

RESEARCH NOTES

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Folk Medicinal Plants of the Nagas in India

Abstract

Nagaland is a transborder state in India. It borders Myanmar and is inhabited by fourteen indigenous tribes, collectively known as the "Nagas." The aboriginal Naga tribes have a rich knowledge, based on their natural resources, of indigenous folk medicine. After centuries of trial, often at the risk of the loss of human life, they have learned to utilize local plants to cure different ailments. Their beliefs and folk practices are based on past experience with various diseases and their cures. Presented here is an account of 109 plant species that have medicinal uses among the tribes. As none of these have been recorded earlier, the local and scientific names as well as the uses of the plants are provided.

Key words: folk medicine—Naga—medicinal plants

MUCH OF TRADITIONAL medicine today, be it based on the Ayurvedic, Unani, She nung or Shi Zhenli system, has its origins in early discoveries. Tribal people, because they lack a writing system, generally record their experiences and history with medicine in oral traditions handed down from one generation to the next. Tribal societies today have inherited ancient knowledge through oral folklore, and some still depend totally or largely on this knowledge and the practices based on it. Many renowned drugs of today would have gone into wider use decades ago if the folklore and traditions of tribal people concerning certain plants had been taken seriously.

Nagaland, situated on the northeastern frontier of India and bordering Myanmar, is inhabited by fourteen major Naga tribes. The Naga tribes are of Mongolian stock, speak a Tibeto-Burmese language, and have sociocultural affinities with Southeast Asia (AO 1970). The Nagas led a fairly isolated life until the advent of the British in the late nineteenth century. Today, they still have a culture rich with traditional practices, and they still depend on nature for food, shelter, and medicines (CHANGKIJA 1992). They have a great heritage of oral traditions that are treasured in various research fields. Many of the oral traditions involve beliefs and practices associated with plants and animals.

Some of the Naga folk medicines, after scientific investigation, may provide future drugs for some dreadful diseases that plague mankind. With this hope in mind, a total of 109 species of plants, unreported in ethnobotanical literature, have been recorded here.

MATERIALS AND METHODS

This study is based on research that involved an extensive field survey and interviews with local practitioners of the Naga tribes conducted over a period of more than five years. During the field survey the practitioners amongst the inhabitants of the area, including the *arasentsur* (medicine man) and others with knowledge of these plants, were consulted. Local interpreters

were employed. The plants were identified with the help of regional flora and a herbarium, following herbarium methods (JAIN and RAO 1976). Herbarium specimens were prepared and have been deposited in the herbarium of Northeastern Hills University, Shillong, India, with voucher numbers, which are given here after the description of each species as "S.Ch."

The present study shows that a total of 109 plants, belonging to 85 genera and 60 families, are being utilized for medicinal purposes by the Naga tribes. The species are arranged alphabetically according to their botanical names. The family name of the species, the local name, the part used, and a description of the way it is utilized are given after the botanical name.

ENUMERATION OF FOLK MEDICINAL PLANTS AND THEIR USES

ACACIA PENNATA (Linn.) Willd.

Family: *Mimosaceae*

Local Name: Chakrangaing

The bark is made into paste and applied to a snakebite or scorpion sting; juice extracted from the leaves is mixed with milk and served to infants during indigestion; paste made from leaves is used as a hemostatic; the whole plant is crushed in a stream to kill the fish. The plant is also cut from the root stock, left to get infested by a kind of wood borer, and then eaten as a delicacy.

S.Ch.1

ACONITUM PALMATUM D. Don

Family: *Ranunculaceae*

Local Name: Meri mezem

The root is crushed and soaked overnight in water and drunk to relieve diarrhea, dysentery, rheumatism; also drunk as a tonic.

S.Ch.5

ACORUS CALAMUS Linn.

Family: *Acoraceae*

Local Name: Burma ami

The root stock and young leaves are eaten as a vegetable; paste made from the corm is applied as a vulnerary; juice is applied in case of eye infection or conjunctivitis.

S.Ch.7

ADHATODA VASICA NeesFamily: *Acanthaceae*

Local Name: Kicharang naro

The juice extract, mixed with the husk (powder) of *Rhus Javanica*/*Rhus semialata*, is drunk to treat diarrhea and vomiting. It is also drunk as an expectorant. Mature leaves are sun dried and smoked in a pipe to relieve asthma. Leaves are heated on fire and applied to relieve headache, rheumatism and body pain. Paste made with leaves is applied to treat fractures and sprains.

S.Ch.10

AGERATUM CONYZOIDES Linn.Family: *Asteraceae*.

Local Name: Imchenriza.

The root extract is drunk as an anthelmintic; leaves are crushed and the paste is applied to cure cuts and sores.

S.Ch.16

ALBIZZIA PROCERA Benth.Family: *Fabaceae*

Local Name: Moang

The extract from leaves is applied to kill lice and for cleaning hair.

