRYANTHEMACEAE

A pink to ochre variety with dark green or red patterns.

Lithops marginata Nel

South Africa (Cape Province)



Lithops hookeri var. susannae (D.T. Cole) D.T. Cole

MESEMBRYANTHEMACEAE

A pale grey variety with darker markings.

Lithops susannae D.T. Cole

South Africa (Cape Province)

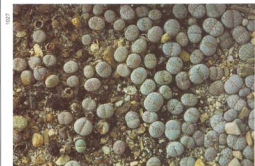


Lithops julii (Dinter & Schawnt.) N.E. Br.

MESEMBRYANTHEMACEAE

Body 2-3 cm in diameter; deep fissure; divergent, dark green leaves with brown to olive-green windows; white flowers.

Namibia



Lithops julii 'Chrysocephala'

MESEMBRYANTHEMACEAE

A pale, milky-grey cultivar with darker markings.



Lithops julii subsp. fulleri (N.E. Br.) Fearn

MESEMBRYANTHEMACEAE

Smaller than the type species with convex upper surface.

Lithops fulleri N.E. Br.

South Africa (Cape Province)

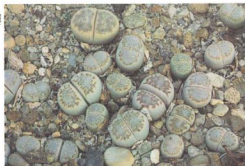


Lithops karasmontana 'Mickbergensis'

MESEMBRYANTHEMACEAE

A variable form with fewer marks than the type species and more uniform in colour.

Namibia



Lithops julii subsp. fulleri var. rouxii (L. Bol.) D.T. Cole

MESEMBRYANTHEMACEAE

Leaves more conjunct than the type species and pale grey with pink dots and lines. A variable form.

Namibia



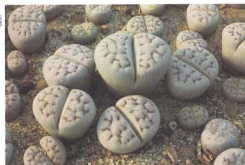
Lithops karasmontana subsp. bella (N.E. Br.) D.T. Cole

MESEMBRYANTHEMACEAE

Body 2-3 cm in diameter; divergent, grey-green leaves with convex upper surface and olive-green dots.

Lithops bella N.E. Br.

Namibia

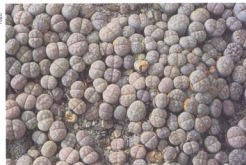


Lithops karasmontana (Dinter & Schwantes) N.E. Br.

MESEMBRYANTHEMACEAE

Green or brownish to ochre body 1.5-3 cm in diameter with rugose upper surface; white flowers. A variable species.

Namibia



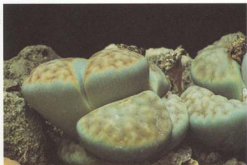
Lithops karasmontana subsp. eberlanzii 'Witputzensis'

MESEMBRYANTHEMACEAE

Body 2.5-3 cm in diameter; grey-green upper surface with paler colours and larger markings and with red dots; white flowers.

Namibia

0811

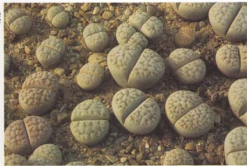


Lithops karasmontana 'Summitatum'

MESEMBRYANTHEACEAE

A cultivar with dark red or brown rugae.

1045



Lithops karasmontana var. aiaisensis (de Boer) D.T. Cole

MESEMBRYANTHEACEAE

Body 2-3 cm in diameter; upper surface less rugose than the type species; opaque grey with shades of green, brown, pink or cream; white flowers. Namibia

1022



Lithops karasmontana var. lericheana (Dinter & Schwantes) D.T. Cole

MESEMBRYANTHEACEAE

Body 1.5-2 cm in diameter; equal sized, pale olive-green to pinkish-grey or yellowish leaves with rugose upper surface and dull green dots; white flowers.

Lithops lericheana (Dinter & Schwantes) Dinter & Schwantes

Namibia

1030

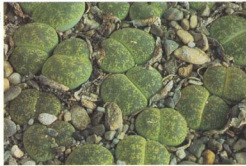


Lithops lesliei 'Albiflora'

MESEMBRYANTHEACEAE

Upper surface has olive-green markings; white flowers.

1058



Lithops lesliei 'Albinica'

MESEMBRYANTHEACEAE

A cultivar with yellowish-green patterning; white flowers.

1034



Lithops lesliei 'Storm's Albinigold'

MESEMBRYANTHEACEAE

Similar to 'Albinica' but with yellow flowers.

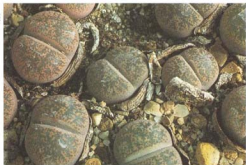


Lithops lesliei var. mariae D.T. Cole

MESEMBRYANTHEMACEAE

Body 2-3 cm in diameter, sandy-gold, densely marked leaves; yellow flowers.

South Africa (Cape Province)



Lithops lesliei var. minor de Boer

MESEMBRYANTHEMACEAE

A smaller, brown variety with dark green markings.

South Africa (Cape Province)



Lithops lesliei var. venterii (Nel) de Boer & Boom

MESEMBRYANTHEMACEAE

A pale grey variety with fine markings.

Lithops venterii Nel

South Africa (Cape Province)



Lithops marmorata (N.E. Br.) N.E. Br.

MESEMBRYANTHEMACEAE

Bodies 3 cm in diameter; opaque grey-green with pale green, cream or pink dots and lines; yellow flowers.

South Africa (Cape Province)

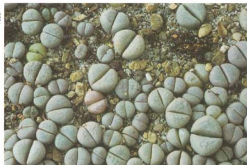


Lithops marmorata 'Framesii'

MESEMBRYANTHEMACEAE

Body 2.5-3 cm in diameter; divergent, pale grey leaves with darker grey markings; deep fissure; white flowers.

South Africa (Cape Province)

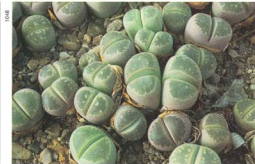


Lithops meyeri L. Bol.

MESEMBRYANTHEMACEAE

Body 2-3 cm in diameter; deep fissure; divergent, pale grey leaves tinged with yellow, pink or green; yellow flowers.

South Africa (Cape Province)

**Lithops olivacea** L. Bol.

MESEMBRYANTHEMACAE

Body 18–24 mm in diameter; pale grey-green or beige with translucent panels; yellow flowers.

South Africa (Cape Province)

**Lithops olivacea** var. *nebrownii* D.T. Cole

MESEMBRYANTHEMACAE

Differs from the type species in its yellowish- or pinkish-beige colour.

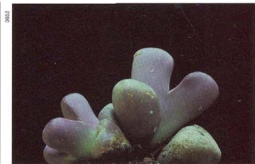
South Africa (Cape Province)

**Lithops optica** 'Maculate'

MESEMBRYANTHEMACAE

Body 2–3 cm in diameter; deep fissure; unequal sized, divergent, grey-green leaves with translucent windows; white flowers. The windows of this cultivar are irregularly shaped.

Namibia

**Lithops optica** 'Rubra'

MESEMBRYANTHEMACAE

Body 2–3 cm in diameter; deep fissure; unequal sized, divergent, grey-green leaves with translucent windows; white flowers. This cultivar has purplish-red, unmarked leaves.

Namibia

**Lithops otzeniana** Nel

MESEMBRYANTHEMACAE

Body 2.5–3 cm in diameter; deep fissure; various shades of grey-green, sometimes tinged with pale pink; windows translucent bluish- or greyish-green; yellow flowers.

South Africa (Cape Province)

**Lithops pseudotruncatella** subsp. *dendritica* (Nel) D.T. Cole

MESEMBRYANTHEMACAE

This subspecies has more regular network of fine, dark brown markings; yellow flowers.

Lithops dendritica Nel

Namibia

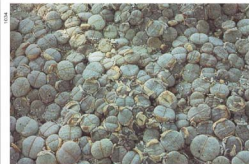


Lithops pseudotruncatella var. elisabethiae (Dinter)
de Boer & Boom

MESEMBRYANTHEACEAE

Body 2–2.5 cm in diameter; grey tinted with lilac-blue with dark grey markings; yellow flowers.

Lithops elisabethiae Dinter
Namibia



Lithops pseudotruncatella var. groendrayensis (Jacobs.)
D.T. Cole

MESEMBRYANTHEACEAE

Grey-white or grey-green bodies 2–4 cm in diameter; yellow flowers.
Namibia



Lithops ruschiorum (Dinter & Schwantes) N.E. Br.

MESEMBRYANTHEACEAE

Body 2–3.5 cm in diameter; round end, upper surface convex, grey or cream with dots or with network of lines; yellow flowers.

Namibia

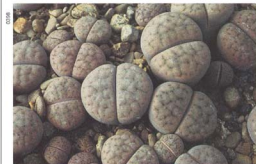


Lithops salicola L. Bol.

MESEMBRYANTHEACEAE

Body 2–2.5 cm in diameter; grey with translucent windows and red-dotted tips; white flowers.

South Africa (Cape Province)



Lithops schwantesii Dinter

MESEMBRYANTHEACEAE

Body 2.5 cm in diameter; opaque greyish, pinkish-grey or reddish-brown with dark green or red dots; yellow flowers. A variable species.

Namibia



Lithops schwantesii 'Triebneri'

MESEMBRYANTHEACEAE

Body 3–4 cm in diameter; shallow fissure; upper surface flat, grey or pale brown with broken network of cinnamon lines; yellow flowers.

Namibia



Lithops schwantesii var. marthae (Loesch & Tisch.) D.T. Cole

MESEMBRYANTHEMACEAE

Grey to greenish-pink bodies, 2–3 cm in diameter, with some vein-like ochre markings; yellow flowers.

Lithops marthae Loesch & Tisch.

Namibia



Lithops schwantesii var. rugosa (Dinter) de Boer & Boom

MESEMBRYANTHEMACEAE

Body 1.5–2 cm in diameter; grey to pale lilac with network of deeply impressed brown lines, appearing rugose; yellow flowers.

Lithops rugosa Dinter

Namibia



Lithops terricolor N.E. Br.

MESEMBRYANTHEMACEAE

Body 1.5 cm in diameter; pink, grey or red with violet or greenish dots covering the top; yellow flowers.

Lithops localis Schwantes

Namibia, South Africa (Cape Province)

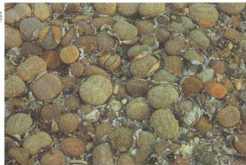


Lithops turbiniformis (Haw.) N.E. Br.

MESEMBRYANTHEMACEAE

Although now considered a synonym of *L. hookeri*, this is still found in cultivation under this name.

South Africa (Cape Province)

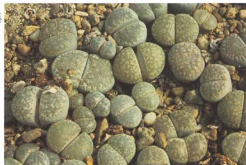


Lithops vallis-mariae (Dinter & Schwantes) N.E. Br.

MESEMBRYANTHEMACEAE

Body 2–4 cm in diameter; shallow fissure; grey with network of obscure, translucent lines; yellow flowers. A variable species.

Namibia



Lithops verruculosa Nel

MESEMBRYANTHEMACEAE

Body 2–3 cm in diameter; deep fissure; grey with finely fissured darker window covered with brown dots; yellow flowers. A variable species.

South Africa (Cape Province)

**Lithops villetii** L. Bol.

MESEMBRYANTHEACEAE

Body 2-3 cm in diameter; greenish-grey with windows in various shades of greyish-green; white flowers.

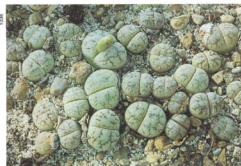
South Africa (Cape Province)

**Lithops viridis** Luck

MESEMBRYANTHEACEAE

Body 17-20 mm in diameter; deep fissure; dull grey, divergent leaves with translucent grey-green windows; yellow flowers.

South Africa (Cape Province)

**Lithops wernerii** Schwantes & Jacobs

MESEMBRYANTHEACEAE

Body 10-18 mm in diameter; deep fissure; divergent, unequal sized, pale grey leaves with dark olive-green markings; yellow flowers.

Namibia

**Machairophyllum acuminatum** L. Bol.

MESEMBRYANTHEACEAE

Clumps to 1 m in diameter; short, branching stem with triangular, pale green leaves to 5 cm long and 1 cm wide; yellow flowers.

South Africa (Cape Province)

**Malephora crassa** (L. Bol.) Jacobs & Schwantes

MESEMBRYANTHEACEAE

Prostrate stems, 10-20 cm long, branching from nodes; green leaves 2-4 cm long and reddish at apex when grown in strong sun; yellow flowers.

South Africa (Cape Province)

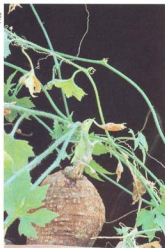
**Malephora lutea** (Haw.) Schwantes

MESEMBRYANTHEACEAE

Branches with numerous shoots; acuminate, yellowish-green leaves 2-3 cm long and narrowed towards apex; yellow flowers.

South Africa (Cape Province)

1119

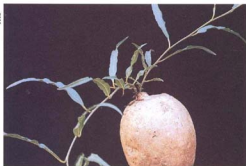
**Melothria punctata**

Cogn.

CUCURBITACEAE

Long stems arising from thick root; bright green, 3- or 5-lobed leaves; white flowers. Central Africa

1120

**Merremia sp.**

CONVOLVULACEAE

A large, unidentified specimen. Tropical Africa

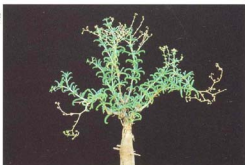
1121

**Merremia tuberosa** Rendle

CONVOLVULACEAE

Tuberous root with numerous climbing stems 1-3 m long in cultivation (may reach 20 m in habitat); glabrous leaves 8-15 cm long; yellow flowers. Tropical Africa

1122

**Mestoklema arboriforme** (Burch.) N.E. Br.

MESEMBRYANTHEMACEAE

Tree-like shrub to 30 cm high, with distinct, much-branched trunk 2-3 cm thick; pale green, roundish, hairy leaves 1-1.5 cm long and triangular in section; yellow to orange flowers.

South Africa (Cape Province), Namibia

1123

**Mitrophyllum affine** L. Bol.

MESEMBRYANTHEMACEAE

Branches 10-15 cm long; spreading, light grey-green leaves to 3 cm long and 1 cm in diameter at base, covered with remains of dry leaves; yellow flowers. South Africa (Cape Province)

1124

**Mitrophyllum herrei** L. Bol.

MESEMBRYANTHEMACEAE

Shrub to 70 cm high with 2 types of light green leaves; those 2.5 cm long are united for half their length; those 3 cm long are elongated; yellow flowers.

South Africa (Cape Province)

Mitrophyllum pillansii
N.E. Br.

MESEMBRYANTHEACEAE
Stems to 30 cm high; leaves united at base to form conical body 8–10 cm long, narrowed into short tip and covered with remain of dry leaves; white flowers.
South Africa (Cape Province)

**Monadenium arborescens** P.R.O. Bally

EUPHORBACEAE

Succulent tree to 4 m high; main stem 10 cm thick and 5-angled, with few glaucous green, ascending branches; green leaves with red undersides 7–20 cm long and 4–11 cm wide; red inflorescence.
Kenya

**Mitrophyllum ripense** L. Bol.

MESEMBRYANTHEACEAE

Shrub 10–15 cm high; green to brownish-green leaves 4–8 cm long with free portion 2 cm long; yellow flowers.
South Africa (Cape Province)

**Monadenium coccineum**
Pax

EUPHORBACEAE

Stems 5-angled, 30–90 cm long and 10–15 mm thick; leaves 8 cm long with keeled mid-rib; scarlet to orange inflorescence.
Tanzania

**Momordica rostrata** A. Zimm.

CUCURBITACEAE

Fleshy, caudiciform stem buried in the ground in habitat; thin, climbing stems to 7 m long; compound leaves 5 cm long; yellow flowers.
Eastern Africa

**Monadenium echinulatum** Stapf

EUPHORBACEAE

Succulent stems 30–70 cm high and 1 cm in diameter with short prickles; alternate green leaves 3–12 cm long and 1–6 cm wide; green inflorescence flushed with pink.
Tanzania



Monadenium elegans

S. Carter

EUPHORBIACEAE

Shrub to 3 m high with exfoliating bark; branches become pendulous with age; spines in groups of 3; undulate leaves 4 cm long; whitish-red inflorescence.

Tanzania



Monadenium ellebeckii N.E. Br.

EUPHORBIACEAE

Shrub to 1 m high with several erect stems 12–25 mm thick branching from base; few caducous leaves 8–10 mm long; yellow-green inflorescence.

Ethiopia, Somalia



Monadenium guentheri Pax

EUPHORBIACEAE

Tuberculate stems 15–20 cm or more high with 1–3 spines; green leaves 1–4 cm long crisped at apex; greenish-white inflorescence.

Kenya

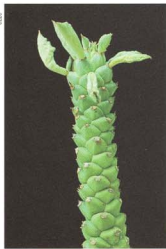


Monadenium guentheri var. *mammillare* P.R.O. Bally

EUPHORBIACEAE

Tuberous root; many erect stems to 15 cm high and 2–3 cm thick, or decumbent to 30 cm long; large tubercles on stems; green leaves 4–5 cm long and 9 mm wide at tips of branches; pale green inflorescence.

Tanzania



Monadenium heteropodum (Pax) N.E. Br.

EUPHORBIACEAE

Tuberous root; trailing stems to 35 cm long and 3 cm in diameter; tubercles with rhomboid base; green leaves to 3.5 cm long and 1.5 cm wide; whitish-green inflorescence.

Tanzania

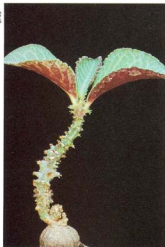


Monadenium invenustum N.E. Br.

EUPHORBIACEAE

Tuberous root; fleshy, cylindrical stems to 80 cm long; dark green, succulent leaves 4 cm long with pale green veins; whitish-pink inflorescence.

Kenya

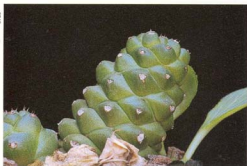


**Monadenium
magnificum** E.A. Bruce

EUPHORBACEAE

Shrub 4- to 5-angled, 1.5 m high and to 4 cm thick at base with spine clusters on margins; fleshy, green leaves with red undersides 15 cm long; bright scarlet inflorescence.

Tanzania



Monadenium ritchei subsp. *nyambense* S. Carter

EUPHORBACEAE

Tuberculate stems 40 cm long and 3 cm in diameter with short spines; leaves 2-3 cm long, dark green above, paler below; yellow-green inflorescence. This subspecies has glabrous leaves.