S.Ch.20

ALLIUM PORRUM Linn.Family: *Liliaceae*

Local Name: Repjee (Leek)

The leaves are crushed and mixed with fermented bamboo shoot and chilli, then eaten to cure influenza. Paste made from the leaves is applied to treat fungal infection. It is also eaten as a vegetable.

S.Ch.22

ALNUS NEPALENSIS D. DonFamily: *Betulaceae*

Local Name: Entsung tong (Alder tree)

A decoction of the root is drunk to treat diarrhea. Paste from the leaves is applied on cuts and wounds as a hemostatic. The extract of the bark, crushed and mixed with the seeds of *Perilla ocimoides*, is used as a red dye.

S.Ch.23

ALSTONIA SCHOLARIS (Linn.) R. Br.

Family: *Apocynaceae*

Local Name: Lazarongpang

Juice extract of the leaves and bark is mixed with sugarcane and drunk to treat ulcers in the stomach and gastric disorders; it is also mixed with crushed crab (black variety) to cure cholera and dysentery. Latex from the plant is applied to cure sexually transmitted diseases, fungal infections in the body, and to ears to relieve earaches. Latex from the plant is also used for ceremonial inscription; the wood is used for carving effigies that are placed in the graves of rich men or warriors.

S.Ch.25

AMPHINEURON APULENTUM (Kaulf) Holttum

Family: *Thelypteridaceae*

Local Name: Ma-a-chai

The paste of the leaves is mixed with *Hypericum japonicum* and is applied on aching teeth to relieve pain and kill the bacteria in teeth.

S.Ch.30

AQUILARIA AGALLOCHA Roset

Family: *Thymelaeaceae*

Local Name: Sungza/Akurr

The hard, dark-colored, and highly scented wood is used as incense that commands a high price (BRANDIS 1906). It is also soaked in water overnight and drunk to treat gout, rheumatism, stomach trouble, and Malaria fever. The bark is used as a waist belt with a small apron by the Konyaks as protection from evil spirits.

S.Ch.37

ARTEMISIA NILAGIRICA (Cl.) Camp.

Family: *Asteraceae*

Local Name: Antsuksubao

Plant extract mixed with red tea is drunk (without sugar and milk) to treat malaria. The plant is cut and spread in chicken cages to get rid of chicken ticks.

S.Ch.41

ASPARAGUS OFFICINALIS Linn.

Family: *Liliaceae*

Local Name: Asangshi

The tubers are cooked and eaten; the young shoots are eaten as a vegetable. Juice extracted from roots is drunk as a blood purifier, tonic, hepatic, diuretic, and for the central nervous system.

S.Ch.46

ASPARAGUS RACEMOSUS Willd.

Family: *Liliaceae*

Local Name: Asparagus

The roots and young shoots are eaten as a vegetable; root extract is drunk as an aphrodisiac and to treat kidney, bladder, and liver problems.

S.Ch.47

BAUHINIA PURPUREA Linn.

BAUHINIA VARIEGATA Linn.

Family: *Caesalpiniaceae*

Local Name: Noksangtsuben

Paste made from the roots is applied as an antidote to treat snakebite; a decoction is drunk as an astringent and to relieve sore throat, ulcers, tympanic gland trouble, and arthritis; bark is crushed and the juice extract drunk to treat diarrhea, dysentery, and dyspepsia. It is also used to prevent skin diseases.

S.Ch.53 and 54

BEGONIA FLAVIFLORUM Hara

BEGONIA PALMATA D. Don

BEGONIA PICTA Sm.

BEGONIA RUBROVENIA Hook

Family: *Begoniaceae*

Local Name: Kokralik

Paste made from the leaves is warmed and applied to treat stomatitis and bristles in the tongue; juice extract is drunk as an astringent to cure diarrhea and dysentery; leaves are eaten as a vegetable. Matured root stalks of all varieties of Begonia are used for preparing red dyes by mixing its juice with the crushed leaves of *Impatiens sp.*

S.Ch.55, 56, 57 and 58

BERBERIS ARISTATA DC.

Family: *Berberidaceae*

Local Name: Ayak tepa aing

Bark is crushed and soaked in water overnight and the decoction is drunk as

a tonic, antiperiodic, alterative, and antipyretic, and to treat uterine troubles and jaundice. Bark decoction is used for yellow dye. Spines are tied together in a bamboo clip, called "azialangba," and are used as needles for tattooing.

S.Ch.61

BETULA ALNOIDES Buch.-Ham.

Family: *Betulaceae*

Local Name: Entsung/Ongpangselum

The bark is aromatic, and chewed for digestion; it is also crushed and soaked in water overnight to bathe in to relieve body aches and fever.

S.Ch.67

BORRERIA HISPIDA K. Schum.

Family: *Rubiaceae*

Local Name: Sunumra

The tender stalk is introduced into the uterus through the vagina and kept there for about a minute to induce abortion. The plant is made into paste and applied to cuts as a hemostatic.