Kenya



Monadenium reflexum Chiov.

EUPHORBACEAE

Stems to 35 cm high and 6 cm in diameter, covered with tubercles 1-2 cm long; green or reddish leaves 2-3 cm long; yellow-green or reddish inflorescence.

Ethiopia, Kenya



Monadenium rhizophorum P.R.O. Bally

EUPHORBACEAE

Succulent stems 10 cm long borne at apices of rhizomes; yellow-green leaves 3-5 cm long, often purple near veins; greenish-yellow inflorescence. This species propagates easily by means of prolific rhizomes.

Kenya



Monadenium rubellum (P.R.O. Bally) S. Carter

EUPHORBACEAE

Fleshy, decumbent, green stems 5-25 cm long with light green stripes; red-brown spines 2 mm long; greenish leaves 4 cm long tinged with red and with acute apex; pink inflorescence.

Kenya



Monadenium schubei (Pax) N.E. Br.

EUPHORBACEAE

Erect, tuberculate, dark green stems 10-45 cm high and to 4 cm in diameter; red-brown spines 2 mm long; greenish leaves 5-7 cm long and 2 cm wide; green inflorescence.

Tanzania, Zimbabwe



Monadenium sp. Lavranos 23368

EUPHORBIACEAE

Stems 10–15 cm tall branching from nodes; new growth green, older stems grey; small, caducous, green leaves.

Somalia



Monadenium spinescens (Pax) P.R.O. Bally

EUPHORBIACEAE

Tree to 6 m high with yellowish-brown, peeling bark; tuberculate branches 2–3 cm in diameter with spines below leaf scales; dark green leaves 20–30 cm long with pale yellow veins above; bright red inflorescence.

Tanzania



Monadenium stapelioides Pax

EUPHORBIACEAE

Erect stems, which are decumbent when more than 15 cm long, with tubercles arranged in spirals; green leaves 3–5 cm long borne on growing parts of young stems; pink inflorescence.

Kenya, Tanzania



Monadenium torrei Leach

EUPHORBIACEAE

Similar to *M. spinescens*, but to 3 m high and young branches are more tuberculate.

Mozambique, Tanzania



Monadenium yattatum P.R.O. Bally

EUPHORBIACEAE

Tuberous root with erect, tuberculate stems 20 cm long and 1–1.5 cm thick; fleshy leaves 5–10 cm long dark green above and light green below; inflorescence green with brown stripes.

Kenya



Monanthes anagensis Praeger

CRASSULACEAE

Low, spreading shrub; glabrous green, alternate leaves 2.5 cm long with grooved upper surface; yellowish-green flowers.

Canary Islands (Tenerife)

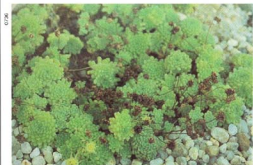


Monanthes muralis (Webb & Bolle) H. Christ

CRASSULACEAE

Small, arborescent shrub with erect, grey-red stems; dark green, tuberculate leaves 5–10 mm long, spotted with grey and with grooved upper surface; pale yellow flowers, sometimes red-striped.

Canary Islands (Hiero, La Palma)



Monanthes polyphylla Haw.

CRASSULACEAE

Filiform stems with many-leaved rosettes 1–2 cm in diameter forming soft, shiny, dense clumps; cylindrical, light green, papillate leaves; red flowers.

Canary Islands



Monanthes subcrassicaulis (Kuntze) Praeger

CRASSULACEAE

Green stems 1–2 cm long; dense, semi-cylindrical leaves 1 cm long; hairy flowering stems; red flowers.

Canary Islands (Gomera, La Palma, Tenerife)



Monilaria globosa (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE

Stems 1.5 cm in diameter and covered with remains of old leaves; green secondary leaves globose to conical and 1–2 cm thick; white flowers.

South Africa (Cape Province)



Monilaria pisiformis (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Low stems with several branches to 3 cm long; short, dark green leaves united to form globose bodies; secondary, more or less cylindrical leaves 5–6 cm long; reddish, white-margined flowers.

Mitrophyllum pisiforme Haw.
South Africa (Cape Province)

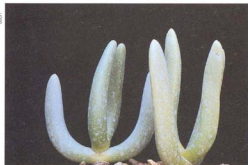


Mymecodia echinata Miq.

RUBIACEAE

Tuberculate caudex 10 cm thick; stems 5–10 cm long with thick, green leaves; white flowers. The caudex has a series of cavities inhabited by ants.

Malaysia



Namaquantus vanheerdei L. Bol.

MESEMBRYANTHEMACEAE

Shrub 15–20 cm high and 20 cm in diameter; grey-green leaves 3–7 cm long cover the stems; purplish flowers.

Namibia/South Africa (Little Namaqualand)



Namibia cinerea (Marloth) Dinter & Schwantes

MESEMBRYANTHEMACEAE

Low-growing plant; grey-green leaves 1.5 cm long and 1 mm wide with triangular upper surface and with whitish dots; violet flowers.

Namibia



Namibia ponderosa (Dinter) Dinter & Schwantes

MESEMBRYANTHEMACEAE

Grey-white leaves with dark dots 2 cm long and 15–18 mm wide form clumps to 20 cm in diameter and 10 cm high; white flowers.

Namibia



Nelia robusta Schwantes

MESEMBRYANTHEMACEAE

Short-stemmed plants forming clumps 5–10 cm in diameter; yellowish-green to green leaves 2–4 cm long, narrowed towards apes and with reddish spots; whitish-yellow flowers.

Namibia/South Africa (Little Namaqualand)

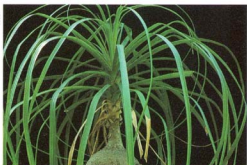


Neohenricia sibbettii L. Bol.

MESEMBRYANTHEMACEAE

Monotypic genus; several short stems bearing 4 leaves covered with white tubercles; white, nocturnal flowers.

South Africa (Orange Free State)



Nolin recurvata Lem.

AGAVACEAE

Globose caudex over 1 m in diameter with few stems to 6 m high; green leaves to 1 m long and 1–2 cm wide; tall, branched inflorescence; white flowers.

Biscutaria recurvata Lem.; *Nolin tuberculata* Hort.

Mexico

**Notechidnopsis
tessellata** (Pillans)
Lavrinos & Bleck

ASCLEPIADACEAE

Leafless, 6- to 10-angled stems
10-20 cm high; tubercles
tipped with soft, green, spine-
like apes; flowers light yellow
inside and brownish-yellow
outside.

Caralluma tessellata Pillans
South Africa (Cape Province)



Ocimum tenuiflorum L.

LABIATAE

Branched stems, woody at base; elliptical leaves 2-3 cm long and 1-2 cm wide
with dentate margins; stems and leaves covered with white hairs; pink or
white flowers.

India, Malaysia

Nycteranthus sp.

MESEMBRYANTHEMACEAE

A well-grown specimen of an
unidentified species.

South Africa (Cape Province)



Odontophorus marlothii N.E. Br.

MESEMBRYANTHEMACEAE

Dwarf shrub with prostrate branches; green to dark green leaves 2-3 cm long
and keeled towards apex with 5-8 marginal teeth ending in curved tip; yellow
flowers.

Namibia/South Africa (Little Namaqualand)

**Nycteranthus
viridiflorus** (Aiton)
Schwantes

MESEMBRYANTHEMACEAE

Roots woody; fleshy, branch-
ing stems to 40 cm long;
recurved, green, hairy leaves
2-4 cm long, persisting as
short spines after drying; pale
green flowers.

Spilanthes viridiflorus
(Aiton) N.E. Br.
South Africa (Cape Province)



Odontophorus nanus L. Bol.

MESEMBRYANTHEMACEAE

Branches 1-2 cm long; grey to dark green leaves 1-2 cm long with dentate
margins; white flowers.

Namibia/South Africa (Little Namaqualand)

*Operculicarya decaryi* H. Perrier

ANACARDIACEAE

Oblong caudex 30–40 cm high; branching and rebranching stems; small, green leaves shed during dry season.

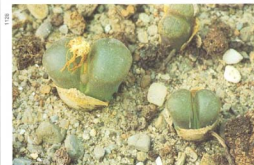
Madagascar

*Ophthalmophyllum australe* L. Bol.

MESEMBRYANTHEMACEAE

Solitary, papillose, green bodies, often purple towards apex, 1.5–3 cm long with short hairs; windowed lobes 3–5 mm long; pink flowers.

South Africa (Cape Province)

*Ophthalmophyllum dinteri* Schwantes

MESEMBRYANTHEMACEAE

Solitary, subcylindrical bodies 2–3 cm long; greenish-white lobes tinged with red with translucent windows; pink flowers.

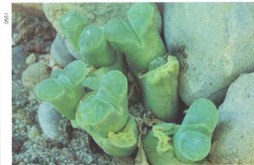
Namibia

*Ophthalmophyllum friedrichiae* (Dinter) Dinter

MESEMBRYANTHEMACEAE

Solitary, cylindrical bodies 2–3 cm long; greenish-white lobes tinged with red with translucent windows; white flowers.

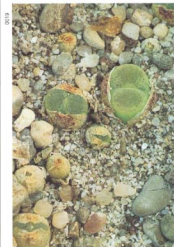
Namibia

*Ophthalmophyllum fulleri* Lavis

MESEMBRYANTHEMACEAE

Obconical bodies 2 cm long and 3 cm in diameter, green to yellowish, translucent; lobes 1–2 cm long with translucent windows; purplish flowers.

South Africa (Cape Province)

*Ophthalmophyllum latum* Tisch.

MESEMBRYANTHEMACEAE

Cylindrical bodies to 2.5 cm high and 2 cm wide, light green with translucent windows; lobes 2–5 mm long; white flowers.

South Africa (Cape Province)

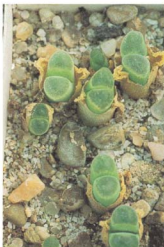


Ophthalmophyllum longum (N.E. Br.) Tisch.

MESEMBRYANTHEMACEAE

Solitary bodies 2–3 cm long and 2 cm wide; deep fissure; divergent, yellowish-green leaves with large translucent dots; pale pink flowers.

Namibia/South Africa (Little Namaqualand)



Ophthalmophyllum pubescens Tisch.

MESEMBRYANTHEMACEAE

Several light green bodies 3–5 cm high and 2 cm in diameter with large, translucent windows; lobes to 1 cm long; pink flowers.

South Africa (Cape Province)



Ophthalmophyllum schuldtii Schwantes

MESEMBRYANTHEMACEAE

Dark purple, usually solitary bodies 2.5 cm high and 1.5 cm wide with translucent windows; lobes 3–5 mm long; white flowers.

Namibia

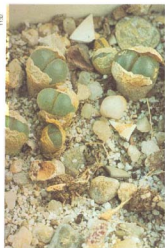


Ophthalmophyllum verrucosum Lavis

MESEMBRYANTHEMACEAE

Bodies usually solitary, 3 cm high and 1 cm in diameter; fissure 3–5 mm deep, red-brown; papillose leaves with translucent dots; white flowers.

South Africa (Cape Province)

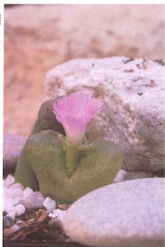


Ophthalmophyllum lydiae Jacobs

MESEMBRYANTHEMACEAE

Olive-green bodies 2–2.5 cm long and 1.5 cm wide with minute papillae; transparent tips; white flowers.

Namibia/South Africa (Little Namaqualand)



Ophthalmophyllum praestrum (N.E. Br.) Schwantes

MESEMBRYANTHEMACEAE

Green bodies to 3 cm long and 18 mm wide with translucent windows; forming small clumps; lobes 3–5 mm long; pinkish-violet flowers.

Comphyllum praestrum
N.E. Br.

South Africa (Cape Province)

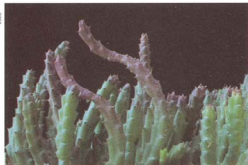


***Orbea semota* (N.E. Br.) Leach 'Lutea'**

ASCLEPIADACEAE

Stems 10–15 cm high and branching from base; teeth to 1 cm long; flowers yellow with brown markings. This cultivar has pale green to yellow-green stems.

Kenya, Tanzania



***Orbea variegata* (L.) Haw.**

ASCLEPIADACEAE

Erect, 4-angled stems 5–20 cm long, freely branching from base and with acute, green, purple-tipped teeth; 1–5 pale yellow flowers with purple-brown spots.

Stalotis variegata L.

South Africa (Cape Province)



***Orbea variegata* (L.) Haw.**

ASCLEPIADACEAE

A close-up of the flower.



***Orbea verrucosa* (Masson) Leach**

ASCLEPIADACEAE

Stems 8–15 cm long and 1–2 cm in diameter branching from base; erect, green branches; teeth 3–6 mm long with rudimentary, caducous leaves; pale yellow, brown-spotted flowers 4–6 cm in diameter.

Stalotis verrucosa Masson

South Africa (Cape Province)



***Orbeanthus hardyi* (R.A. Dyer) Leach**

ASCLEPIADACEAE

Green stems 30 cm long and to 1 cm thick mottled with purple and growing horizontally, rooting and branching freely; disc-shaped, yellowish-cream flowers with red markings.

Stalotis hardyi R.A. Dyer

South Africa (Transvaal)



***Orbeopsis caudata* (N.E. Br.) Leach**

ASCLEPIADACEAE

Erect, pale green stems 6–10 cm long; straight, spiny teeth more than 1 cm long; yellow flowers with numerous purple dots.

Canthium caudata N.E. Br.; *C. praegracilis* Oberm.

Malawi, Namibia, Zimbabwe

0071



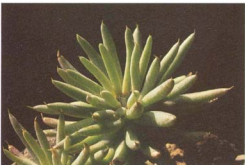
Ornithogallum caudatum Aiton

LILIACEAE

Bulbs with many bulblets, forming clumps; flaccid, green leaves to 30 cm long and 2–3 cm wide; inflorescence 1 m tall; numerous white flowers with green stripes.

South Africa (Cape Province, Natal)

0331



Orostachys chanelii (Lév.) A. Berger

CRASSULACEAE

Rosettes 10–15 mm tall and 10–15 mm in diameter with grey-green leaves of different lengths; pyramidal inflorescence 10–15 cm tall; numerous white flowers with red outside.

China

0108



Orostachys erubescens A. Berger

CRASSULACEAE

Rosettes growing in clumps with green or grey-green leaves of 2 different lengths ending in soft white tip; white flowers.

China (north), Japan, Korea

0717



Orostachys furusei Ohwi

CRASSULACEAE

Clump-forming rosettes; glaucous blue-green, rounded leaves to 5 cm long; inflorescence 30 cm tall; white flowers.

China, Japan

0181



Orostachys minutus (Komarov) A. Berger

CRASSULACEAE

Rosettes 3–4 cm in diameter; leaves of 2 different lengths with red markings and short terminal spine; white-pink flowers.

Orostachys kamboensis Ohwi

China, South Korea

0206



Orostachys spinosus (L.) A. Berger

CRASSULACEAE

Rosettes 8–10 cm or more in diameter growing in clumps; green leaves of 2 different lengths with white terminal spine; yellow flowers.

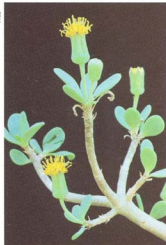
Eastern CIS to north and central Asia

**Orostachys thyrsiflorus** Fisch.

CRASSULACEAE

Offsetting rosettes 4–5 cm in diameter; green to glaucous green leaves 6–8 mm long end in white spine; white flowers.

Mongolia

**Othonna arborescens** L.

COMPOSITAE

Shrub 50–80 cm high; branched, flexuous stems; oblong leaves 5 cm long and 2 cm wide; inflorescence with yellow flowers.

South Africa (Cape Province)

**Othonna capensis** L.H. Bailey

COMPOSITAE

Short, freely branching stems; trailing branches; pale to dark green, cylindrical leaves 2–3 cm long and 6 mm wide with cartilaginous apex; yellow flowers.

South Africa (Cape Province)

**Othonna clavifolia** Marloth

COMPOSITAE

Short-stemmed shrub; light green leaves (purple during dormancy) 2 cm long and 9 mm thick borne at ends of branches; yellow flowers.

Namibia

**Othonna euphorbioides** Hutch.

COMPOSITAE

Dwarf shrub to 10 cm high; brown branches 1–2 cm thick; light green, pruinose leaves 2 cm long, shed during dormancy; greyish spines as long as the leaves; yellowish flowers.

Namibia

**Othonna lepidocaulis** Schltr.

COMPOSITAE

Dwarf shrub to 25 cm tall; thick branches covered with cartilaginous leaf bases; green leaves 3–6 cm long; yellow flowers.

Namibia/South Africa (Little Namaqualand)

**Othonna litoralis** Dinter

COMPOSITAE

Shrub 35 cm high; bluish-green leaves 3–4 cm long and 12 mm wide borne at ends of branches; yellowish flowers.

Namibia

**Othonna retrofracta** Less.

COMPOSITAE

Stems 60 cm high, thickened at base; thin, brown branches; lobate, green leaves 8 cm long and 2–3 cm wide with tooth on each side, shed during dormancy; yellowish flowers.

Namibia, South Africa (Cape Province)

**Oxalis succulenta** Barn.

OXALIDACEAE

Short-branched stems to 15 cm; green leaves with petiole 2.5 cm long; yellow flowers on long pedicels.

Chile

**Pachycormus discolor**
(Benth.) Coville

ANACARDIACEAE

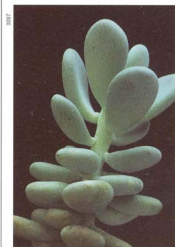
Tree 5–6 m tall with caudiciform base from which grow several green stems covered with exfoliating, white, papery bark; tiny green, pinnate leaves; red flowers. Mexico (Baja California)

**Pachycymbium keithii** (R.A. Dyer) Leach

ASCLEPIADACEAE

Glaucous green, 4-angled stems 7–10 cm high, branching from base and often mottled red; deltoid teeth 1–2 cm long; dark brown flowers.