S.Ch.71

BRASSAIOPSIS GLOMERULATA Bl. Regd.

Family: *Araliaceae*

Local Name: Manen mozu

Juice extract of the bark is drunk for digestion and during constipation. Paste made from the bark is also applied to treat bone fractures and sprains.

S.Ch.72

BRYOPHYLLUM SPATHULATA Salisb.

Family: *Crassulaceae*

Local Name: Nokchamoli

Paste of the plant is applied to bone fractures, sprains, and burns; leaves are warmed in fire and applied to the forehead to relieve headache.

S.Ch.75

BULBOPHYLLUM ROTHSCHILDANUM (O'Brien) J. J. Sm.

Family: *Orchidaceae*

Local Name: Churong naro

The pseudobulbs are crushed and made into a paste that is applied to treat

bone fractures and sprains. It is also applied as a hemostatic.
S.Ch.79

BUTEA MINOR Ham.

Family: *Fabaceae*

Local Name: Changra chami

The leaves are used for wrapping parcels; seeds are crushed and used as soap. Juice extract of the seed is drunk to eradicate parasitic worms; seeds are also fed to cattle. Borers collected from its dried roots are eaten as a delicacy.
S.Ch. 80

CALLICARPA ARBOREA Roxb.

Family: *Verbenaceae*

Local Name: Kachet

The bark of this plant is chewed with the bark of *Ficus silhetensis* as a stimulant; the juice extract is used as a red dye. Paste made from the bark is applied as a poultice to treat headache. Juice extracted from the young twigs is drunk for the treatment of gastric problems.
S.Ch.83

CANNABIS SATIVA Linn.

Family: *Cannabaceae*

Local Name: Ganja

A decoction is drunk during stomach pain and malaria, and dried inflorescence is smoked in a pipe.
S.Ch.87

CARICA PAPAYA Linn.

Family: *Caricaceae*

Local Name: Mamazu

The unripe fruits are eaten to induce abortion. Ripe fruits are eaten as a dessert. Meat is wrapped overnight with the leaves to tenderize the meat. The leaves are burnt to ashes and used as soap and shampoo. The latex is applied for skin diseases and ringworm. The seeds are considered vermifuge and alcoholic. Papparin (an alkaloid) is extracted from this plant; the leaves are 5.8% protein.
S.Ch.89

CENTELLA ASIATICA (L.) Urb.

Family: *Apiaceae*

Local Name: Imsenkorokla

The whole plant is eaten as a vegetable and also as medicine for the treatment of dysentery and diarrhea. It is also used as a tonic for liver, spleen, and gastric problems, as a blood purifier and a diuretic, and for nervousness. Plant extract is also applied as hair tonic.

S.Ch.94

CHAEROPHYLLUM REFLEXUM Lindl.

Family: *Umbelliferae*

Local Name: Mezen Pangpanglan

The roots are starchy and eaten as a vegetable. They are also dried, made into a powder, mixed with ginseng roots, and then drunk for sexual stimulation, or applied as a cosmetic.

S.Ch.98

CHAEROPHYLLUM VILLOSUM Wall. ex DC.

Family: *Umbelliferae*

Local Name: Mezen Pangpanglan terala

Used the same way as *Chaerophyllum reflexum*.

S.Ch.99

CHENOPODIUM AMBROSIOIDES Linn.

Family: *Chenopodiaceae*

Local Name: Antsuksuba

An extract of the plant is drunk as anthelmintic. The plant is crushed and spread in chicken coops to drive away flies. It serves as an excellent insecticide.

S.Ch.100

CHLORANTHUS GLABER Thunb.

Family: *Chloranthaceae*

Local Name: Ongchi naro

Paste made from the plant is used as an antidote for dog bites and wounds inflicted by a tiger.

S.Ch.103

CINNAMOMUM ZEYLANICUM Blume

Family: *Lauraceae*

Local Name: Sungshi

The bark is dried, made into powder, then smoked along with tobacco to treat asthma, coughing, and tuberculosis. The bark is also chewed to treat heart troubles, influenza, and nerve and liver problems.

S.Ch.107

CLERODENDRUM BRACTEATUM Wall.

Family: *Verbenaceae*

Local Name: Atsuksuba

Paste made from the plant is used as an astringent. Juice extract is applied to kill lice and remove dandruff.

S.Ch.109

CLERODENDRUM COLEBROOKIANUM Walp.

Family: *Verbenaceae*

Local Name: Umrem

Young leaves and twigs are eaten as a vegetable or in soup to cure irregular blood pressure, heart troubles, and malaria; also used as an appetizer. Infusion of the leaves mixed with bark paste of the “*menpan* plant” is drunk as an antidote. Decoction of the leaves mixed with dried and pounded meat of tortoise is given to patients during high fever. Mothers who are breast feeding drink it in soup when their infant child suffers from a stomach disorder.

S.Ch.110

CLERODENDRUM SERRATUM Spreng.