Mozambique, South Africa (Natal, Transvaal), Zimbabwe

**Pachyphytum bracteosum**
Link, Klotzsch, Otto

CRASSULACEAE

Stem to 30 cm high; whitish-grey leaves 6–10 cm long and 2–3 cm wide; inflorescence 30 cm tall; red flowers. Mexico

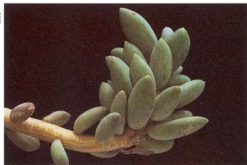
D1768



Pachyphytum compactum Rose
CRASSULACEAE

Stem 10 cm long; cylindrical, light green to grey-white, pruinose leaves 2-3 cm long; inflorescence 30 cm tall; reddish flowers, Mexico

D1769



Pachyphytum hookeri (Salm-Dyck) A. Berger

CRASSULACEAE

Shrublet to 60 cm high; grey-green leaves 2-4 cm long and 1-2 cm thick; inflorescence 30 cm long; red flowers.

Pachyphytum roseum Baker

Mexico

D1770



Pachyphytum oviferum J.A. Purpus

CRASSULACEAE

Prostrate, white stems 10-15 cm long; white leaves 2-4 cm long and 2-3 cm wide; red flowers.

Mexico

D1771



Pachyphytum viride E. Walther

CRASSULACEAE

Stems 10 cm high and 3 cm in diameter; semi-cylindrical, yellowish-green leaves 10-14 cm long, flattened towards apex and borne at tips of stems; reddish flowers.

Mexico

D1780



Pachypodium baronii Const. & Bois

APOCYNACEAE

Large, poorly branched, flask-shaped stems 2-3 m high; grey-green branches with conical spines 1 cm long; green leaves to 15 cm long; red flowers.

Madagascar

CITES App. I

D1782



Pachypodium baronii var. *windsorii* Pichon

APOCYNACEAE

Globose stems to 10 cm in diameter; thick, cylindrical branches; short spines; leaves at ends of branches; red flowers.

Madagascar

CITES App. I

**Pachypodium bispinosum** (L.f.) DC.

APOCYNACEAE

Possibly a variant of *P. succulentum*; pink to dull purple flowers.
South Africa (Cape Province)

CITES App. II

**Pachypodium brevicaule** Baker

APOCYNACEAE

Flattened caudex to 60 cm in diameter with silvery-grey bark; sparse, hairy leaves 1-3 cm long and to 1.5 cm wide; white spines; lemon-yellow flowers.
Madagascar

CITES App. I

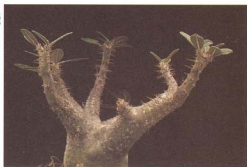
**Pachypodium decaryi** Poiss.

APOCYNACEAE

Short, rounded, tuberous caudex to 40 cm high, suddenly branching in thin stems; leaves 5-6 cm long and 4-5 cm wide arranged in terminal rosettes and with soft marginal hairs; greenish-white flowers.

Madagascar

CITES App. I

**Pachypodium densiflorum** Baker

APOCYNACEAE

Caudex to 30 cm in diameter with cylindrical branches to 70 cm (giving lateral spread to 2 m); spines 5-6 mm long; dark green leaves 2-4 cm long with fine white hairs on lower surface; yellow flowers.

Madagascar

CITES App. II

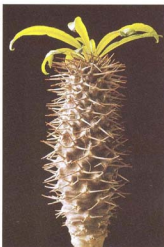
**Pachypodium geayi** Const. & Bois

APOCYNACEAE

Similar to *P. lamerei* but with thinner leaves to 30 cm long and covered with grey hairs; white flowers.

Madagascar

CITES App. II

**Pachypodium lamerei**
Drake

APOCYNACEAE

Spiny tree to 8 m high; dark green leaves 15-20 cm long and crowded at stem apex; white flowers. After flowering 2-3 branches develop at apex of flowering stem.

Madagascar

CITES App. II

**Pachypodium lamerei cristate form**

APOCYNACEAE

An attractive cristate form.

**Pachypodium lealii Welw.**

APOCYNACEAE

Clavate, broad-based stems with numerous erect branches; green leaves 4–8 cm long; 3 spines 2–3 cm long; white flowers.
 Namibia, South Africa (Cape Province)

CITES App. II

**Pachypodium namaquanum Welw.**

APOCYNACEAE

Rarely branched stems 1–3 m high and covered with brown spines to 5 cm long; hairy, green leaves 8–12 cm long and 2–6 cm wide clustered at stem apices; brownish-red flowers.

Namibia

CITES App. I

**Pachypodium rutenbergianum Vatke**

APOCYNACEAE

Stems 4–8 m tall with swollen trunk to 60 cm in diameter at base; short branches with spines 1 cm long; green leaves 10–15 cm long and 4 cm wide; white florets.

Madagascar

CITES App. II

**Pachypodium saundersii N.E. Br.**

APOCYNACEAE

Similar to *P. lealii* but stems are longer and leaves less hairy; flowers have red stripes. It is considered by some authors to be a variety of *P. lealii*.

South Africa (Natal),
 Zimbabwe

CITES App. II

**Pachypodium succulentum DC.**

APOCYNACEAE

Caudex to 15 cm in diameter, growing underground in habitat; fleshy, branched stems 20–60 cm long; leaves 5–6 cm long and 1 cm wide borne along new shoots; spines 1–2 cm long usually in pairs; pink flowers.

South Africa (Cape Province)

CITES App. II

0774



Pedilanthus macrocarpus Benth.

EUPHORBIACEAE

Shrub with erect, grey-green stems 1–1.5 m high; thin, caducous, grey-green leaves; red inflorescence.

Mexico

0778



Pedilanthus tithymaloides (L.) Poit.

EUPHORBIACEAE

Shrub 1–2 m tall; irregular stems; green leaves 6 cm long with prominent mid-rib; red inflorescence.

West Indies

0781



Pelargonium ceratophyllum L'Hér.

GERANIACEAE

Low shrub to 20 cm high with small, heavily branched caudex 3–4 cm thick; short stems; greyish-green succulent leaves 15 cm long and pinnately divided; white flowers.

Namibia

0782



Pelargonium cortusifolium L'Hér.

GERANIACEAE

Shrub 30 cm high and 30 cm in diameter; short stems covered with remains of dry leaves; grey-green, hairy, roundish leaves 1.5–5 cm long and 1.5–4 cm wide with undulate margins; white flowers.

Namibia

0783



Pelargonium cotyledonis (L.) L'Hér.

GERANIACEAE

Thick stems to 30 cm high; rounded, green leaves (turning red with age) 2–5 cm in diameter with evident veins above and grey hairs below; white flowers.

Saint Helena

0784



Pelargonium crithmifolium
G.G. Smith

GERANIACEAE

Succulent, branched stems to 30 cm high with irregular swellings; hairy, pale green leaves 5–12 cm long and pinnately divided; white flowers.

Namibia



Pelargonium dasyphyllum E. Mey.

GERANIACEAE

Shrub to 20 cm high; succulent, grey-green to greyish-brown stems; compound, green leaves 6 cm long and 3 cm wide with dentate margins; white flowers.

South Africa (Cape Province)



Pelargonium ferulaceum Willd.

GERANIACEAE

Thick, fleshy stems 30-70 cm high; young branches hairy; green leaves 5-15 cm long and 2-5 cm wide, usually with red-brown tips; variable white to greenish-yellow flowers with red streaks.

Namibia



Pelargonium gibbosum (L.) L'Hér.

GERANIACEAE

Succulent stems scrambling among bushes to 3 m long and with swollen nodes; semi-succulent, glaucous green leaves variable in size and shape; greenish-yellow flowers.

South Africa (Cape Province)



Pelargonium incrassatum (Andrews) Sims

GERANIACEAE

Shrub to 20 cm and more high with large underground tubers; green leaves 5-9 cm long and 3-6 cm wide; purple flowers.

Namibia



Pelargonium klinghardtense R. Knuth

GERANIACEAE

Stems to 80 cm high branching from base; light glaucous green leaves 3-6 cm long and 3 cm wide covered with microscopic hairs; white flowers.

Namibia



Pelargonium lobatum (Burm.f.) L'Hér.

GERANIACEAE

Plant 20-30 cm high; large tubers covered with brown bark; short stems; 5-lobed, hairy, green leaves to 30 cm in diameter; dark purple flowers.

South Africa (Cape Province)

0817



***Pelargonium mirabile* Dinter**

GERANIACEAE

Shrub 30 cm high and 40 cm in diameter; greyish-brown stems 1–2 cm in diameter; greyish-green leaves 3–5 cm long and 2–4 cm wide with undulate margins; white, pale yellow or pink flowers with red markings.

Namibia

1180



***Pelargonium pulchellum* Sims**

GERANIACEAE

Small shrub to 1 m high; stems distinctly jointed; green, ovate, 5-lobed leaves 3–5 cm long and covered with hairs; inflorescence 50 cm high; white flowers.

Namibia

1186



***Pelargonium rapaceum* (L.) L'Hér.**

GERANIACEAE

Stemless plant with subterranean tuber 5 cm in diameter; linear, green, hairy leaves to 40 cm long and 4–5 cm wide; pink flowers with red stripes. South Africa (Cape Province)

0813



***Pelargonium tetragonum* (L.) L'Hér.**

GERANIACEAE

Bush to 20 cm high branching from base with distinctly jointed, thin stems; hairy, green leaves 2.5 cm long with reddish-brown margins; cream to pale pink flowers.

Southern Africa

1175



***Pelargonium xerophyton* Schltr.**

GERANIACEAE

Shrub forming clumps 30–60 cm high; green to grey stems; dull green leaves 1 cm long and 1 cm wide covered with microscopic hairs; white flowers.

Namibia

0814



***Peperomia asperula* Hutchison & Rauh**

PIPERACEAE

Succulent stems to 10 cm high with short internodes; leaves 1–8 cm long and 9 mm wide arranged in dense rows, translucent above, green-grey below; yellowish-grey flowers.

Peru

**Peperomia columella** Rauh & Hutchison

PIPERACEAE

Small shrub; freely branching stems 10 cm long and covered by leaves in whorls of 3; succulent leaves 1 cm long and 6 mm in diameter with translucent window above; yellowish-green flowers.

Peru

**Peperomia dolabriformis** R. Knuth

PIPERACEAE

Small shrub; stems 10 cm long with leaves at apex; leaves 5-6 cm long and 6 mm thick with translucent, lateral stripes; long inflorescence; yellowish-green flowers.

Peru

**Phyllanthus mirabilis** Muell.

EUPHORBIACEAE

Shrub or small tree with stems to 12 cm long; ovate, green leaves, paler below and 2-3 cm long; inflorescence borne from leaf axils; reddish bracts.

Burma, Cambodia, Laos, Malaysia

**Peperomia cornutus** N.E. Br.

ASCLEPIADACEAE

Freely branching, green, globose to elongate stems 1.5-3.5 cm long and 1.5-2 cm in diameter; stems tuberculate with 3-5 tubercle-like teeth; pale yellow flowers with purple dots.

South Africa (Cape Province)

**Peperomia foetidus** N.E. Br.

ASCLEPIADACEAE

Globose, tuberculate, green to grey-green, sometimes reddish, stems 4 cm in diameter with dentate margins; hairy yellow flowers with red lines and spots.

Namibia, South Africa (Cape Province)

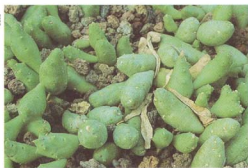
**Peperomia framesii** Pillans

ASCLEPIADACEAE

Bluish-green or reddish, 4- to 5-angled stems 4-7 cm long and 1-1.5 cm in diameter with tuberculate teeth; white flowers with red spots.

South Africa (Cape Province)

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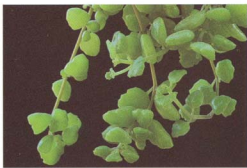
**Piaranthus pallidus** C.A. Lüchh.

ASCLEPIADACEAE

Pale green, globose to oblong, obscurely angled stems 2–3 cm long; yellow flowers.

South Africa (Cape Province)

0000

**Plectranthus prostratus** Gürke

LABIATAE

Low-growing species with many pendent, soft branches; thick, soft, green leaves about 1 cm long; purple flowers.

Tanzania

1104

**Piaranthus pillansii** N.E. Br.

ASCLEPIADACEAE

Proxumbent, clavate, obtusely angled stems 3–4 cm long and 1–1.5 cm in diameter; yellow flowers.

South Africa (Cape Province)

2014

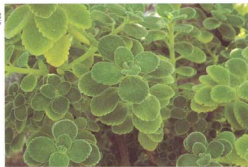
**Pleiosipilos bolusii** (Hook.f.) N.E. Br.

MESEMBRYANTHEMACAEAE

Solitary plants with 1 pair of light grey-green or brownish-green leaves 4–7 cm long and 3–4 cm thick with numerous dots; yellow flowers.

South Africa (Cape Province)

0700

**Plectranthus amboinicus** (Lourteig) Spreng

LABIATAE

Many decumbent stems to 1 m long; green, ovate leaves 4–5 cm long and 4 cm wide with small hairs and aromatic glands on both sides; white flowers.

Tropical Africa

0000

**Pleiosipilos compactus** subsp. *canus* (Haw.)

H.E.K. Hartmann & Liede

MESEMBRYANTHEMACAEAE

Stemless, clump-forming rosettes of 4–8 grey-green, purple-tinged leaves to 9 cm long; yellow flowers.

Pleiosipilos canus (Haw.) L. Bol.

South Africa (Cape Province)



Pleiospilos compactus* subsp. *minor (L. Bol.)

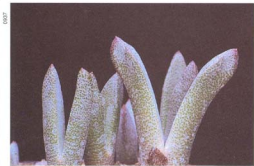
H.E.K. Hartmann & Liede

MESEMBRYANTHEMACEAE

Rounded, grey-green leaves 3–6 cm long and covered with dark green dots in pairs of 2–3 on each stem; yellow flowers.

Pleiospilos minor L. Bol.

South Africa (Cape Province)



Pleiospilos leipoldtii L. Bol.

MESEMBRYANTHEMACEAE

Divergent, grey-green or purple-tinged leaves to 8 cm long and 3 cm wide with flat upper surface; yellow flowers.

South Africa (Cape Province)



Pleiospilos magnipunctatus (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Grey-green or brownish leaves 4–9 cm long, united at base for 1 cm and with flat upper surface, convex back and prominent dots; yellow flowers.

South Africa (Cape Province)



Pleiospilos nelii Schwantes

MESEMBRYANTHEMACEAE

Semi-cylindrical, grey-green leaves to 8 cm long, borne in pairs and with flat upper surface and numerous dots; yellow-pink to orange flowers.

Pleiospilos polynacalatus L. Bol.; *P. tricolor* N.E. Br.

South Africa (Cape Province)



Plumeria acuminata Aiton

APOCYNACEAE

Tree to 8 m high; green leaves 30–40 cm long; yellow and white, scented flowers. After flowering 2–3 branches develop at apex of flowering stem.

Mexico



Plumeria rubra L.

APOCYNACEAE

Tree to 7 m high; bright green leaves 40 cm long with paler mid-rib; dark pink, scented flowers. Branching pattern as in *P. acuminata*.

Mexico to Panama

0046



Poellnitzia rubiflora
(L. Bol.) Uitewaal

LILIACEAE

Elongated stems 15–20 cm high, offsetting from base; triangular leaves 4 cm long and 2 cm wide ending in pungent, yellow-green tip; inflorescence 12 cm long; red flowers.

South Africa (Cape Province)

0045



Polymita albiflora (L. Bol.) L. Bol.

MESEMBRYANTHEMACAEAE

Shrub 10–15 cm high; acute leaves 5–10 mm long, united at base but tips spreading, margins hairy; white flowers.

Ruschia albiflora L. Bol.

South Africa (Cape Province)

0047



Portulaca pilosa L.

PORTULACACEAE

Thick roots with woody stems; cylindrical green leaves to 12 mm long with reddish margins. In the type species the flowers are yellow; this specimen is a cultivar, 'Shaggy Garden Purslane', which has purple flowers.

Mexico, USA (southeast)

0053



Portulacaria afra var. *foliis-variegatis* H. Jacobsen

PORTULACACEAE

Shrub to 3 m high with horizontally spreading, segmented branches; opposite leaves 1.2 cm long and 1 cm wide; pink flowers. The leaves of this form are mottled with yellow.

Mozambique, South Africa (Cape Province, Transvaal)

0050



Pseudolithos migiurtinus (Chiiov.) P.R.O. Bally

ASCLEPIADACEAE

Fleshy, hemispherical, often elliptical in section, pale green or yellow-green to grey stems 12 cm in diameter; numerous tubercles around the stems; brown flowers.

Pseudolithos sphaericus P.R.O. Bally

Somalia

0050



Pterodiscus aurantiacus Welw.

PEDALIACEAE

Bottle-shaped caudex to 30 cm in diameter with several thick branches; lanceolate, bluish-green leaves 10–15 cm long with sinuate margins; yellow flowers.

Namibia



Pterodiscus luridus
Hook.
PEDALIACEAE
Caudex to 10 cm in diameter and covered with grey bark; branches 10–15 cm long; leaves 7–8 cm long and 2 cm wide; dark green above, whitish below; yellow flowers. Namibia, South Africa (Cape Province)



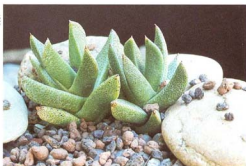
Puya mirabilis (Mez) L.B. Sm.
BROMELIACEAE
Rosette of 60–70 green leaves to 70 cm long with marginal teeth; inflorescence 50 cm tall; green flowers. Argentina, Bolivia



Pyrenacantha malvifolia Engl.
ICACINACEAE
Swollen caudex to 1 m in diameter producing twining, leafy stems; green leaves; orange flowers. Kenya, Tanzania



Quaqua mamillaris (L.)
P.V. Bruyns
ASCLEPIADACEAE
Stems 5- to 6-angled, 15–25 cm high and 3 cm thick; teeth 1–2 cm long; dark red flowers. *Caralluma mamillaris* (L.) N.E. Br. Namibia, South Africa (Cape Province)



Rabiea albipuncta (Haw.) N.E. Br.
MESEMBRYANTHEMACEAE
Rosettes of 3–4 pairs of green leaves 4 cm long and triangular in cross-section with numerous tuberculate dots; yellow flowers. South Africa (Orange Free State)



Raphionacme burkei N.E. Br.
ASCLEPIADACEAE
Grey caudex 8–15 cm in diameter; much-branched stems 15 cm long; grey-green leaves 3 cm long; purple flowers. Botswana, Namibia, South Africa (Transvaal)

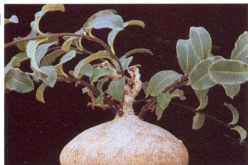


Raphionacme galpinii Schltr.