Family: *Verbenaceae*

Local Name: Atsuksuba

Same as *Clerodendrum bracteatum*. Decoction is also drunk during irregular menstruation.

S.Ch.112

CLERODENDRUM VILLOSUM Blume

Family: *Verbenaceae*

Local Name: Akawa

Juice extracted from the plant is applied on the scalp to kill lice; a decoction is drunk to treat liver problems.

S.Ch.113

COIX LACHRYMA-JOBI Linn.

Family: *Poaceae*

Local Name: Menjang

The root is crushed and a decoction drunk to treat menstrual disorders; a decoction of seeds is drunk as a tonic and diuretic; grains are eaten as staple food; *dzu*, a kind of beer, is prepared and drunk. Hard grains are used as necklace beads.

S.Ch.120

COSTUS SPECIOSUS (J. König ex Retz.) Smith

Family: *Costaceae*

Local Name: Alar naro

Paste made from the plant is used as anthelmintic and ophthalmic, and to prevent animals from becoming infested with maggots.

S.Ch.123

CROTON ROXBURGHII Balakr.

Family: *Euphorbiaceae*

Local Name: Chawatong

The root is made into a paste and applied as an antidote to snakebite and scorpion sting. The leaves are fed to cattle and goats to enhance lactation.

S.Ch.125

CURCULIGO CAPITULATA (Lour.) O. Kuntze

Family: *Hypoxidaceae*

Local Name: Koritong

Used as a remedy for irregular dilation of pupils and ophthalmia. Root stock is soaked overnight and the liquid is applied to treat conjunctivitis and earache. Root stock is also cooked and eaten as a vegetable. Paste made from the plant is used as a poultice, hemostatic, and antiseptic. It is believed that men once saw monkeys binding up their wounds with poultices of this plant, and thus learned its value. Men wounded in war also had their wounds dressed this way. Leaves torn into strips are used for stitching wounds after the castration of a domestic animal and other surgical processes.

S.Ch.128

CURCULIGO ORCHIOIDES Gaertn.

Family: *Hypoxidaceae*

Local Name: Koritong

Same as *Curculigo capitulata*.

S.Ch.129

CURCUMA ZEDOARIA Roscoe

Family: *Zingiberaceae*

Local Name: Pangsalaphi

Aromatic rhizomes and young shoots are eaten as vegetables. It is a cardio-tonic and a cardiac stimulant. The paste of the rhizome is applied to bone fractures and sprains. A decoction is also drunk for flatulence.

S.Ch.133

CUSCUTA REFLEXA Roxb.

Family: *Cuscutaceae*

Local Name: Tsuiali

Paste from the plant is applied as a hemostatic and the juice extract is boiled and drunk to lower blood pressure.

S.Ch.134

CYCLEA PELTATA, Hook.f. and Thunb.

Family: *Menispermaceae*

Local Name: Tsungrempang moli

This plant is thought to be very effective in driving out evil spirits. The bark is scraped from the plant and pasted or stuck in the center of the forehead, after which the leaves are crushed and applied to the limbs of a person who is susceptible to possession by evil spirits. A twig of this plant is always carried by hunters to protect themselves from evil spirits while hunting.

S.Ch.135

DIDYMOSPERMA NANA Wendl. and Drude.

Family: *Arecaceae*

Local Name: Chiya

The young shoots are eaten as vegetables; they are also used for making flour to bake cakes. Fruits are served to pigs and cattle as a vermifuge; fruit scraps are applied to cure skin diseases. The leaves are used for thatching roofs on houses, making rain hats, etc.

S.Ch.152

DIOSPYROS LANCEOFOLIA Linn.

Family: *Ebenaceae*

Local Name: Ruja

The wood is used in crafts and construction; the young fruits and seeds are eaten; an extract of the bark and fruits is used as tannin; fruits are crushed

in streams to poison fish.
S.Ch.153

ENTADA PURSAETHA DC.
Family: *Mimosaceae*
Local Name: Shizung

The cotyledons of the seeds are crushed into powder and used as shampoo; the powder is also used for general washing purposes. The cotyledons are cooked twice or thrice, changing water after each cooking, and are eaten. The seeds are used by children in a game called *shizung sai*. The presence of the *entada* plant in swidden fields is believed by the Naga farmers to be a sign of prosperity and a good harvest.
S.Ch.163

EUGENIA JAMBOLANA Lam.
Family: *Myrtaceae*
Local Name: Longchen

The bark is burnt to ashes and used as a tenderizer and in soap. A lime decoction of the bark is drunk to treat dysentery and diarrhea.
S.Ch.166

EUPATORIUM ADENOPHORUM Linn.
Family: *Asteraceae*
Local Name: Yimsenza

Paste made from the leaves is applied to cuts as a hemostatic; crushed leaves are spread and used as an insecticide; the whole plant is crushed and the juice extract is used for cleaning glassware.
S.Ch.167

EUPATORIUM ODORATUM Linn.
Family: *Asteraceae*
Local Name: Tsulaphoba

The plant is crushed and spread as an insecticide. Earthworms (used as bait for fishing and catching crabs) are driven out of the ground by pouring into one of the holes of the worms' burrows a solution extract made by crushing the leaves and mixing them with ashes in water.
S.Ch.168

EURYA ACUMINATA DC.
Family: *Theaceae*

Local Name: Alumeset

The bark and leaves are crushed and soaked in water overnight and used as a green-yellow dye. It is also mixed with juice extract of *Rubia sikkimensis* to yield an excellent red dye. Juice extract of tender leaves is drunk to relieve dysentery and diarrhea. Leaves are also eaten as vegetables.