ASCLEPIADACEAE

Caudex 8–10 cm in diameter and 15 cm long; stems 7–10 cm tall; silvery-green leaves 4–6 cm long; greenish flowers.

South Africa (Transvaal)



Raphionacme procumbens Schltr.

ASCLEPIADACEAE

Large tuberous caudex; spreading stems 20–40 cm long; greyish-green leaves 3 cm long and covered with short hairs; greenish flowers.

Namibia



Raphionacme sp.

ASCLEPIADACEAE

Long, trailing stems 1–2 m long; leaves to 10 cm long. One of several unidentified specimens present in private collections.

Southern Africa



Rechesteineria leucotricha Hoehne

GESNERIACEAE

Caudex to 30 cm in diameter; shoots with 4–6 leaves; stems and leaves covered with silvery hairs; pink to orange flowers.

Brazil



Rhombophyllum dolabriforme (L.) Schwantes

MESEMBRYANTHEMACEAE

Freely branching shrub to 30 cm high; grey, erect branches; grass green leaves 2–3 cm long with transparent dots and tooth-like, projecting tip; yellow flowers.

South Africa (Cape Province)



Rhombophyllum neelii Schwantes

MESEMBRYANTHEMACEAE

Shrub 20–30 cm high; stems with short internodes; bilobed, pale bluish to grey-green leaves 1.5 cm long; yellow flowers.

South Africa (Cape Province)



Rhombophyllum romboideum (Salm-Dyck) Schwantes

MESEMBRYANTHEACEAE

Stemless rosettes with 4-5 pairs of unequal sized, grey-green leaves 2.5-5 cm long and 1-2 cm wide; yellow flowers.

South Africa (Cape Province)



Rhytidocaulon sp.

ASCLEPIADACEAE

Fleshy, cylindrical, grey to brown stem 2 cm thick; caducous, green leaves 2 mm long; variable flowers.

Arabian peninsula; Ethiopia, Somalia (for the whole genus)



Rosularia chrysantha (Boiss.) Takht.

CRASSULACEAE

Rosettes 2.5 cm in diameter; green, hairy leaves 2-3 cm long with rounded apex; yellow flowers.

Turkey (south and southwest)



Rosularia pallida (Schott & Kotschy) Stapf

CRASSULACEAE

Small rosettes; densely hairy, green or blue-green leaves 12-18 mm long; whitish-yellow flowers.

Turkey (east and southeast)



Ruschia clavata L. Bol.

MESEMBRYANTHEACEAE

Erect stems to 20 cm long; green to bluish-green, semiglobose leaves 5 mm in diameter; purplish flowers.

South Africa (Cape Province)



Ruschia crassa (L. Bol.) Schwantes

MESEMBRYANTHEACEAE

Shrub with erect or prostrate stems; glaucous green leaves 1-2 cm long; white flowers.

South Africa (Cape Province)

2002



Ruschia frutescens (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE

Shrub to 60 cm high; semi-cylindrical, spreading, greyish-green leaves 5–6 cm long and 1 cm in diameter; whitish flowers.

South Africa (Cape Province)

2003



Ruschia macowanii
(L. Bol.) Schwantes

MESEMBRYANTHEMACEAE

Shrub 15–20 cm high; elongated stems; grey-green leaves 2–3 cm long; pink flowers.

South Africa (Cape Province)

2002



Ruschia multiflora
(Haw.) Schwantes

MESEMBRYANTHEMACEAE

Shrub with freely branching, repeatedly forked stems; grey-green leaves 3 cm long with translucent dots; white flowers.

South Africa (Cape Province)

2003



Ruschia sarmentosa (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Shrub 60 cm high; branches spreading and rooting at nodes; light green, triangular leaves 3 cm long with translucent dots and ending with reddish tip; reddish flowers.

South Africa (Cape Province)

2003



Ruschia stenophylla (L. Bol.) L. Bol.

MESEMBRYANTHEMACEAE

Shrub with fleshy, napiform (turnip-shaped) root; semi-cylindrical, spotted, green leaves 4–5 cm long; pink-purple flowers.

South Africa (Cape Province)

2003



Ruschianthus falcatus L. Bol.

MESEMBRYANTHEMACEAE

Shrub with tuberous roots; stems covered with remains of dry leaves; unequal sized, pale blue-green leaves, the larger 3–5 cm long, borne in pairs; yellow flowers.

Namibia



***Sansevieria cylindrica* Bojer**

AGAVACEAE

Dark green, cylindrical leaves 1 m long and 1–2 cm in diameter with lighter stripe; white flowers.

Angola



***Sansevieria gracilis* N.E. Br**

AGAVACEAE

Stoloniferous stems; leaves 20–50 cm long, and 1 cm in diameter, armed with brown apical spine; white flowers.

Eastern Africa



***Sansevieria pearsonii* N.E. Br.**

AGAVACEAE

Erect green leaves 60–90 cm long with several longitudinal furrows and ending in sharp tip; white flowers.

Tropical Africa



***Sansevieria raffilii* var. *glauca* N.E. Br.**

AGAVACEAE

Leaves 60 cm long and 7–10 cm wide; white flowers. The leaves of this variety are lighter in colour than the type species.

Tropical Africa



***Sansevieria singularis* Britton**

AGAVACEAE

Cylindrical, grey, grey-brown or reddish leaves to 50 cm high (over 1 m in cultivation); flowers not known.

Tropical Africa



***Sansevieria thysifolia* Thunb.**

AGAVACEAE

Light green leaves to 8 cm wide and 15–40 cm high with several whitish bands and spots; fragrant, greenish-white flowers.

Southern Africa

E184



Sansevieria trifasciata 'Hahnii'

AGAVACEAE

A dwarf cultivar with broad leaves marked with yellow transverse bands.

T012



Sansevieria trifasciata 'Laurentii'

AGAVACEAE

This is one of the oldest cultivars of *S. trifasciata* Prain. It has attractive leaves to 70 cm long with yellow margins.

E185



Sansevieria trifasciata 'Moonshine'

AGAVACEAE

A cultivar with bluish-green (yellowish when young) leaves 10 cm wide and 30 cm high.

E183



Sarcocaulon ciliatum Moffett

GERANIACEAE

Shrub to 20 cm high and 30 cm in diameter with freely branching stems; grey-brown branches with brown spines; green leaves covered with short hairs; yellow flowers.

South Africa (Cape Province)

E180



Sarcocaulon crassaule Rehm

GERANIACEAE

Small, spiny shrub to 25 cm high; recurved branches 10–15 cm long and 1–1.4 cm thick, with whitish-grey, recurved thorns; green to grey-green leaves about 1.5 cm long; white or pale yellow flowers.

Sarcocaulon burmannii (DC.) Sweet

Namibia/South Africa (Little Namaqualand), South Africa (Cape Province, Karoo)

E179



Sarcocaulon herrei L. Bol.

GERANIACEAE

Shrub to 25 cm high and 40 cm in diameter; freely branching, greyish-yellow stems; yellowish-green leaves; dry leaf petioles have spiny appearance; pale yellow flowers.

Sarcocaulon herrei Stiles

South Africa (Cape Province)



Sarcocaulon inerme Rehm

GERANIACEAE

Shrub to 30 cm high and 30 cm in diameter; stems branching above ground; grey-brown branches with 4 rows of bluish-green leaves covered with short hairs and with dentate margins; pink to purple flowers.

Namibia



Sarcocaulon multifidum R. Knuth

GERANIACEAE

Horizontally growing branches 10–12 cm long and 1.5 cm thick; hairy, green, bifid leaves 7–10 cm long; pink flowers.

Namibia



Sarcocaulon patersonii (DC.) Don

GERANIACEAE

Light grey stems to 20 cm long with straight spines 1–3 cm long; hairy, green leaves 1 cm long; red flowers.

Namibia



Sarcocaulon peniculinum Moffett

GERANIACEAE

Dwarf shrub to 8 cm high and 18 cm in diameter; stems branching at soil level or below; greyish-white branches; green leaves covered with small hairs; pale pink flowers.

Namibia



Sarcocaulon vanderietiae L. Bol.

GERANIACEAE

Shrub 15 cm high and 25 cm in diameter; spiny stems 1 cm in diameter; green leaves 6–8 cm long; pale pink flowers.

South Africa (Cape Province)



Sarcostemma viminale
R. Br.

ASCLEPIADACEAE

Erect, cylindrical, light green stems 4–5 mm thick and dichotomously branched; small, light green leaf scales; white flowers.

Namibia, South Africa (Cape Province)

0000



Scyletium anatomicum (Haw.) L. Bol.

MESEMBRYANTHEACEAE

Small shrub with prostrate branches; stems to 20 cm long; yellow-green leaves 2–3 cm long with translucent papillae; white flowers.

South Africa (Cape Province)

1127



Scyletium joubertii L. Bol.

MESEMBRYANTHEACEAE

Short, prostrate branches; green leaves (often obscured by remains of old leaves) 3–4 cm long with numerous papillae; yellow flowers.

South Africa (Cape Province)

0295



Schwantesia ruedeuschii Dinter

MESEMBRYANTHEACEAE

Clumps to 10 cm high; leaves 5 cm long and 1 cm wide, armed at ends with 3–7 thick, brown-tipped teeth to 4 mm long; yellow flowers.

Namibia

0070



Schwantesia succumbens (Dinter) Dinter

MESEMBRYANTHEACEAE

Whitish-green leaves 4–8 cm long, cylindrical at base and triangular in section towards apex; yellow flowers.

Namibia

0080



Scilla dimartinoi Brullo & Pavone

LILIACEAE

Brown bulbs 2–4 cm in diameter; up to 10 leaves 12–22 cm long and 1–2 cm wide with short, marginal cilia; inflorescence 10 cm tall; bluish-white flowers. Plant photographed in habitat.

Italy (Lampetusa Island)

0161



Scilla pauciflora Baker

LILIACEAE

Small bulbs, offsetting and forming large clumps; pale green leaves with dark green markings; greenish flowers.

Southern Africa

**Scilla socialis** Baker

LILIACEAE

Green to purple bulbs 2–4 cm in diameter; spreading, fleshy leaves 10–15 cm long and 2 cm wide with some dark green marks above, green or pink-purple below; purple flowers.

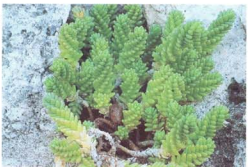
Lalefouria socialis Jessop
Southern Africa

**Scilla violacea** Hutch.

LILIACEAE

A form of *S. socialis*; leaves have green marks above and are deep pink-purple beneath; purple flowers.

Southern Africa

**Sedum acre** L.

CRASSULACEAE

Numerous stems from thin stolon forming low clumps; crowded, mid-to yellow-green leaves 1–2 mm long; yellow flowers.

Northern Africa, Europe

**Sedum aizoon** 'Euphorbioides'

CRASSULACEAE

Erect stems to 60 cm high; thick root; lanceolate leaves 5–8 cm long with toothed margins; yellow flowers. This cultivar is more robust and compact than the type species.

Sedum aizoides Salzm-Dyck; *S. mazzimoviczii* Regel; *S. woodstratii* N.E. Br. Asia; naturalized in Europe

**Sedum album** L.

CRASSULACEAE

Erect or creeping stems, green or reddish leaves 6–15 mm long; white flowers. A variable species; several varieties have been described.

Sedum album DC.; *S. bullicum* H.E.K. Hartmann; *S. turgidum* d'Urv. North Africa, western Asia, Europe

**Sedum allantoides** Rose

CRASSULACEAE

Small shrub to 40 cm high; white-grey leaves 2–3 cm long, at first in lax basal rosette, becoming crowded along the lengthening stem; greenish-white flowers.

Mexico

0115

**Sedum anacampseros** L.

CRASSULACEAE

Stems creeping and rooting at nodes; grey-green leaves 1–2.5 cm long and 1–2 cm wide, loosely crowded towards stem apices; purple flowers.

Sedum rotundiflorum Lam.

Southern Europe (Spain to the Tyrol)

0115

**Sedum ellacombianum** Praeger

CRASSULACEAE

Several stems arising from lower part of older ones; green leaves crowded along stems, increasing in size towards stem base; inflorescence flat and branched; pale yellow flowers.

Japan

0115

**Sedum anopetalum** DC.

CRASSULACEAE

Prostrate stems to 25 cm long; glaucous green, cylindrical leaves 1 cm long and pointed towards tips; whitish flowers.

Sedum verlotii Jord.

Southern and central Europe and into Asia Minor

0115

**Sedum furfuraceum** Moran

CRASSULACEAE

Creeping and rooting stems 8–10 cm long; erect branches; waxy, green leaves 1 cm long, round in section; white flowers tipped with pink ventrally and red dorsally.

Mexico

0115

**Sedum dasyphyllum** L.

CRASSULACEAE

Numerous horizontal branches forming low clumps; grey, opposite leaves; white flowers with pink vein. Several forms have been described, differentiated on the basis of the size of the leaves and of the whole plant.

Sedum hurnatii Briquet; *S. glanduliferum* Cass.; *S. glaucum* Lam.

Mediterranean countries

0115

**Sedum hintonii** R.T. Clausen

CRASSULACEAE

Stems 8–10 cm long; sparse branches; densely hairy leaves 1.5–2 cm long arranged in rosettes; white flowers.

Mexico



Sedum hispanicum L.

CRASSULACEAE

Many stems 5–15 cm long arising from base; glaucous green leaves 1–2 cm long, pointed at tips and sometimes tinged with red; white flowers with pinkish-tipped veins. A variable species.

Sedum glaucum Waldst. & Kitabel; *S. sexfidum* Fisher & E. Mey.

Central Europe to Iran



Sedum kamschaticum Fisch.

CRASSULACEAE

Similar to *S. alzhoui* but to 30 cm high; stems branching at base; leaves 2–4 cm long with toothed margins, entire towards base; orange-yellow flowers.

China, Japan, Korea, northeast Siberia



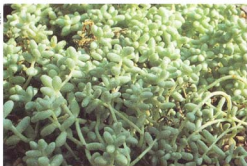
Sedum lanceolatum Torr.

CRASSULACEAE

Many freely offsetting stems to 12 cm high; green, alternate leaves increasing in size towards stem base; inflorescence consists of 3 short, forked branches with yellow flowers.

Sedum slawense Britton; *S. stenopetalum* var. *subulpinum* Fröd.; *S. subulpinum* Blank.

North America (west)

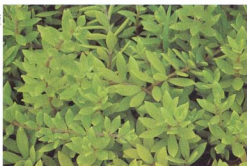


Sedum lancerottense R.P. Murray

CRASSULACEAE

Similar to *S. rufulum* but with larger leaves; yellow flowers.

Canary Islands (Lanzarote)



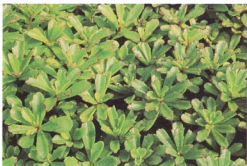
Sedum lineare Thunb.

CRASSULACEAE

Erect to prostrate stems; light green leaves 2–3 cm long and 3 cm wide at base; yellow flowers.

Sedum subtile Miq.; *S. sentaro-tasirei* Makino

Japan



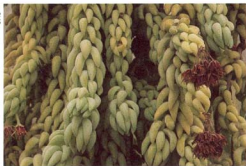
Sedum middendorffianum (Maxim.) A.G. Boriss.

CRASSULACEAE

Many stems arising from lower part of old stems; green leaves increasing in size towards stem base; inflorescence variable in size with 4 forked branches bearing yellow flowers.

Korea, Mongolia, Siberia

D148

**Sedum morganianum** Walthers

CRASSULACEAE

Many long, pendent stems arising from base; greenish-blue, pruinose leaves crowded along stems; inflorescence with 1-6 pink flowers. Suitable for growing in hanging-baskets.

Known in cultivation in Mexico

D153

**Sedum multiceps** Coss. & Durieu

CRASSULACEAE

Small, much branched bush to 12 cm tall; stems covered with withered leaves; leaves, 6-8 mm long and papillose below, borne in clusters near tips of stems; yellow flowers.

Algeria

D152

**Sedum nevii** A. Gray

CRASSULACEAE

Much branched stems, bare at base, leafy above and rooting at nodes; glaucous green leaves 1-1.5 cm long and 4 mm wide arranged in rosettes; flowers white.

USA (Virginia to Alabama)

D116

**Sedum nicaense** All.

CRASSULACEAE

Woody stems 15-35 cm high and branching from base; pointed green leaves 1-2 cm long; white flowers with green vein.

Sedum rufescens Ten., *S. salsiforme* (Jacq.) Pau

Mediterranean countries

D154

**Sedum nudum** Aiton

CRASSULACEAE

Small shrub to 10 cm high; stems branching from base, creeping and rooting; green or glaucous green, oblong leaves 1 cm long; yellowish-green flowers.

Madeira

D155

**Sedum nussbaumerianum** Bitter

CRASSULACEAE

Small shrub 10 cm tall; stems branching horizontally, yellowish-green leaves 4 cm long with red edges; white flowers.

Mexico

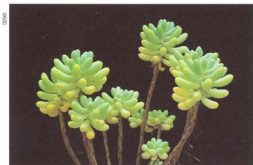


Sedum oaxacanum Rose

CRASSULACEAE

Stems 10–15 cm long, freely branching and rooting at nodes; grey-green leaves 4–6 mm long; yellow flowers.

Mexico



Sedum pachyphyllum Rose

CRASSULACEAE

Low shrub to 25 cm tall; grey-green, cylindrical leaves (red-tipped when grown in strong sun) 4 cm long and 6 mm thick and loosely crowded towards tips of stems; yellow flowers.

Mexico

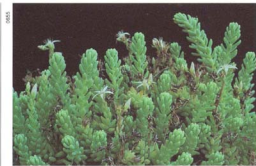


Sedum palmeri S. Watson

CRASSULACEAE

Low shrub 15–25 cm high with arching and branching stems; blue-green leaves 2–3 cm long borne in loose rosettes at ends of branches; orange-yellow flowers.

Mexico



Sedum potosinum Rose

CRASSULACEAE

Procumbent branches; erect stems 10–15 cm long; pale green leaves 15 mm long often tinged with pink; white flowers with red vein.

Mexico



Sedum roseum (L.) Scop.

CRASSULACEAE

Small caudex from which arise several stems 20–30 cm long; fleshy green leaves 2.5–3.5 cm long, often with reddish margins; flowers yellow on male plants, greenish-yellow on female plants, deep red or pink on female plants of some North American forms.

Rhodiola rosea L.

North America to Mexico, China, central Europe



Sedum rubrotinctum R.T. Clausen

CRASSULACEAE

Small shrub 25 cm high; numerous stems branching from base; light green leaves with red tips 1–2 cm long and round in section crowded along stems; pale yellow flowers.

Known in cultivation in Mexico



Sedum sartorianum Boiss.

CRASSULACEAE

Erect to prostrate stems 8–15 cm long; green to grey-green leaves triangular towards tips and 4 cm long; yellow flowers.

Sedum aureifolii DC.

Greece, former Yugoslavia (Serbia)



Sedum spathulifolium var. *purpureum* Praeger

CRASSULACEAE

Erect, freely branching stems to 2 cm high; green leaves in dense rosettes; leaves increase in size towards stem base and turn pink or bright red in adverse conditions; inflorescence 6–15 cm long with yellow flowers. There are several subspecies and varieties.

Sedum californicum Britton; *S. ussidi* Britton

North America (California to British Columbia)



Sedum sexangulare Linn.

CRASSULACEAE

Stems with many creeping stolons; green leaves arranged in spirals crowded along branches; inflorescence consists of 3 branches with yellow flowers.

Sedum beloniense Loisel.; *S. hillebrandtii* Fenzl; *S. mite* Gilib.; *S. spirale* Haw.

Central Europe to Finland and Lithuania

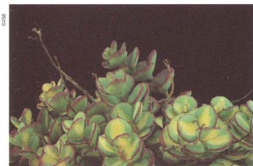


Sedum spectabile Boreau

CRASSULACEAE

Stems 30–50 cm high; light green, oval leaves 7–8 cm long and 5 cm wide; pink flowers.

China, Japan, Korea



Sedum sieboldii 'Foliis Medio-variegatis'

CRASSULACEAE

Prostrate stems 15–25 cm long; blue-green leaves, sometimes red-margined, 1.5 cm long and to 2 cm wide; pink flowers. Two-thirds of leaf surface of this variegated form are yellow.

Japan



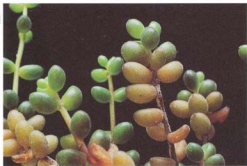
Sedum spurium M. Bieb.

CRASSULACEAE

Many stems arising from rooting branches; dark green leaves crowded along upper part of branches; inflorescence with 4 forked branches; pink flowers.

Sedum cilare Sweet; *S. congestum* Kock; *S. crenatum* Boiss.; *S. denticulatum* Donn; *S. lazicum* Boiss.

CIS (Armenia, Azerbaïdjan, Georgia)



Sedum stahlii Solms

CRASSULACEAE

Spreading, prostrate stems; brownish-red leaves 1.2 cm long and 6 mm wide crowded along stems; yellow flowers with greenish vein.

Mexico



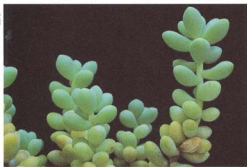
Sedum stoloniferum S.G. Gmel.

CRASSULACEAE

Plants with red-stripped stems growing in clumps; bright green leaves 2.5 cm long and 1.2 cm wide, lighter dorsally and scattered along stems and branches; light pink flowers.

Sedum ibericum Steven

CIS (Caucasus)

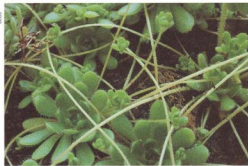


Sedum treleasei Rose

CRASSULACEAE

Small shrub with several branches arising from lower parts of stems; bluish-green, pruinose leaves 3 cm long; yellow flowers.

Mexico



Sempervivella alba (Edgew.) Stapf

CRASSULACEAE

Clump-forming rosettes 2-3 cm in diameter; hairy, light green leaves 1-2 cm long; red or white flowers.

Sempervivum album Edgew.

Western Himalayas



Sempervivum arachnoideum L.

CRASSULACEAE

Rosettes 5-25 mm in diameter forming dense mats; green leaves flushed with red and with white hairs connected at tips; pink flowers. Plant photographed in habitat.

France/Italy/Spain (Alps, Apennines, Pyrenees)



Sempervivum atlanticum O.M. Ball

CRASSULACEAE

Freely offsetting rosettes 4-8 cm in diameter; pale green leaves flushed red when exposed to sun; flower-stems 15-25 cm high; pale pink flowers with darker median band.

Morocco

1004



Sempervivum borisovae Wale

CRASSULACEAE

Rosettes 3 cm in diameter; strongly ciliate leaves, green below, tinged red-brown above; pink to red flowers.

CIS (Caucasus)

1004



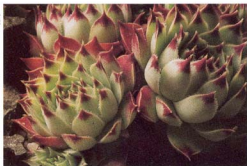
Sempervivum caucasicum Rupr. ex Boiss.

CRASSULACEAE

Rosettes 3–5 cm in diameter; leaves with dark brown apex, short cilia and sparse hairs on lower surface; red flowers.

CIS (Caucasus)

0318



Sempervivum calcareum (Jord.) Praeger

CRASSULACEAE

Rosettes 6 cm in diameter; glabrous grey-green leaves tipped with purple; pale pink flowers.

Sempervivum tectorum var. *calcareum* Jord.

France/Italy (Alpes Maritimes)

1008



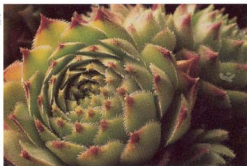
Sempervivum ciliosum var. *borisii* Degen & Urum.

CRASSULACEAE

Globose rosettes 2–4 cm in diameter; densely hairy leaves; yellow flowers.

Bulgaria

0318



Sempervivum cantabricum J.A. Huber

CRASSULACEAE

Offsetting rosettes 5 cm in diameter with 30–40 hairy leaves to 4 cm long and 1 cm wide; inflorescence 16 cm high; dark pink flowers.

Spain

0001



Sempervivum ciliosum var. *galicium* A.C. Sm.

CRASSULACEAE

Rosettes to 2.5 cm in diameter with long stolons; greyish-green leaves with short hairs; flower stem to 9 cm high; yellow flowers.

Europe (Galicia, Macedonia)



Sempervivum dolomiticum Facchini

CRASSULACEAE

Rosettes 2–4 cm in diameter; bright green, ciliate leaves; numerous offsets on slender stems; reddish flowers.

Italy (eastern Alps; rare)



Sempervivum grandiflorum Haw.

CRASSULACEAE

Rosettes 2–10 cm in diameter; dull green leaves, some with brown apices, hairy and sticky to the touch, leaving resinous odour; yellow flowers tinged with purple at base. Plant photographed in habitat.

Sempervivum gaudinii Christ.

Italy (Piedmont, Valle d'Aosta); southern Switzerland



Sempervivum kindingeri Adamovic

CRASSULACEAE

Rosettes 4–6 cm in diameter; pale green, purple-flushed, glandular, hairy leaves with marginal cilia; yellow flowers with pink base.

Europe (Macedonia)



Sempervivum kosaninii Praeger

CRASSULACEAE

Rosettes 4–8 cm in diameter; light to dark green leaves with red apices; offsets produced on leafy stems to 12 cm long; reddish-pink flowers.

Former Yugoslavia (Moitenegro)



Sempervivum montanum L.

CRASSULACEAE

Rosettes 2 cm in diameter with numerous offsets borne on slender stems; bright to dull green, leaves densely hairy on both surfaces; violet-purple flowers. Plant photographed in habitat.

Corsica, France/Italy/Spain (Pyrenees, Alps, northern Apennines)



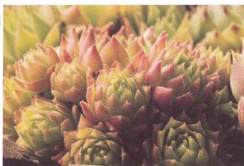
Sempervivum montanum var. *burnatii* Wettst. ex Hayek

CRASSULACEAE

Rosettes to 8 cm in diameter; light green, hairy leaves with dark tips; violet-purple flowers. Plant photographed in habitat.

France/Italy/Spain (southwest Alps, Pyrenees)

1872



Sempervivum nevadense Wale

CRASSULACEAE

Rosettes 2–3 cm in diameter; green, red-tinged leaves with marginal cilia; offsets on short stolons; reddish-pink flowers.
Spain (Sierra Nevada)

1898



Sempervivum sp.

CRASSULACEAE

An unidentified taxon growing on porphyric rocks. Rosettes 2.5–3 cm in diameter; bright green, densely hairy and glandular leaves tinged with purple and with long, thin, white bristles on outer surface of older leaves; flower stems 5–6 cm; delicately scented, red to deep purple flowers.
Italy (Catena dei Lagorai)

1872



Sempervivum piltonii Schott, Nyman & Kotschy

CRASSULACEAE

Rosettes 1.5–3 cm in diameter; green, glandular, hairy leaves with purple tips; yellow flowers.
Austria (Styria)

1871



Sempervivum tectorum L.

CRASSULACEAE

Extremely variable species; rosettes 3–15 cm or more in diameter; glabrous or hairy; yellow-green to dark green or red-brown leaves with or without brown tip and purple base; pink flowers. Plant photographed in habitat.

Sempervivum arvensense Lecocq & Lamotte; *S. tectorum* var. *alpinum* Griseb. & Schenk; *S. tectorum* var. *glaucum* Ten.

France/Italy/Spain (Pyrenees, Alps, Apennines), northern Balkans

1841



Sempervivum pumilum M. Bieb.

CRASSULACEAE

Freely offsetting rosettes 1–2 cm in diameter; green, glandular, hairy leaves with ciliate margins; purple flowers with pale margins. A variable species.
CIS (Caucasus)

1868



Sempervivum tectorum var. *italicum* (Ricci) Zonn.

CRASSULACEAE

Rosettes 3–8 cm in diameter; numerous hairy green leaves with or without brown tips and with ciliate margins; pink flowers with narrow white margins. Plant photographed in habitat.

Sempervivum italicum Ricci

Italy (Abruzzo, Lazio)

**Sempervivum thompsonianum** Wale

CRASSULACEAE

Rosettes 1.5–5 cm in diameter with several offsets from base; green, hairy leaves 1.5 cm long, and 4 mm wide with dark brown tips; yellow flowers with white margins and median pink band.

Former Yugoslavia (southwest Macedonia)

**Sempervivum wulfenii** Hoppe

CRASSULACEAE

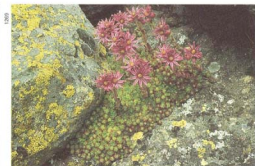
Slow-growing plant, producing 2–3 offsets on stolons to 10 cm long during growing season; grey-green leaves purple at base; yellow flowers with purple base. Plant photographed in habitat.

Austria/Italy/Switzerland (eastern Alps)

**Sempervivum wulfenii** Hoppe

CRASSULACEAE

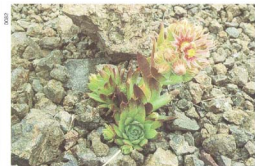
A close-up of the flowers.

**Sempervivum x barbulatum** Schott

CRASSULACEAE

A natural hybrid of *S. arachnoideum* L. x *S. montanum* L. Small rosettes of variable size but generally 1–1.5 cm in diameter and tipped with woolly hairs; pink or violet-purple flowers. Plant photographed in habitat.

France/Italy/Spain (Pyrenees, Alps)

**Sempervivum x roseum** Huter

CRASSULACEAE

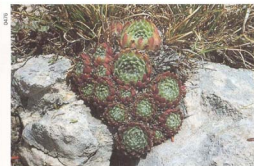
Rosettes of grey-green leaves tipped with tuft of hairs; the flower colour is intermediate between the parents, *S. arachnoideum* x *S. wulfenii*, varying from pink to yellow. Plant photographed in habitat.

Austria/Italy/Switzerland (eastern Alps)

**Sempervivum tectorum** 'Bianco di Daniele' Zonn.

CRASSULACEAE

Rosettes 5–6 cm in diameter; grey-green, hairy leaves; flowers white. Italy (Valtellina; limited distribution)



Sempervivum tectorum var. italicum x arachnoideum

CRASSULACEAE

Rosettes 3-7 cm in diameter; reddish, glandular, ciliate leaves with tuft of white hairs at tips. Plant photographed in habitat.
Italy (Abruzzo, Lazio)



Senecio archeri (Compton) Jacobs

COMPOSITAE

Aromatic shrub; cylindrical stems; dark green leaves 2-4 cm long with acute apex, upper surface with translucent lines; white flowers.
Kleinia archeri Compton
South Africa (Cape Province)



Senecio articulatus (L.f.) Sch. Bip.

COMPOSITAE

Jointed, branched stems to 60 cm long and 1.5-2 cm thick with grey markings; 3- to 5-lobed, light green leaves 5 cm long; yellowish flowers.
Kleinia articulata L.f.
South Africa (Cape Province)



Senecio citrifolius G.D. Rowley

COMPOSITAE

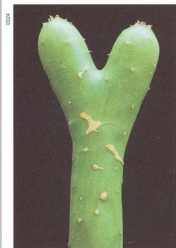
Dwarf shrub; erect to creeping stems arising from thick rootstock; blue-green leaves 1.5-2 cm long with translucent dots; cream to yellow flowers.
South Africa (Cape Province)



Senecio crassissimus Humb.

COMPOSITAE

Shrub 50-80 cm high; branched stems with rough surface caused by old leaf scars; green leaves 5.5 cm long and 2-3 cm wide, rounded at apex; yellow flowers.
Madagascar



Senecio desfliersii
Schwartz

COMPOSITAE

Bright green stems to 40 cm high and 3-6 cm in diameter; branching at apices; triangular, green leaves 2 mm long, persistent, rigid and spine-like when dry; inflorescence 20 cm long; green flowers.

Kleinia desfliersii P. Halliday
South Yemen



Senecio fulgens (Hook.f.) G. Nicholson

COMPOSITAE

Shrub 40–60 cm high; tuberous root; green stems with evident leaf scars; light green, pruinose leaves 7–9 cm long and 2–3 cm wide with prominent mid-vein on lower surface; red flowers.

Kleinia fulgens Hook.f.

South Africa (Natal)



Senecio grantii (Hook.f.) Sch. Bip.

COMPOSITAE

Densely leaved stems 20–40 cm high developing from tuberous root; blue-green leaves 5–6 cm long with distinct mid-vein on lower surface; red flowers.

Kleinia grantii Hook.f.

Ethiopia, Kenya, Somalia, Tanzania



Senecio haworthii (Sw.) Steud.

COMPOSITAE

Shrub to 30 cm high; silvery green leaves 5 cm long arranged in spirals; orange to yellow flowers.

Senecio tomentosus Hort.

South Africa (Cape Province)

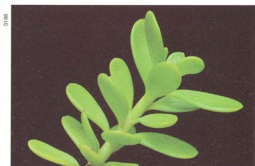


Senecio herreianus Dinter

COMPOSITAE

Prostrate stems to 60 cm long rooting at nodes; green leaves 1 cm long with translucent lines; white flowers.

Namibia



Senecio jacobsenii G.D. Rowley

COMPOSITAE

Prostrate stems spreading by stolons and 50 cm long; fleshy, milky green leaves 5–8 cm long with roundish apex narrowing towards base and often purple beneath; orange-red flowers.

Kenya, Tanzania



Senecio kleinia (L.) Less.

COMPOSITAE

Dichotomously branching, segmented shrub to 3 m tall; grey-green leaves 10–20 cm long and 1–2 cm wide crowded at stem apices; white flowers.

Kleinia nerifolia Haw.

Canary Islands

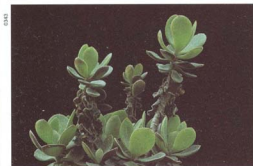


Senecio macroglossus DC.

COMPOSITAE

Twining stems to 2 m long; green, 3-lobed leaves 8 cm long and 4 cm wide; cream or pale yellow flowers. A form with variegated leaves is found in Kenya.

Mozambique, Zimbabwe



Senecio medley-woodii Hutch.

COMPOSITAE

Shrub to 1.5 m high; thick, branched stems; grey-green leaves 6 cm long; yellow flowers.

South Africa (Natal)



Senecio pendulus (Forsk.) Sch. Bip.

COMPOSITAE

Prostrate, mat-forming stems 20 cm long; stems rising to 10 cm then descending to root level; cylindrical leaves 2-4 mm long; red flowers.

Kleinia pendula (Forsk.) DC.

Ethiopia, Kenya (northeast), Somalia, Yemen



Senecio picticaulis

P.R.O. Bally

COMPOSITAE

Rhizomatous green stems 30-40 cm long with lines decurrent from each leaf; shiny green leaves 1-1.5 cm long; red flowers.

Kleinia picticaulis (P.R.O. Bally) C. Jeffrey

Ethiopia, Kenya, Sudan, Tanzania

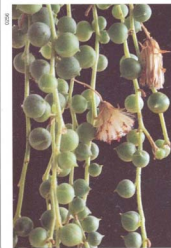


Senecio radicans (L.f.) Sch. Bip.

COMPOSITAE

Filiform, mat-forming stems 15-30 cm long; light green, cylindrical leaves 2-3 cm long, tapering at ends of both sides and with translucent lines; white flowers.

South Africa (Cape Province)



Senecio rowleyanus

Jacobs

COMPOSITAE

Prostrate stems 20-60 cm long, rooting at nodes; globose, light green leaves 8 mm in diameter with longitudinal, translucent band; white flowers.

Namibia

1094



Senecio saginata (*Kleinia saginata* P. Halliday)

COMPOSITAE
Tuberous root; segmented stems 20 cm high and 4 cm in diameter with dark lines; green leaves 3 cm long and 1 cm wide borne on growing apices; red flowers. (In this dictionary we have used *Senecio* in a broad sense, including the genus *Kleinia*. We have included this species, even though it has not been validly published, to avoid a non-homogeneous treatment.)
Kleinia saginata P. Halliday.
Oman

1113



Senecio scaposus DC.