S.Ch.169

GARCINIA COWA Roxb.

Family: *Guttiferae*

Local Name: Pelamesong

Fruits are eaten; the acidic juice is drunk as an expectorant and for the treatment of gastric problems. Unripe fruits and bark are crushed and the extract is used as a yellow-red dye.

S.Ch.188

GARCINIA PEDUNCULATA Roxb.

Family: *Guttiferae*

Local Name: Sangselasu

Fruit and leaf extracts contain malic acid, which is drunk for cardiac problems and as a diuretic, aperient, expectorant, carminative, emollient, and tonic. The fruits are eaten as a dessert, and also made into tasty jam and jelly.

S.Ch.189

GONATHANTHUS PUMILUS (D.Don) Engl. and Krause

Family: *Araceae*

Local Name: Kozalongri

The whole plant is boiled and the juice extract is drunk as an aperient and as a tonic; juice extract of the plant is applied to cure earache; paste of the plant is also applied to treat burns, bone fractures, and sprains.

S.Ch.200

HIBISCUS SABDARIFFA Linn.

Family: *Malvaceae*

Local Name: Sentsurep

Juice extract of the roots is drunk as an aperient, emollient, or carminative, and for indigestion and stomachache; the leaves and calyx make a refreshing drink and are also eaten as a vegetable.

S.Ch.211

HIBISCUS SURATHENSIS

Family: *Malvaceae*

Local Name: Sentsurep

Same as *Hibiscus sabdariffa*.

S.Ch.212

HODGSONIA MACROCARPA (Blume) Cogn.

Family: *Cucurbitaceae*

Local Name: Assa

The bulb of the fruits is applied to cure bacterial infection in the feet; cotyledons of the seed are a delicacy eaten after roasting, and also made into various types of curry; seeds are used in a children's game called *assa-chai*. Leaves are also fed to silkworms.

S.Ch.213

HOLARRHENA ANTIDYSENTERICA Wall.

Family: *Apocynaceae*

Local Name: Ho-Pai

The bark extract is drunk to relieve fever, dysentery, and diarrhea; it is also drunk as a liver tonic and an astringent. Latex from the plant is applied to cure skin diseases and ringworm. The wood, which is excellent for crafts, is used to make crossbows.

S.Ch.214

HOULTTUYNIA CORDATA Thunb.

Family: *Saururaceae*

Local Name: Alimoli/Nokna

Juice extract of the plant is drunk for the treatment of ulcer, dysentery, and diarrhea, and for blood purification. Plants are crushed and spread in chicken coops to keep away fleas. The whole plant is eaten as a vegetable, and sold extensively at markets.

S.Ch.215

HYDNOCARPUS KURZII (King) Warb.

Family: *Flacourtiaceae*

Local Name: Yimsungjang

Raw pulp of the fruit, mixed with boiled rice or a piece of meat, is placed in the tracks of rats to poison them. Mills said that he tried this and found it quite effective (MILLS 1926, 151). The seeds are cooked in at least three

changes of water before being eaten. Paste made from the seeds is applied for the treatment of leprosy; the juice of the bark is drunk during malaria fever. Shavings of the bark are spread near beehives to drive out bees so that the larvae and honey can be collected and then eaten.

S.Ch.216

HYPERICUM JAPONICUM Hook. f. and Thunb.

Family: *Hypericaceae*

Local Name: Ao Chani/Chitango

The whole plant is crushed with a frond of *Amphineuron sp.* and the paste is applied on teeth to kill bacteria. The juice of the plant extract is used for eye drops to treat conjunctivitis. Leaves are spread over the head of mithun (*Bibos frontalis*) prior to its sacrifice. This sacrificial ceremony is locally called *chitang-o* which means “never to feel hungry.”

S.Ch.219

IMPERATA CYLINDRICA Beauv.

Family: *Poaceae*

Local Name: Azu

The rhizome is crushed and soaked in water overnight, then drunk to relieve dysentery and diarrhea; it is also used as an anthelmintic. Sometimes it is applied as an ophthalmic. Peeled young tender inflorescences of the plant, called *aipoktsu*, are eaten. Six straws for males and five straws for females are soaked in a bamboo cylinder or bamboo mug and kept near the head of the bed to drive away evil spirits and to prevent nightmares, sleep-walking, and bad dreams.

S.Ch.221

LASIA SPINOSA (Linn.) Thwaites

Family: *Araceae*

Local Name: Turang/Churang

Young tender leaves are eaten as a vegetable, and as an anthelmintic. It is also fed to domestic animals for anthelmintic purposes. Paste made from the plant is applied to cure wounds. Mills testified to its efficacy when he wrote, “I have been assured by most reliable witnesses that the maggots drop out of the wound within a very few hours.” (MILLS 1926)

S.Ch.233

LEUCOSCEPTRUM CANUM Sm.

Family: *Lamiaceae*

Local Name: Anuzamechepa

The white cottony tomentum is scraped from the leaves and applied as a hemostatic; inflorescences are soaked in water and drunk as astringents, stimulants and a tonic.

S.Ch.236

LITSEA CITRATA Blume

Family: *Lauraceae*

Local Name: Entzurem

An aqueous extract of the fruits, bark, and leaves is used as a carminative, expectorant, and stimulant; a paste is used as a poultice; the plant is smoked inside the house to kill a kind of caterpillar that eats away roofs made of *Levistonnia jinkensia* and *Caryota sp.*; twigs are crushed and used as an insecticide. The plant is placed in the entrance of the house near the main door during the *genna* performance (ritual observation of taboos) as a sign that prevents or protects the house from evil spirits. Crushed berries mixed with a little dried and powdered meat of *por* (a kind of mole that lives under the culm of bamboos) and fermented bamboo shoots of *Bambuonesia sp.* are boiled or cooked and taken by patients suffering from dysentery and diarrhea. Fruits are also eaten as spices.

S.Ch.237

LYCOPODIUM CERNUUM, Linn.

Family: *Lycopodiaceae*

Local Name: Mangrang naro

Used as an ornament. Spores are mixed with gunpowder to increase the efficiency of the gunpowder and reduce the sound level of its explosion; spores are also applied as an antiseptic in wounds and in injuries.

S.Ch.241

MIKANIA MICRANTHA H. B. K.

Family: *Asteraceae*

Local Name: Japanza

Paste made from the plant is used as a hemostatic and also applied to treat sprains and bone fractures. Tender leaves are boiled and the juice is drunk to lower blood pressure; the leaves are eaten to relieve constipation and indigestion.

S.Ch.263

MILLETIA AURICULATA Baker ex Brand.Family: *Fabaceae*

Local Name: Alinengba/Suli

Paste made from the roots is applied to sores on cattle and is used to kill vermin; the plant is crushed and washed into the stream to kill fish. Small twigs of this plant are found in every bird nest; the birds are believed to keep the twigs as medicine for their young.

S.Ch.264

MUSSAENDA FRONDOSA Linn.Family: *Rubiaceae*

Local Name: Sapaklarinaro

Paste made from the leaves and flowers is applied to wounds. A decoction of dried shoots is given to children to relieve cough. A root decoction is considered an alterative and a demulcent, and it is used to treat white leprosy and eye troubles.

S.Ch.272

MUSSAENDA MACROPHYLLA Wall.Family: *Rubiaceae*

Local Name: Sapaklarinaro

The paste made from the leaves is used as a hemostatic; the aqueous extract of the plant is drunk to cure stomatitis and for enhancing appetite.

S.Ch.273

MUSSAENDA ROXBURGHII Hook. f.Family: *Rubiaceae*

Local Name: Noksangtsuben

An aqueous extract of young twigs is drunk to relieve hiccups and also to treat heart and lung troubles.

S.Ch.274

PANAX GINSENG C. A. MeyerFamily: *Araliaceae*

Local Name: Tsudirmozu

The roots are dried and made into a powder that is taken orally to treat heart problems, diabetes, cancer, tuberculosis, ulcers, etc. It is also taken as an aphrodisiac; leaves are eaten as a vegetable; fruits are eaten by the bird *Plytes dragopan*.

S.Ch.277

PANAX PSEUDO-GINSENG Wall.

Family: *Araliaceae*

Local Name: Takumtsu mozu

Used the same way as *Panax ginseng*.

S.Ch.279

PASSIFLORA EDULIS Sims.

Family: *Passifloraceae*

Local Name: Entsulashi

Roots are dried, mixed with tobacco, and smoked in a pipe to treat asthma; paste made from the roots is applied to a snakebite; young tender leaves are eaten as a vegetable. A boiled decoction of the leaves is drunk as a liver tonic, and to treat heart problems, blood pressure, and malaria.

S.Ch.280

PERILLA OCIMOIDES Linn.

Family: *Lamiaceae*

Local Name: Napa

Used as a cultigen; juice extract is drunk for stomach troubles and gastric problems; it is also used as an insecticide and as a hemostatic.

S.Ch.281

PIPER BETLE Linn.