COMPOSITAE
Short stems with cylindrical, glabrous green leaves 7–8 cm long, crowded at stem and branch apices; yellow flowers.
South Africa (Cape Province)

1115



Senecio sempervivus (DC.) Sch. Bip

COMPOSITAE
Tuberous root from which several grey-green, pruinose stems 10–15 cm long develop; leaves 6–7 cm long and 2.5 cm wide with prominent green mid-vein, lower surface reddish; red flowers.
Kleinia sempervivus DC.
Saudi Arabia

1120



Senecio spiculosus (Sheph.) G.D. Rowley

COMPOSITAE
Erect stems to 60 cm long and 1.5 cm thick; grey-green branches with white dots; cylindrical, light green leaves 6–8 cm long; white flowers.
Kleinia spiculosa Sheph.
Namibia

1120



Senecio stapeliaeformis Phillips

COMPOSITAE
Erect, green stems to 35 cm high and 1–2 cm thick with purple staining; young shoots at first growing subterranean; dark green leaves 5 mm long; red flowers.
Kleinia stapeliaeformis (Phillips.) Stapf
South Africa (Transvaal)

1121



Senecio stapeliaeformis subsp. *minor*

G.D. Rowley
COMPOSITAE
A subspecies with less fleshy stems.
South Africa (Transvaal)

0870



**Sesamothamnus
lugardii** N.E. Br.

PEDALIACEAE

Caudex to 2 m in diameter;
succulent branches with grey-
white, peeling bark; oval, dark
green leaves at axils of thorns;
white flowers.

Namibia

0871



Sinningia canescens (Mart.) Wiehler

GESNERIACEAE

Tuberous root with densely hairy stems 25 cm long; white leaves 15 cm long
and 10 cm wide covered with short white hairs; flowers orange to red.

Brazil

0883



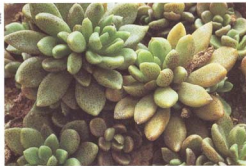
Seyrigia gracilis Keraudren

CUCURBITACEAE

Tuberous root with climbing stems 2-3 m long and long, purplish-grey ten-
drils; insignificant, greenish-yellow flowers.

Madagascar

0882



Sinocrassula densirosulata (Praeger) A. Berger

CRASSULACEAE

Rosettes with numerous grey-green leaves 2-3 cm long, usually with red or
red-brown lines; whitish flowers.

China

0884



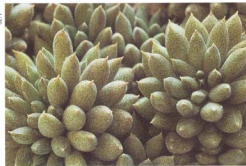
Seyrigia humbertii Keraudren

CUCURBITACEAE

Cylindrical, ribbed, climbing stems to 3 m long; small, caducous 3-lobed,
green leaves with white hairs; tendrils 5-20 cm long; insignificant pale green
flowers. Leaves persistent in cultivation.

Madagascar

0877



Sinocrassula yunnanensis (Franch.) A. Berger

CRASSULACEAE

Numerous (to 70), blue-green leaves forming dense rosettes; leaves covered
with short white hairs; whitish flowers with red tips.

China (Yunnan)



Smicrostigma viride (Haw.) N.E. Br.

MESEMBRYANTHEACEAE

Shrub to 40 cm high; branched, erect stems; green leaves with fine translucent dots, 1.5–2 cm long and united at base, with recurved tip and ending in short terminal spine; pink flowers.

South Africa (Cape Province)



Stapelia asterias Masson

ASCLEPIADACEAE

Stem to 25 cm long with compressed angles; rudimentary, caducous leaves; 1–5 large, dark red-brown flowers with long, purple hairs borne from base of stems.

Stapelia stellaris Haw.; *S. stellata* St.-Lag.

South Africa (Cape Province)



Stapelia cedrimontana
Frandsen

ASCLEPIADACEAE

Stems 4-angled and to 25 cm tall; angles toothed; rudimentary, caducous leaves 2–2.5 mm long with short hairs; flowers dark purple with ochreous markings.

South Africa (Cape Province)



Stapelia gettleffii R. Pott

ASCLEPIADACEAE

Erect stems 20–25 cm high with dentate, hairy angles; rudimentary, caducous leaves; purple flowers 14–16 cm in diameter with yellowish lines and covered with light purple hairs.

South Africa (Transvaal)



Stapelia glanduliflora Masson

ASCLEPIADACEAE

Erect, 4- to 6-angled stems 15–20 cm high with small teeth and rudimentary, caducous leaves; flowers yellow with brown spots and lines, densely covered with transparent hairs.

South Africa (Cape Province, Transkei)



Stapelia grandiflora Masson

ASCLEPIADACEAE

Green, 4-angled stems to 30 cm with small teeth and densely covered with soft hairs; rudimentary, caducous leaves; purple to black-purple flowers with ciliate margins borne from base of young stems.

Stapelia ambiguus Masson; *S. flavoatris* N.E. Br.

Lesotho, South Africa (Cape Province)

0442



Stapelia hirsuta L.

ASCLEPIADACEAE

Dull green, 4-angled stems 20 cm high, depressed between the angles and armed with small teeth; rudimentary, caducous leaves; red-yellow flowers with numerous soft purple hairs.

Stapelia marginata B. Sloane

South Africa (Cape Province)

0448



Stapelia incomparabilis N.E. Br.

ASCLEPIADACEAE

Stems 4- to 5-angled, 10-20 cm high branching from base and with teeth 2-3 mm long; rudimentary, caducous leaves; purple-red flowers. It may be a hybrid of *Stapelia* sp. x *Tromotriche* sp.

Southern Africa

1158



Stapelia leendertziae N.E. Br.

ASCLEPIADACEAE

Hairy, 4-angled stems 8-10 cm high with several small teeth; rudimentary, caducous leaves; purple-black or dark brown flowers.

South Africa (Transvaal)

1156



Stapelia montana L.C. Leach

ASCLEPIADACEAE

Plant branching from base; 4-angled stems 7-8 cm high; rudimentary, caducous leaves 2 mm long; red-brown flowers.

South Africa (Cape Province)

1157



Stapelia mutabilis Jacq.

ASCLEPIADACEAE

Green stems 10-20 cm high with purple spots; stems 4-angled with concave sides and small teeth; rudimentary, caducous leaves; yellowish flowers with red dots and lines. A hybrid of *Stapelia* sp. x *Tromotriche* sp.

Orbea mutabilis Sweet

Garden origin

0807



Stapelia olivacea

N.E. Br.

ASCLEPIADACEAE

Green stems 10-15 cm high with red spots and 4 rounded angles with small teeth; rudimentary, caducous leaves; dark green to red flowers.

Namibia, South Africa (Cape Province)

0811



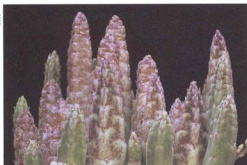
Stapelia pulvinata
Masson

ASCLEPIADACEAE

Dark green to red-brown, actually angled stems 10–20 cm high densely covered with small hairs and erect teeth along angles; rudimentary, caducous leaves; purple-brown flowers with yellow transverse bands.

South Africa (Cape Province)

0815



Stapelia similis N.E. Br.

ASCLEPIADACEAE

Grey-green to purple, 4- to 6-angled stems 10–15 cm high covered with minute hairs; rudimentary, caducous leaves; black-purple flowers.

South Africa (Cape Province)

0816



Stapelianthus decaryi Choux

ASCLEPIADACEAE

Erect, 6- to 8-angled stems 10 cm high; angles with alternating teeth tipped with spines to 4 mm long; dark purple, tubular flowers 2–2.5 cm long.

Madagascar

0820



Stapelianthus madagascariensis (Choux) Choux

ASCLEPIADACEAE

Erect or creeping, grey-green, 6- to 8-angled stems 10 cm long with dark red spots; tubercles with thin leaves; pale yellow flowers with red spots.

Madagascar

0821



Stomatium alboroseum L. Bol.

MESEMBRYANTHEMACEAE

Clump-forming plant with grey-green leaves 2–3 cm long with numerous dots; leaves keeled towards apex and with dentate margins; white flowers.

South Africa (Cape Province)

0826

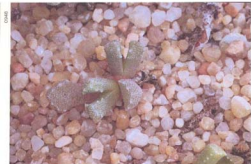


Stomatium erminium (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Clump-forming plant with light grey-green, obtuse leaves 2–3 cm long with convex lower surface, keeled towards apex; 3–4 marginal teeth near tips; yellow flowers.

South Africa (Cape Province)



Stomatium niveum L. Bol.

MESEMBRYANTHEACEAE

Grey-green leaves 2 cm long with white dots and dentate margins; nocturnal, white flowers.

South Africa (Cape Province)



Synadenium cupulare (Boiss.) L.C. Wheeler

EUPHORBIACEAE

Shrub 1–2 m high; green stems branching from base; green leaves 10 cm long and 4 cm wide with acute apex; greenish-yellow flowers.

South Africa (Natal, Transvaal), Swaziland



Synadenium grantii
Hook.

EUPHORBIACEAE

Shrub to 3 m tall; lanceolate, green leaves 20 cm long and 6–7 cm wide often with red mid-vein; brownish-red flowers.

Mozambique, Uganda, Zimbabwe



Synadenium grantii
'Rubra'

EUPHORBIACEAE

A variety with red to purple-red leaves; otherwise the same as the type species.

Mozambique, Uganda, Zimbabwe



Talinum cafrum
(Thunb.) Echl. & Zeyh.

PORTULACACEAE

Tuberous root; erect or spreading stems to 50 cm long; fleshy, green leaves 8 cm long; yellow flowers.

Southern and tropical Africa



Talinum paniculatum (Jacq.) Gaertn.

PORTULACACEAE

Tuberous root with erect, pink stems to 1 m high; green leaves 10 cm long; red to yellow flowers.

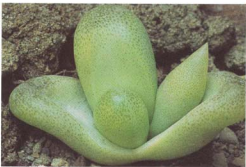
Central and North America (southern States)

**Talinum sp.**

PORTULACACEAE

Tuberous caudex with erect or prostrate green stems; numerous, small, green leaves; yellow flowers.

North America

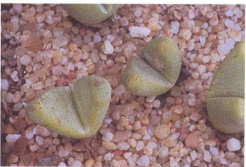
**Tanquana archeri** (L. Bol.) H.E.K. Hartmann & Liede

MESEMBRYANTHEMACEAE

Plant consisting of 1 pair of green or reddish leaves 2.5 cm long and 2 cm wide at base with roundish tips and small translucent dots; yellow flowers.

Phelosiplos archeri L. Bol.

South Africa (Cape Province)

**Tanquana prismatica** (Schwantes) H.E.K. Hartmann & Liede

MESEMBRYANTHEMACEAE

Triangular, green to grey leaves 3-4 cm long with dark spots and convex lower surface borne in small clumps, 5-10 cm in diameter; 1-2 pairs of leaves from each shoot; yellow flowers.

Phelosiplos prismaticus (Marloth) Schwantes

South Africa (Cape Province)

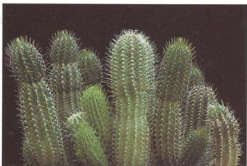
**Tavaresia angolense** Welw.

ASCLEPIADACEAE

Glabrous plant; 6- to 8-angled, leafless stems to 15 cm long with conical tubercles bearing 3 whitish bristles; pale yellow flowers with red dots borne from base of young stems.

Decalvone elegans Decne; *Huernia tavaresii* Welw.

Angola

**Tavaresia barklyi** (Dyer) N.E. Br.

ASCLEPIADACEAE

Bluish-green, 10- to 12-angled stems to 7 cm high; white tubercles with 3 purple bristles; 1-4 pale yellow flowers with red spots and stripes borne from base of young stems.

Decalvone barklyi Dyer

South Africa (Cape Province)

**Tavaresia meintjiesii** R.A. Dyer

ASCLEPIADACEAE

Dark green to brown, 6- to 8-angled stems 8-10 cm high covered with small hairs; teeth with 3 white spines; cream to yellow flowers with numerous red-brown dots and lines. A hybrid of *T. barklyi* x *Stapelia gottliffii*.

South Africa (Transvaal)



Titanopsis calcarea (Marloth) Schwantes

MESEMBRYANTHEACEAE

Rosettes to 10 cm wide; leaves to 2.5 cm long with truncate tip densely covered with grey tubercles; yellow flowers.

South Africa (Cape Province)



Titanopsis fulleri Tisch.

MESEMBRYANTHEACEAE

Clump-forming rosettes of 5-6 pairs of leaves; green (green-red when grown in full sun) leaves 2 cm long with flat upper surface, rounded keel to lower surface and tuberculate tip; yellow flowers.

South Africa (Cape Province)



Titanopsis hugo-schlechteri (Tisch) Dinter & Schwantes

MESEMBRYANTHEACEAE

Clump-forming rosettes; grey-green leaves 1-1.5 cm long and reddish above tip; leaf apex triangular with numerous grey-brown to red tubercles; orange or yellow flowers.

Namibia



Titanopsis 'Primosii'

MESEMBRYANTHEACEAE

Hemispherical clumps to 10 cm in diameter; light grey leaves 3 cm long, expanded above with triangular tip, tinged red with yellow-brown tubercles; canary yellow flowers with reddish tips.

Garden origin



Tradescantia navicularis Ortgies

COMMELINACEAE

Creeping stems rooting at nodes; grey-green, distichous, boat-shaped leaves 2-3 cm long covered with fine hairs; purplish-pink flowers.

Peru

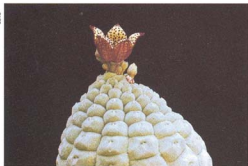


Tradescantia sillamontana Matuda

COMMELINACEAE

Stems about 6 cm long with green leaves, 2 cm long and covered with white hairs, forming small clumps; pinkish flowers.

Belize, Guatemala, Mexico

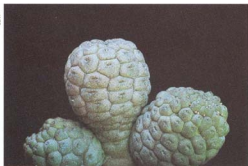


Trichocaulon cactiforme (Hook.) N.E. Br.

ASCLEPIADACEAE

Grey-green, globose to cylindrical stems branching from base; tubercles in dense spirals; yellow flowers spotted with red.

Namibia, South Africa (Cape Province)



Trichocaulon dinteri A. Berger

ASCLEPIADACEAE

Grey-green stems 5–10 cm long branching from base; 4- to 6-angled tubercles arranged in irregular spirals; creamy-white flowers with red spots and stripes.

Namibia



Trichocaulon flavum N.E. Br.

ASCLEPIADACEAE

Cylindrical dull green, somewhat glaucous stems to 15 cm high and 5 cm thick, branching at base with 20–30 series of tubercles arranged vertically and ending in brown bristly spine; dull yellow flowers.

South Africa (Cape Province)



Trichocaulon triebneri Nel

ASCLEPIADACEAE

Bluish- to grey-green, 15- to 16-angled stems to 30 cm high; tubercles with white spine 5 mm long; black-purple to red-purple flowers.

Namibia



Trichodiadema barbatum (L.) Schwantes

MESEMBRYANTHEMACEAE

Napiform (turnip-shaped) root with several prostrate stems; grey-green leaves 1 cm long and 3–4 mm wide with 8–10 black bristles at tips; red to purple flowers.

South Africa (Cape Province)



Trichodiadema bulbosum (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Tuberous root with stems to 20 cm high; grey-green leaves 8 mm long and 3 mm thick with several white bristles at tips; red flowers.

South Africa (Cape Province)

0003



Trichodiadema densum (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Tuberous roots with short stems; green leaves 1.5–2 cm long and 4 mm thick with 20–25 white bristles at tips; carmine flowers.
South Africa (Cape Province)

0132



Trichodiadema mirabile (N.E. Br.) Schwantes

MESEMBRYANTHEMACEAE

Small bushes with stems to 10 cm high and covered with white hairs; greenish leaves to 2.5 cm long with several brown bristles; white flowers.
South Africa (Cape Province)

0004



Trichodiadema peersii L. Bol.

MESEMBRYANTHEMACEAE

Small shrub to 10 cm high; green leaves 1 cm long with several brown bristles; white flowers.
South Africa (Cape Province)

0009



Trichodiadema stelligerum (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Shrub to 20 cm high with curved branches; bright green leaves 1–1.5 cm long with 3–10 white bristles; purple flowers.
South Africa (Cape Province)

0041



Tromotriche engleriana (Schltr.) L.C. Leach

ASCLEPIADACEAE

Grey-green, velvety, leafless stems 15–25 cm high with wide tubercles; brown flowers with yellow grooves.
South Africa (Cape Province)

0005



Tromotriche revoluta (Masson) Haw.

ASCLEPIADACEAE

Pale grey, 4-angled, leafless stems 30 cm long; purple flowers with recurved lobes borne near apex.
Stapelia revoluta Masson
South Africa (Cape Province)



Tylecodon buchholzianus (Schuldt & Steph.) Toelken

CRASSULACEAE

Swollen base with several pale grey to brown branches 30 cm long; yellowish-green, upwardly curving leaves 1–2 cm long with brown lines.

Cotyledon buchholziana Schuldt & Steph.

Namibia



Tylecodon paniculatus (L.f.) Toelken

CRASSULACEAE

Thick stems to 1.5 m high and 60 cm in diameter with many branches and yellow, peeling bark; numerous, green to green-yellow leaves to 15 cm long arising at branch apices; inflorescence to 60 cm high; red flowers.

Cotyledon fascicularis Aiton; *C. mollis* Dinter; *C. paniculata* L.f.; *C. tardiflora* Bongl.

Namibia, South Africa (Cape Province)



Tylecodon pearsonii (Schönland) Toelken

CRASSULACEAE

Stem covered with greyish peeling bark; grey-green to greyish-brown leaves; pale brown flowers.

Cotyledon lutesquamea Poelln.; *C. pearsonii* Schönland

Namibia, South Africa (Cape Province)



Tylecodon pygmaeus (W.F. Barker) Toelken

CRASSULACEAE

Stems to 20 cm high and 5–10 mm in diameter covered with pale yellow bark; green leaves 2–3 cm long, with several hairs; yellowish-green flowers.

Cotyledon pygmaea W.F. Barker

South Africa (Cape Province)



Tylecodon reticulatus (L.f.) Toelken

CRASSULACEAE

Plant 20–30 cm tall; stem covered with yellow-brown, peeling bark; yellow-green leaves to 30 cm long; yellowish-green flowers.

Cotyledon reticulata L.f.

Namibia, South Africa (Cape Province)



Tylecodon schaeferianus (Dinter) Toelken

CRASSULACEAE

Tuberous root; branched stems to 25 cm; green-brown leaves 5–20 cm long; yellow-green flowers.

Cotyledon schaeferiana Dinter

Namibia

0114



Tylecodon torulosum
Toelken

CRASSULACEAE

Stems to 25 cm high and 2 cm in diameter, covered with dark brown to white bark; grey-green to blue-green leaves 2-3 cm long with rounded apices; yellowish-green flowers.

South Africa (Cape Province)

0114



Tylecodon wallichii
(Harv.) Toelken

CRASSULACEAE

Much-branched stem to 1.5 m high covered with the remains of old leaves; bark peeling from stem base; grey-green leaves 5-12 cm long; yellow flowers.

Cotyledon wallichii Harv.

South Africa (Cape Province)

1198



Uncarina decaryi
Humbert

PEDALIACEAE

Large shrub or small tree; stems 2-3 m tall covered with greyish-ochre bark; triangular leaves 5-6 cm long, green upper surface covered with small hairs, lower surface grey; yellow flowers.

Madagascar

0218



Vanheerdea roodiae (N.E. Br.) L. Bol.

MESEMBRYANTHEMACEAE

Bodies 2-3 cm long; green leaves united for two-thirds of their length and covered with microscopic hairs and transparent dots; orange-yellow flowers.

South Africa (Cape Province)

0218



Villadia batesii (Hemsl.) Baehni & J. Macbr.

CRASSULACEAE

Stems 10-25 cm; pale green leaves 1 cm long and 3 mm wide arranged in rosettes and covered with minute tubercles; red to white flowers.

Mexico

0201



Villadia imbricata Rose

CRASSULACEAE

Little-branched stems forming mats; closely overlapping, pale green leaves 5-6 mm long, keeled on lower surface; white flowers.

Mexico

**Welwitschia mirabilis** Hook.f.

WELWITSCHIACEAE

Shallow taproot with many lateral roots just below the soil's surface; short, nearly circular, dark grey, fissured trunk; 2 opposite, dark green leaves produced from marginal grooves on crown, each splitting into many parallel sections and continuing to grow throughout life of plant, possibly reaching 4 m or more. Male and female brownish cones borne on different plants. Plant photographed in habitat.

Welwitschia hainesii (Hook.f.) Carr.

Angola, Namibia

**Welwitschia mirabilis** Hook.f.

WELWITSCHIACEAE

View of the Namib Desert with *Welwitschia* and the author's family.**Welwitschia mirabilis** Hook.f.

WELWITSCHIACEAE

The photograph shows what is probably the largest living specimen of *W. mirabilis*. It is said to be more than 1,500 years old and grows in a fenced area of the Namib Naukluft Park.

**Xerosicyos danguyi** Humbert

CUCURBITACEAE

Shrub with erect or procumbent stems to 50 cm long branching from base; fleshy, glaucous leaves 4 cm long and 3.5 cm wide with concave upper surface; whitish flowers.

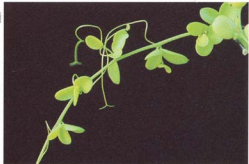
Madagascar

**Xerosicyos decaryi** Guill. & Keraudren

CUCURBITACEAE

Similar to *X. danguyi* but leaves oblong and to 2.5 cm long and 1 cm wide, rounded at apex.

Madagascar

**Xerosicyos perrieri** Humbert

CUCURBITACEAE

Climbing stems, woody at base; thick, light green leaves 2 cm long and 18 mm wide; whitish flowers.

Madagascar

1056

**Yucca baccata** Torr.

AGAVACEAE

Stemless or procumbent stems to 1.5 m long; dark green leaves 75 cm long with filiferous margins and pungent apex; inflorescence to 1 m tall; creamy-white flowers.

Mexico, USA (southwest)

1058

**Yucca endlicheriana** Trel.

AGAVACEAE

Stemless, rhizomatous plants; bluish-green leaves to 50 cm long with short terminal spine; inflorescence 40–60 cm tall; whitish flowers.

Mexico

1057

**Yucca carnerosana** (Trel.)
McKelvey

AGAVACEAE

Solitary stems 1.5–10 m high; green leaves to 1 m long and 5–8 cm wide; inflorescence branched; white flowers. Plant photographed in habitat.

Mexico

1059

**Yucca filamentosa** L.

AGAVACEAE

Stemless, clump-forming, stoloniferous plants; erect or spreading leaves 75 cm long with filiferous margins; inflorescence 3–4 m tall; whitish flowers.

USA (south)

1060

**Yucca elephantipes**

A. Regel

AGAVACEAE

Arborescent plants to 10 m high with several densely branched stems; stiff, green leaves 50–100 cm long; inflorescence to 1 m tall; numerous white flowers. This specimen, which has grown to a remarkable size, was photographed in the Botanical Garden of the University of Palermo.

Yucca guatemalensis Baker
Guatemala, Mexico

0108

**Zygoscycos tripartitus** Humbert

CUCURBITACEAE

Caudex to 10 cm in diameter; slightly woody stems; leaves 2–3 cm long and 1 cm wide with 2–3 lobes and minute hairs; yellow-green flowers.

Madagascar

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES

CITES Secretariat, PO Box 456, 1219 Châtelaine, Geneva, Switzerland

Habitat destruction is the major cause of the decline in wildlife populations, but the second most important threat is the exploitation of plants and animals (and their products) of wild origin. It is when this exploitation leads to international trade that CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, plays an important role.

CITES contributes to nature conservation by regulating the international trade through a system of permits and controls, which are issued and implemented by the exporting and importing countries. In July 1993 120 countries were party to CITES. The word 'trade' refers to all international movements of specimens of species listed in its Appendices, and it includes plants carried by tourists, large commercial consignments and material for scientific purposes. However, there are certain exemptions for registered scientific institutions. Through this control system, all Parties assist in keeping rare and threatened wildlife where it belongs – in nature reserves and in its natural habitat.

The CITES control system also permits trade in specimens from the wild up to a level that is not detrimental to the survival of the species in the wild. The international trade in animals and plants of wild origin involves a large number of specimens and has great value. The number of wild plants traded internationally increased greatly after the Second World War when people travelled more freely and to more distant countries. In addition, the increased use of central heating allowed more and more people to keep specimens from tropical regions.

HOW DOES CITES WORK?

The purpose of CITES can perhaps best be illustrated by quoting from the preamble to the Convention.

- Recognizing that wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth, which must be protected for this and for the generations to come;
- Conscious of the ever-growing value of wild fauna and flora from aesthetic, scientific, cultural, recreational and economic points of view;
- Recognizing that peoples and states are, and should be, the best protectors of their own wild fauna and flora.

Through CITES, sustainable trade in specimens of certain species is regulated, recognizing at the same time that countries have a right to exploit their natural resources or not to permit such exploitation should they so decide. The degree of protection afforded to a species by the Convention depends on the Appendix in which it is listed.

- Appendix I includes all those species of which trade in specimens of wild origin is permitted only in exceptional circumstances.
- Appendix II contains those species of which commercial or private trade in wild specimens is permitted as long as it is regulated to ensure that it is sustainable.
- Appendix III contains the species for which one country has asked other CITES signatories for assistance in their protection.

The inclusion of species in Appendices I and II requires a two-thirds majority decision of the countries that are party to CITES. The listing in Appendix III can be done by an individual country. No cacti or other succulents are listed in Appendix III; all cacti are included in Appendix I or II.

WILD-GROWN SPECIMENS

The regulation of trade in the species concerned is provided by a system of permits. Importation for commercial purposes of specimens of species listed in Appendix I of wild origin is not allowed. Trade that is not commercial – for scientific purposes, for example – requires that the country of importation issues an import permit before an export permit may be issued by the exporting country.

Commercial trade in specimens of species listed in Appendix II of wild origin is allowed on the condition that an export permit is issued by the country of export. In the case of re-export of specimens that have been imported from another country, a re-export certificate may be issued once it has been proved that the specimens were legally imported.

These are the basic requirements as included in the text of the Convention. However, each country may take stricter measures if it wishes. For example, some countries – Peru, Brazil and Mexico – have decided not to allow the export of any wild plants from their territories. This means that they do not issue export permits for wild-collected plants. By taking this measure they ensure that, if plants are taken illegally, they may not be imported legally into another country. The European Community requires that an import permit or certificate be issued for any importation of CITES specimens into the territory of its member states.

ARTIFICIALLY PROPAGATED PLANTS

A less strict regime applies to artificially propagated plants. If these plants are of species listed in Appendix I they are treated as if they were in Appendix II, so that only an export licence is required. Although an import licence is not required under CITES, some countries may still demand it as a consequence of stricter measures.

Artificially propagated plants of species listed in Appendix II are subject to a number of exemptions from CITES controls. Flashed seedlings, cut flowers, seeds and pollen are not covered by the Convention. They may also be traded with a certificate of artificial propagation. A number of European countries use the phytosanitary certificate for this purpose.

The above is a brief summary of the work of CITES. The Convention is implemented in many other ways, and interested readers are directed to *The Evolution of CITES* by W. Wijnstekers (see Further Reading).

INTERNATIONAL ORGANIZATION FOR SUCCULENT PLANTS STUDY

CODE OF CONDUCT

Sara Oldfield

This Code was first published in 1990 in volume 10 (supplement to no. 4) of *Piante Grasse*, the journal of the Italian Cactus and Succulent Society, and it has since been printed in several specialist journals. It is reprinted with kind permission of the author, Sara Oldfield. The original edition of the Code contains much useful information that, for reasons of space, cannot be included here. Copies of the full Code may be obtained from Sara Oldfield or from the IOS or the AIAS.

TO THE COLLECTOR IN THE FIELD

Before you collect anything:

- DO acquaint yourself with CITES and national and state controls, and find out which species are protected.
- DO obtain all necessary permits, both for collecting and for export and import to other countries.
- DO notify interested local organizations of your intentions.

Then:

- DO strictly observe restrictions on what may be collected (which species, how many specimens, what kind of material). Where possible, collect seeds, offsets or cuttings, not the whole plant.
- DO leave mature plants for seed production. They are needed to perpetuate the wild population, and are unlikely to transplant successfully.
- DO collect discreetly; do not lead local people to believe that the plants are valuable or encourage or pay them (or their children) to collect for you.
- DO make careful field notes, including precise locality, altitude, type of vegetation and soil, date of collection and your own field number. Try to assess the number of individuals and extent of the population, the amount of seed setting and the frequency of seedlings.
- DO note possible threats to the habitat - e.g., through grazing, drainage or cultivation, urban spread or road widening.
- DO take photographs and/or preserve representative herbarium material. Submit this material, with a copy of your notes, to an appropriate institution or organization.
- DO NOT underrate the value of your field observations: carefully recorded they will be a useful contribution to science and to conservation.

If:

- you plan to collect in commercial quantities, don't.
- you plan to sell any of the plants you collect to defray the cost of your trip, don't.
- you plan to collect for research or study, obtain the agreement (and preferably the collaboration) of competent scientific authorities, such as a government agency or university department, in the host country.
- you think 'two or three plants won't be missed', remember someone else may be thinking the same tomorrow, and the next day, and the next...

TO THE IMPORTER, PRIVATE OR COMMERCIAL

- DON'T import wild plants, even if legally permitted, except as a nucleus for propagation and seed-production.

Then:

- DO check the credentials of suppliers offering wild plants and satisfy yourself that they are 'legal'.
- DO observe international and national export/import regulations.

TO THE NURSERYMAN

- DO sell nursery-raised or propagated material only; do not advertise or sell un-propagated wild plants under any circumstances, even when legally permitted to do so.
- DO try to propagate all rare or documented material and distribute it to recognized IOS Reference Collections.
- DO keep more than one clone of rare species, even self-fertile ones, for seed production.
- DO keep careful records of the origin of all stock, especially any wild collectors' number or locality data, and pass on the information to interested purchasers.

TO THE GROWER OR COLLECTOR AT HOME

- DO make successful cultivation your prime objective, not the size of your collection or the rarity of the plants.
- DO NOT buy any plant unless you are sure it was nursery grown; remember that your choice will influence the seller's market.
- DO not buy wild-collected plants, even if with the aim of saving the 'individual'. We want to save the species, not the specimen. Only when importers see their wild-collected plants rotting because nobody buys them will they stop the importation of wild-collected plants.
- DO enjoy the satisfaction of raising from seed. Some of the rare or 'difficult' species will test your skill and patience, but reward your success accordingly!
- DO record when and from whom you got your plants or seeds and ask your source for any data: collectors' numbers, locality, and so on. All these are just as vital to the serious enthusiast as the name of the label.

- DO try to propagate rare and documented material and distribute it to other enthusiasts. Remember the proverb: To keep a plant, give it away!

TO THE SOCIETY AND CLUB

- DO endorse the precepts of this Code as a guide for responsible and conscientious behaviour.
- DO NOT permit wild plants to be advertised for sale in your publications, either openly or by hints.
- DO publicize national and international regulations on the export, importation and sale of wild plants.
- DO sponsor or support national and international measures to protect the habitats of rare and threatened species.
- DO inform the competent authorities of any suspect sale of collected plants. If you know of people travelling to countries where succulents grow wild with the intention to collecting, inform the competent authorities; the best way to stop habitat exploitation by collectors is to catch them at the port of entry with the plants in their hands.

TO THE SHOW COMMITTEE AND JUDGES

- DO include in the schedule some classes for plants raised from seed by the exhibitor.
- DO NOT permit species protected by CITES Appendix I to be shown in competitive classes, except as seedlings or other artificially raised propagations.
- DO make a policy of giving preference to well-grown seedlings over field-collected plants. Check that obvious or suspected 'imports' are properly rooted and established.

CHECKLIST OF ALTERNATIVE NAMES

The following list contains some of the synonyms in common use.
This is a partial listing, and several obsolete names that are seldom used have been omitted.

Genus	Species	... See	Genus	Species	... See
<i>Abromeitiella</i>	<i>pulvinata</i>	<i>Abromeitiella chlorantha</i>	<i>Aloe</i>	<i>abyssinica</i>	<i>Aloe eru</i>
<i>Adenia</i>	<i>angustisecta</i>	<i>Adenia digitata</i>		<i>albo-cincta</i>	<i>Aloe striata</i>
	<i>buchannannii</i>	<i>Adenia digitata</i>		<i>barbadensis</i>	<i>Aloe vera</i>
	<i>multiflora</i>	<i>Adenia digitata</i>		<i>echinata</i>	<i>Aloe humilis</i>
					var. <i>echinata</i>
<i>Adromischus</i>	<i>cuneatus</i>	<i>Adromischus cooperi</i>		<i>ellenbergeri</i>	<i>Aloe aristata</i>
	<i>festivus</i>	<i>Adromischus cooperi</i>		<i>gariusana</i>	<i>Aloe gariensis</i>
	<i>halesowensis</i>	<i>Adromischus cooperi</i>		<i>hamburyana</i>	<i>Aloe striata</i>
	<i>procurvus</i>	<i>Adromischus triflorus</i>		<i>humilis</i>	<i>Aloe humilis</i>
	<i>subcompressus</i>	<i>Adromischus triflorus</i>		var. <i>candollei</i>	
	<i>subpetiolaris</i>	<i>Adromischus triflorus</i>		<i>indica</i>	<i>Aloe vera</i>
<i>Aeonium</i>	<i>bertoletianum</i>	<i>Aeonium tabulaeforme</i>		<i>lanzae</i>	<i>Aloe vera</i>
	<i>macrolepum</i>	<i>Aeonium tabulaeforme</i>		<i>lingua</i>	<i>Aloe plicatilis</i>
	<i>meyerheimii</i>	<i>Aeonium glandulosum</i>		<i>linguaeformis</i>	<i>Aloe plicatilis</i>
<i>Agave</i>	<i>angustissima</i>	<i>Agave geminiflora</i>		<i>longiaristata</i>	<i>Aloe aristata</i>
	<i>bakeri</i>	<i>Agave karwinskii</i>		<i>maculosa</i>	<i>Aloe obscura</i>
	<i>carchariodontha</i>	<i>Agave xylomacantha</i>		<i>paniculata</i>	<i>Aloe striata</i>
	<i>chihuahuana</i>	<i>Agave parryi</i>		<i>perfoliata</i>	<i>Aloe humilis</i>
	<i>coelum</i>	<i>Agave ferox</i>		var. <i>humilis</i>	
	<i>consideranti</i>	<i>Agave victoriae-reginae</i>		<i>picta</i>	<i>Aloe obscura</i>
	<i>coredoray</i>	<i>Agave karwinskii</i>		<i>prolifera</i>	<i>Aloe brevifolia</i>
	<i>disceptata</i>	<i>Agave schidigera</i>		<i>punctata</i>	<i>Aloe variegata</i>
	<i>filamentosa</i>	<i>Agave filifera</i>		<i>rhodocincta</i>	<i>Aloe striata</i>
	<i>glaucescens</i>	<i>Agave attenuata</i>		<i>schmidtiana</i>	<i>Aloe cooperi</i>
	<i>mitis</i>	var. <i>albicans</i>		<i>sempervivoides</i>	<i>Aloe parvula</i>
	<i>nickelsii</i>	<i>Agave victoriae-reginae</i>		<i>tripetala</i>	<i>Aloe plicatilis</i>
	<i>nigra</i>	<i>Agave colimana</i>		<i>tuberculata</i>	<i>Aloe humilis</i>
	<i>nigrans</i>	<i>Agave colimana</i>		<i>vulgaris</i>	var. <i>echinata</i>
	<i>patoni</i>	<i>Agave parryi</i>			<i>Aloe vera</i>
	<i>saundersii</i>	<i>Agave potatorum</i>	<i>Amaryllis</i>	<i>coranica</i>	<i>Ammocharis coranica</i>
	<i>scolymus</i>	<i>Agave potatorum</i>	<i>Anacamperos</i>	<i>arachnoides</i>	<i>Anacamperos rufescens</i>
	<i>todaroi</i>	<i>Agave marmorata</i>		<i>intermedia</i>	<i>Anacamperos filamentosa</i>
	<i>vestita</i>	<i>Agave schidigera</i>		<i>poelnitziana</i>	<i>Anacamperos tomentosa</i>
	<i>wislizeni</i>	<i>Agave parrasana</i>	<i>Anredera</i>	<i>cordifolia</i>	<i>Boussingaultia cordifolia</i>
			<i>Antegibbaeum</i>	<i>fissoides</i>	<i>Gibbaeum fissoides</i>