Family: *Piperaceae*

Local Name: Patio

Tubers from an old plant are used to produce a black dye that is quite expensive when sold at the market. Leaves are chewed with a little lime and a piece of *Areca catechu* nut (called *kozulem*). Paste made from the leaves is applied to cuts as a hemostatic. Leaves of this plant are put on top of rice and kept covered in the pot with a lid to diminish the burned smell.

S.Ch.284

PLANTAGO MAJOR Linn.

Family: *Plantaginaceae*

Local Name: Jangremriza/Akaba

Leaves are crushed to a paste and applied to burns and cuts. The whole plant is eaten as a vegetable and sold in the local market. Seeds are crushed and made into a paste that is applied to sprains.

S.Ch.286

RHUS SIMIALATA Murr.Family: *Anacardiaceae*

Local Name: Tangmu

The husks of the fruit are mixed with water for bathing to relieve measles and prickly heat; it is also mixed with black, smelly chicken droppings and is drunk to treat mushroom and tapioca poisoning. Bile of the black variety of crab, called *tzuben*, is mixed with a decoction of fruit husks and drunk to relieve a high fever. A fruit husk decoction is also used as a mordant with cotton yarns, goat hairs, cane rattans, bamboo splints, and wood. The powdered charcoal of the wood is used in making gun powder.

S.Ch.296

RICINUS COMMUNIS Linn.Family: *Euphorbiaceae*

Local Name: Phakowa

The leaves are warmed in a fire and applied to the forehead to relieve headaches; paste made from the leaves is applied as poultice on boils and pimples. Leaves are also fed to eri worms (silkworms). Seeds are roasted and eaten mixed with husks of the *Rhus simialata* seed as a purgative and as an antidote. The whole plant is spread in the field as a fertilizer.

S.Ch.298

RUBIA CORDIFOLIA Linn.Family: *Rubiaceae*

Local Name: Awali-tzakla

Paste made from the plant is applied to ringworm, leukoderma, and other skin diseases. Roots are used as red dye.

S.Ch.300

RUBIA SIKKIMENSIS Kurz.Family: *Rubiaceae*

Local Name: Awali/Wailuk

The roots, which are red in color, are dried, pounded, and mixed with a bark decoction of *Symplocos grandiflora* to make a brilliant red dye. *Rubia* mixed with *Eurya acuminata* produces a bright red substance. After being dyed, clothes are soaked and boiled in the decoction of *Rhus sp.* fruit husks to mordant the clothes. The dyeing process is done carefully, as *Rubia* plants can blister human skin. Paste made from the root is also applied to snakebites.

S.Ch.301

RUBUS ELLIPTICUS Sm.

Family: *Rosaceae*

Local Name: Chembensu

A root decoction is drunk for hepatitis and kidney troubles. The berries are edible.

S.Ch.302

SCHINA WALLICHII Choisy

Family: *Ternstroemiaceae*

Local Name: Mesang

Flowers are worn in earlobes in the forest to protect the wearer from evil spirits. Young leaves are eaten as a vegetable; a kind of “tent caterpillar,” which feeds on it, is a delicacy. The thick bark, which contains glassy silicate needles, is scraped on the skin of goats and pigs to accelerate their hair growth and to cure skin diseases.

S.Ch.310

SCUTELLARIA GLANDULOSA Colebr.

Family: *Lamiaceae*

Local Name: Arem-napa

The leaves are eaten to treat stomachache. The juice extract of the plant is drunk to treat malaria and liver disorders.

S.Ch.311

SCUTELLARIA RIVULARIS Wall.

Family: *Lamiaceae*

Local Name: Angamejep talula

Paste of the plant is applied to insect bites and spider bites.

S.Ch.312

SENECIO CAPP A D. Don

Family: *Asteraceae*

Local Name: Mesakraza

Paste of the plant is applied to cure skin diseases and boils; it is also used as an insecticide.

S.Ch.314

SESAMUM ORIENTALE Linn.

Family: *Pedaliaceae*

Local Name: Pingnak

The seeds are used as a condiment in confectionery, and roasted and pounded into powder mixed with freshwater crabs, then fermented, for making various curries. Pounded seeds are also used in dyeing clothes. The leaves are crushed and used as soap in washing.

S.Ch.315

SILVIANTHUS BRACTEATUS Hook. F.

Family: *Carlemanniaceae*

Local Name: Peningwa

Paste made out of young twigs is used as an astringent and is applied to bone fractures and sprains.

S.Ch.316

SOLANUM KHASIANUM Clarke

Family: *Solanaceae*

Local Name: Akho longkok

Ripe fruits are sun dried and made into a powder that is applied to cure tooth decay and toothache. Ripe berries are put inside the noses of cattle to drive out leeches and other kinds of blood suckers.

S.Ch.322

SOLANUM NIGRUM ROXB.