Genus	Species	...See
<i>Argyroderma</i>	<i>margarethae</i>	<i>Lapidaria margarethae</i>
<i>Beaucarnea</i>	<i>recurvata</i>	<i>Nolina recurvata</i>
<i>Bryophyllum</i>	<i>verticillatum</i>	<i>Kalanchoe tubiflora</i>
<i>Bursera</i>	<i>odorata</i>	<i>Bursera fagaroides</i> var. <i>elongata</i>
<i>Calibanus</i>	<i>caespitosum</i>	<i>Calibanus hookerii</i>
<i>Caralluma</i>	<i>caudata</i>	<i>Orbeopsis caudata</i>
	<i>codonoides</i>	<i>Caralluma speciosa</i>
	<i>commutata</i>	<i>Caralluma hesperidium</i>
	subsp. <i>hesperidium</i>	
	<i>corrugata</i>	<i>Caralluma socotrana</i>
	<i>dicapuae</i>	<i>Caralluma turneri</i>
	subsp. <i>turneri</i>	
	<i>elata</i>	<i>Caralluma priogonium</i>
	<i>mamillaris</i>	<i>Quaqua mamillaris</i>
	<i>praegracilis</i>	<i>Orbeopsis caudata</i>
	<i>rivae</i>	<i>Caralluma socotrana</i>
	<i>tessellata</i>	<i>Notechidnopsis tessellata</i>
<i>Cephalophyllum</i>	<i>clavifolium</i>	<i>Jordaniella clavifolia</i>
<i>Ceropegia</i>	<i>debilis</i>	<i>Ceropegia linearis</i> subsp. <i>debilis</i>
	<i>hians</i>	<i>Ceropegia dichotoma</i>
<i>Cheiridopsis</i>	<i>hilmari</i>	<i>Aloinopsis hilmari</i>
<i>Cnidioscolus</i>	<i>urens</i>	<i>Jatropha urens</i>
<i>Conophytum</i>	<i>praesectum</i>	<i>Ophthalmophyllum praesectum</i>
<i>Cotyledon</i>	<i>buchholziana</i>	<i>Tylecodon buchholzianus</i>
	<i>elata</i>	<i>Cotyledon orbiculata</i>
	<i>fascicularis</i>	<i>Tylecodon paniculatus</i>
	<i>leuteosquamata</i>	<i>Tylecodon pearsonii</i>
	<i>mollis</i>	<i>Tylecodon paniculatus</i>
	<i>oblonga</i>	<i>Cotyledon orbiculata</i>
	<i>paniculata</i>	<i>Tylecodon paniculatus</i>
	<i>pearsonii</i>	<i>Tylecodon pearsonii</i>
	<i>pygmaea</i>	<i>Tylecodon pygmaeus</i>
	<i>ramosa</i>	<i>Cotyledon orbiculata</i>
	<i>reticulata</i>	<i>Tylecodon reticulatus</i>
	<i>schaeferiana</i>	<i>Tylecodon schaeferianus</i>
	<i>tardiflora</i>	<i>Tylecodon paniculatus</i>
	<i>wallichii</i>	<i>Tylecodon wallichii</i>

Genus	Species	...See
<i>Crassula</i>	<i>alooides</i>	<i>Crassula hemisphaerica</i>
	<i>anthurus</i>	<i>Crassula perforata</i>
	<i>archeri</i>	<i>Crassula pyramidalis</i>
	<i>conjuncta</i>	<i>Crassula perforata</i>
	<i>cotyledon</i>	<i>Crassula arborescens</i>
	<i>cylindrica</i>	<i>Crassula pyramidalis</i>
	<i>flavovirens</i>	<i>Crassula brevifolia</i>
	<i>glabrifolia</i>	<i>Crassula tomentosa</i>
	<i>lycopodioides</i>	<i>Crassula muscosa</i>
	<i>nealeana</i>	<i>Crassula perforata</i>
	<i>pearsonii</i>	<i>Crassula brevifolia</i>
	<i>perfilata</i>	<i>Crassula perforata</i>
	<i>petersoniae</i>	<i>Crassula perforata</i>
<i>teres</i>	<i>Crassula barklyi</i>	
<i>Decabelone</i>	<i>barklyi</i>	<i>Tavaresia barklyi</i>
	<i>elegans</i>	<i>Tavaresia angolense</i>
<i>Didierea</i>	<i>adscendens</i>	<i>Alluaudia adscendens</i>
<i>Dudleya</i>	<i>maranii</i>	<i>Dudleya albiflora</i>
<i>Echeveria</i>	<i>discolor</i>	<i>Echeveria nodulosa</i>
	<i>glauca</i>	<i>Echeveria pumila</i> var. <i>glauca</i>
	<i>obscura</i>	<i>Echeveria agavoides</i>
	<i>sanguista</i>	<i>Echeveria subrigida</i>
<i>Echidnopsis</i>	<i>chrysantha</i>	<i>Echidnopsis scutellata</i> subsp. <i>planiflora</i>
	<i>somalensis</i>	<i>Echidnopsis dammaniana</i>
<i>Echinohammus</i>	<i>pechuelii</i>	<i>Adenia pechuelii</i>
<i>Euphorbia</i>	<i>antankara</i>	<i>Euphorbia pachypodioides</i>
	<i>caespitosa</i>	<i>Euphorbia ferox</i>
	<i>calderensis</i>	<i>Euphorbia copiapina</i>
	<i>fructus-pintii</i>	<i>Euphorbia caput-medusae</i>
	<i>glomerata</i>	<i>Euphorbia globosa</i>
	<i>gynophora</i>	<i>Euphorbia spinosa</i>
	<i>hermetiana</i>	<i>Euphorbia trigona</i>
	<i>huttonae</i>	<i>Euphorbia inermis</i> var. <i>huttonae</i>
	<i>mammillosa</i>	<i>Euphorbia squarrosa</i>
	<i>medusae</i>	<i>Euphorbia caput-medusae</i>
	<i>moquadarensis</i>	<i>Euphorbia resinifera</i>
	<i>morinii</i>	<i>Euphorbia heptagona</i>
	<i>rhysaloides</i>	<i>Euphorbia tirucalli</i>
	<i>san-salvador</i>	<i>Euphorbia resinifera</i>
	<i>splendens</i>	<i>Euphorbia mili</i>
<i>subumbellata</i>	<i>Euphorbia copiapina</i>	

Genus	Species	...See	Genus	Species	...See
	<i>tessellata</i> <i>viminalis</i>	<i>Euphorbia caput-medusae</i> <i>Euphorbia tirucalli</i>	<i>Ledebouria</i>	<i>socialis</i>	<i>Scilla socialis</i>
<i>Gasteria</i>	<i>excelsa</i>	<i>Gasteria fuscopunctata</i>	<i>Lithops</i>	<i>bella</i>	<i>Lithops karasmontana</i> subsp. <i>bella</i>
<i>Gibbaeum</i>	<i>perviride</i> <i>shandii</i>	<i>Gibbaeum gibbosum</i> <i>Gibbaeum pubescens</i> var. <i>shandii</i>		<i>dabneri</i>	<i>Lithops hookeri</i> var. <i>dabneri</i>
<i>Haworthia</i>	<i>aegrota</i> <i>chaltwinii</i> <i>fallax</i> <i>fulva</i> <i>gigas</i> <i>lepida</i> <i>luteorosea</i> <i>margaritifera</i> <i>musculina</i> <i>paynei</i> <i>pentagona</i> <i>picta</i> <i>pilifera</i> <i>planifolia</i> <i>setata</i>	<i>Haworthia herbacea</i> <i>Haworthia coarctata</i> <i>Haworthia coarctata</i> <i>Haworthia coarctata</i> <i>Haworthia arachnoidea</i> <i>Haworthia cymbiformis</i> <i>Haworthia herbae</i> <i>Haworthia pumila</i> <i>Haworthia coarctata</i> <i>Haworthia herbacea</i> <i>Asiroloba pentagona</i> <i>Haworthia emelyae</i> <i>Haworthia cooperi</i> <i>Haworthia cymbiformis</i> <i>Haworthia arachnoidea</i>		<i>dendritica</i>	<i>Lithops pseudotruncatella</i> subsp. <i>dendritica</i>
				<i>elisabethiae</i>	<i>Lithops pseudotruncatella</i> var. <i>elisabethiae</i>
				<i>fulleri</i>	<i>Lithops julii</i> subsp. <i>fulleri</i>
				<i>insularis</i>	<i>Lithops bronfieldii</i> var. <i>insularis</i>
				<i>lericheana</i>	<i>Lithops karasmontana</i> var. <i>lericheana</i>
				<i>localis</i>	<i>Lithops terricolor</i>
				<i>marginata</i>	<i>Lithops hookeri</i> var. <i>marginata</i>
				<i>marthae</i>	<i>Lithops schwanensis</i> var. <i>marthae</i>
				<i>memelli</i>	<i>Lithops bronfieldii</i> var. <i>memelli</i>
				<i>rugosa</i>	<i>Lithops schwanensis</i> var. <i>rugosa</i>
				<i>susannae</i>	<i>Lithops hookeri</i> var. <i>susannae</i>
<i>Hoya</i>	<i>paxtonii</i>	<i>Hoya bella</i>		<i>translucens</i>	<i>Lithops herrei</i>
<i>Huernia</i>	<i>tavaresii</i>	<i>Tavaresia angolense</i>		<i>vanzilii</i>	<i>Dinteranthus vanzilii</i>
<i>Idria</i>	<i>columnaris</i>	<i>Fouquieria columnaris</i>		<i>venteri</i>	<i>Lithops lesliet</i> var. <i>venteri</i>
<i>Imitaria</i>	<i>muririi</i>	<i>Gibbaeum nebrowii</i>	<i>Mitrophyllum</i>	<i>dissitum</i>	<i>Conophyllum dissitum</i>
<i>Juttadinteria</i>	<i>proxima</i>	<i>Dracophilus proximus</i>		<i>framesii</i>	<i>Conophyllum framesii</i>
<i>Kalanchoe</i>	<i>farinacea</i> <i>grandiflora</i> <i>lacinata</i>	<i>Kalanchoe scapigera</i> <i>Kalanchoe marmorata</i> <i>Kalanchoe integra</i>		<i>pisiforme</i> <i>proximus</i>	<i>Monilaria pisiforme</i> <i>Conophyllum proximus</i>
<i>Kleinia</i>	<i>archeri</i> <i>articulata</i> <i>desfiersii</i> <i>fulgens</i> <i>grantii</i> <i>neriifolia</i> <i>pendula</i> <i>picticaulis</i> <i>saginata</i> <i>sempervivica</i> <i>spiculosa</i> <i>stapeliaeformis</i>	<i>Senecio archeri</i> <i>Senecio articulatus</i> <i>Senecio desfiersii</i> <i>Senecio fulgens</i> <i>Senecio grantii</i> <i>Senecio kleinia</i> <i>Senecio pendulus</i> <i>Senecio picticaulis</i> <i>Senecio saginata</i> <i>Senecio sempervivus</i> <i>Senecio spiculosus</i> <i>Senecio stapeliaeformis</i>	<i>Nananthus</i>	<i>luckhoffii</i> <i>malherbei</i> <i>orpenii</i> <i>schooneesii</i>	<i>Aloinopsis luckhoffii</i> <i>Aloinopsis malherbei</i> <i>Aloinopsis orpenii</i> <i>Aloinopsis schooneesii</i>
			<i>Nolina</i>	<i>tuberculata</i>	<i>Nolina recurvata</i>
			<i>Orbea</i>	<i>mutabilis</i>	<i>Stapelia mutabilis</i>
			<i>Orostachys</i>	<i>kanboensis</i>	<i>Orostachys minutus</i>
			<i>Pachyphytum</i>	<i>roseum</i>	<i>Pachyphytum hookeri</i>
			<i>Pachyveria</i>	<i>scheideckeri</i>	<i>Echeveria x scheideckeri</i>
			<i>Pleiospilos</i>	<i>archeri</i> <i>canus</i>	<i>Tanquana archeri</i> <i>Pleiospilos compactus</i> subsp. <i>canus</i>

Genus	Species	...See
	<i>minor</i>	<i>Pleiospilos compactus</i> subsp. <i>minor</i>
	<i>pedunculatus</i>	<i>Pleiospilos nelii</i>
	<i>prismaticus</i>	<i>Tanquana prismatica</i>
	<i>tricolor</i>	<i>Pleiospilos nelii</i>
<i>Pseudolithops</i>	<i>sphaericus</i>	<i>Pseudolithops migiurtinus</i>
<i>Rhodiola</i>	<i>rosea</i>	<i>Sedum roseum</i>
<i>Rochea</i>	<i>falcata</i>	<i>Crassula falcata</i>
<i>Ruschia</i>	<i>albiflora</i>	<i>Polymita albiflora</i>
	<i>disarticulata</i>	<i>Eberlanzia disarticulata</i>
<i>Sarcocaulon</i>	<i>burmannii</i>	<i>Sarcocaulon crassicaule</i>
	<i>lorrei</i>	<i>Sarcocaulon herrei</i>
<i>Schizobasopsis</i>	<i>volubilis</i>	<i>Bowiea volubilis</i>
<i>Sedum</i>	<i>aizoides</i>	<i>Sedum aizoon</i>
	<i>athoum</i>	<i>Sedum album</i>
	<i>balticum</i>	<i>Sedum album</i>
	<i>boloniense</i>	<i>Sedum sexangulare</i>
	<i>burnatii</i>	<i>Sedum dasyphyllum</i>
	<i>californicum</i>	<i>Sedum spathulifolium</i> var. <i>purpureum</i>
	<i>ciliare</i>	<i>Sedum spurium</i>
	<i>congestum</i>	<i>Sedum spurium</i>
	<i>crenatum</i>	<i>Sedum spurium</i>
	<i>denticulatum</i>	<i>Sedum spurium</i>
	<i>glanuliferum</i>	<i>Sedum dasyphyllum</i>
	<i>glaucum</i>	<i>Sedum dasyphyllum</i>
	<i>glaucum</i>	<i>Sedum hispanicum</i>
	<i>hillebrandtii</i>	<i>Sedum sexangulare</i>
	<i>ibericum</i>	<i>Sedum stoloniferum</i>
	<i>lazicum</i>	<i>Sedum spurium</i>
	<i>maximoviczii</i>	<i>Sedum aizoon</i>
	<i>mite</i>	<i>Sedum sexangulare</i>
	<i>rotundifolium</i>	<i>Sedum anacampseros</i>
	<i>rufescens</i>	<i>Sedum nicaense</i>
	<i>sediforme</i>	<i>Sedum nicaense</i>
	<i>sexfidum</i>	<i>Sedum hispanicum</i>
	<i>shastense</i>	<i>Sedum lanceolatum</i>
	<i>spirale</i>	<i>Sedum sexangulare</i>
	<i>stenopetalum</i>	<i>Sedum lanceolatum</i>
	var. <i>subalpinum</i>	
	<i>subalpinum</i>	<i>Sedum lanceolatum</i>
	<i>subtile</i>	<i>Sedum lineare</i>
	<i>turgidum</i>	<i>Sedum album</i>

Genus	Species	...See
	<i>urvillei</i>	<i>Sedum sartorianum</i>
	<i>verlotii</i>	<i>Sedum anopetalum</i>
	<i>woodi</i>	<i>Sedum spathulifolium</i> var. <i>purpureum</i>
	<i>woodwardii</i>	<i>Sedum aizoon</i>
	<i>zentaro-tashiroi</i>	<i>Sedum lineare</i>
<i>Sempervivum</i>	<i>album</i>	<i>Sempervivella alba</i>
	<i>arvernense</i>	<i>Sempervivum tectorum</i>
	<i>gaudini</i>	<i>Sempervivum</i> <i>grandiflorum</i>
	<i>italicum</i>	<i>Sempervivum tectorum</i> var. <i>italicum</i>
	<i>tectorum</i>	<i>Sempervivum tectorum</i>
	var. <i>alpinum</i>	
	<i>tectorum</i>	<i>Sempervivum calcareum</i> var. <i>calcareum</i>
	<i>tectorum</i>	<i>Sempervivum tectorum</i> var. <i>glaucum</i>
<i>Senecio</i>	<i>tomentosus</i>	<i>Senecio haworthii</i>
<i>Sphalmanthus</i>	<i>viridiflorus</i>	<i>Nycteranthus viridiflorus</i>
<i>Stapelia</i>	<i>ambigua</i>	<i>Stapelia grandiflora</i>
	<i>dummeri</i>	<i>Caralluma dummeri</i>
	<i>europaea</i>	<i>Caralluma europaea</i>
	<i>flavivestris</i>	<i>Stapelia grandiflora</i>
	<i>margarita</i>	<i>Stapelia hirsuta</i>
	<i>revoluta</i>	<i>Tromotriche revoluta</i>
	<i>stellaris</i>	<i>Stapelia asterias</i>
	<i>stellata</i>	<i>Stapelia asterias</i>
	<i>variegata</i>	<i>Orbea variegata</i>
	<i>verrucosa</i>	<i>Orbea verrucosa</i>
<i>Stultitia</i>	<i>hardyi</i>	<i>Orbeanthus hardyi</i>
<i>Tacitus</i>	<i>bellus</i>	<i>Graptopetalum bellum</i>
<i>Testudinaria</i>	<i>elephantipes</i>	<i>Dioscorea elephantipes</i>
	<i>paniculata</i>	<i>Dioscorea sylvatica</i> var. <i>paniculata</i>
<i>Titanopsis</i>	<i>luckhoffii</i>	<i>Aloinopsis luckhoffii</i>
	<i>setifera</i>	<i>Aloinopsis setifera</i>
<i>Urbinia</i>	<i>agavoides</i>	<i>Echeveria agavoides</i>
<i>Welwitschia</i>	<i>bainesii</i>	<i>Welwitschia mirabilis</i>
<i>Yucca</i>	<i>guatemalensis</i>	<i>Yucca elephantipes</i>

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Also of interest

Succulents II: New Illustrated Dictionary
Maurizio Sajevo and Mariangela Costanzo

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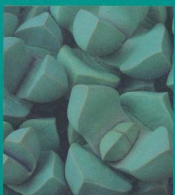
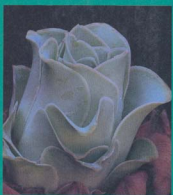
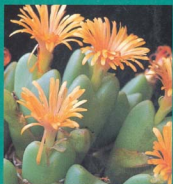
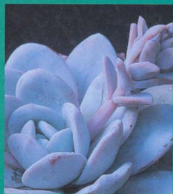
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