Family: *Solanaceae*

Local Name: Kumbo-wa

Aqueous extract of the plant is used to relieve muscular pain; paste made from the plant is applied on the skin to neutralize the toxic substance of bee stings and *Urtica sp.* Leaves and fruits are eaten as a vegetable, as well as for the treatment of malaria, blood pressure, and bladder infections.

S.Ch.325

STEPHANIA GLANDULIFERA Miers

Family: *Menispermaceae*

Local Name: Ketcha moli

Paste made from the plant is applied to bone fractures and sprains; the leaves are fed to cattle and goats.

S.Ch.332

STEPHANIA HERNANDIFOLIA Walp.

Family: *Menispermaceae*

Local Name: Mezurong moli

Paste made from the plant is applied to burn injuries so the skin heals without scarring.

S.Ch.333

STEREOSPERMUM CHELENOEDES DC.

Family: *Bignoniaceae*

Local Name: Mesusung

Juice extract of the root and bark is drunk to cure dysentery and cholera and to treat malaria fever. This plant is called the “witch” plant as the wood lasts long without decomposing, and actually becomes harder as it ages. The wood is used extensively in construction work for its durability.

S.Ch.337

SWERTIA CHIRATA (Roxb.) Karst.

Family: *Gentianaceae*

Local Name: Aluenjangnaro

The whole plant is crushed and soaked in water overnight, and then used as a tonic to cure stomachache. It is also considered good for digestion.

S.Ch.338

TAGETES INDICUS Lindl.

Family: *Asteraceae*

Local Name: Kitsung naro

The plant is raised in kitchen gardens to protect from evil spirits, insects, and snakes. Paste made from the leaves is applied on the stomach near the navel to cure gastric problems; it is also applied as a poultice. Yellow dye is extracted from the flowers.

S.Ch.340

THUNBERGIA COCCINEA Wall.

Family: *Thunbergiaceae*

Local Name: Nulidongmoli

Tubers are crushed and the juice extract is drunk as an aphrodisiac and tonic.

S.Ch.349

TINOSPORA SINENSIS (Lour.) Morr.

Family: *Menispermaceae*

Local Name: Tsula mesukzu

A juice extract of the stem is drunk to cure stomachache and is used as an aphrodisiac; paste made from the plant is applied to burns, bone fractures, and sprains.

S.Ch.351

VINCA ROSEA Linn.

Family: *Apocynaceae*

Local Name: Tsuinri naro

Milky leaf juice is applied to skin diseases, and also to reduce the pain and swellings of a wasp sting; root juice extract is boiled and drunk to cure stomachache and to treat irregular blood pressure.

S.Ch.358

VISCUM ARTICULATUM Burm.

Family: *Loranthaceae*

Local Name: Teretzanglubawa

The plant is made into paste and applied to bone fractures and sprains.

S.Ch.359

WRIGHTIA TINCTORIA R. Br.

Family: *Apocynaceae*

Local Name: Sapanpou

Bark is made into a paste and applied to skin diseases, ringworm, and leprosy; a decoction is drunk to cure dysentery and cholera. The seeds are roasted and eaten as a carminative and a laxative.

S.Ch.361

WRIGHTIA TOMENTOSA R.& S.

Family: *Apocynaceae*

Local Name: Showpou

The bark is crushed and a decoction of it drunk as a liver tonic, appetizer, and stimulant. The wood is used for woodcarving.

S.Ch.362

ZANTHOXYLUM ACANTHOPODIUM DC.

Family: *Rutaceae*

Local Name: Changpet

The leaves and fruit are crushed into a paste and used as a febrifuge and poultice. Crushed leaves and fruit are washed in stream to poison the fish. Paste made from the fruit is applied to aching teeth. The fruit are also used as condiments.

S.Ch.364

ZANTHOXYLUM OXYPHYLLUM Edgew.

Family: *Rutaceae*

Local Name: Mongmong

Leaves are eaten as a vegetable and the fruit as a condiment. The juice of the fruit is drunk with boiled leaves as a liver tonic; leaves and inflorescences are crushed into a paste that is used as a febrifuge and poultice. Dried fruit are chewed to relieve toothache.

S.Ch.366

ZANTHOXYLUM RHETSA (Roxb.) DC.

Family: *Rutaceae*

Local Name: Mongret

The fruit are used as a condiment; fruit and bark are crushed and washed in a stream to poison the fish. Paste made from the leaves and fruit are used as a febrifuge and poultice. The wood is used in construction work.

S.Ch.367

ZINGIBER OFFICINALE Roscoe

Family: *Zingiberaceae*

Local Name: Sungsung

Ginger is extensively used by the Nagas as a flavoring agent, condiment, and medicine, as well as in various ceremonial and ritual performances. Paste made from the corms is applied for the treatment of bone fractures and sprains; juice extract is drunk as an expectorant, stimulant, carminative, tonic, etc., and to relieve dyspepsia and flatulent colic. Ginger cut in pieces is offered to the spirits during sacrifices and ceremonies; it is also used as protection from evil spirits.

S.Ch.368

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