B. Enumeration of species with their utilisation in Ethno-medicine.


“Yadukh”(Adi); “Yokhung”(N.); “Ulatkambal”(H); “Pishach karpath”(S.).

A shrub, 2.5-4 m. high; branches velvety pubescent. Leaves ovate lanceolate, palmately lobed, acuminate, cordate at base, margins denticulate, glabrescent above, tomentose beneath 10-25 x 6.5-17.5cm; petioles 1.2-2.5cm. long; stipules 0.4-1.2cm. linear lanceolate, deciduous. Flowers leaf opposed in few flowered cymes, showy, bisexual, hypogynous, purple or reddish; sepals 5 lobed, lanceolate, persistand; petals 5, clawed, caducuous; staminodes 5 alternating fertile stamens. Capsules 5 - angled, 5-valved, dehiscing septically, seeds numerous, black, enclosed by light cottony wool.

**Fls. & Frts.**: Oct-Dec.

**Specimen examined.** Itanagar - Naharlagun, 14-1-1989, Mohan Singh. 1.

Abundant at lower elevation of the district as also along the road sides, hilly slopes and occasionally in domestic garden.

**Usage in Ethno-medicine:**

**Parts used:** Root bark, stem bark and roots.

A(i) The Nishi people very often drink the juice extract from the roots to promote appetite. (ii) Stem bark in the form of decoction is given orally twice a day for 7 days for complete remedy of dysentery and vomiting by Nishi and Adi.
A small piece of stem bark is tied to the rectocele in children and bandaged for 2-3 days gives complete relief.

Established reports of Utilisation in Medicine:

Abroma drug comprises fresh or dried root bark and is used as uterine tonic in dysmenorrhoea. Fresh juice from the root bark is useful in congestive and neuralgic form of dysmenorrhoea. It contains 'Abromin' alkaloid and water soluble bases.

*NOTE:

Asolkar et al. (1992) recorded utilisation of leaves and leaves paste, aqueous extract of roots and seeds in medicine. But utilisation of stem bark by 'Adi' people in Ethno-medicine is recorded here for the first time.


Perennial herbs; rhizomes branched, creeping, aromatic. Leaves disticous, 100.0-200.0x0.8-3.0 cm, ensiform, wavy at the margins; bases equitant. Peduncle foliaceous, spathe in continuation of ensiform peduncle. Spadix sessile, terete, dense flowered free from the spathe. Flowers bisexual hypogynous greenish yellow; perianth segments 6, orbicular, concave, incurved at the tip. Stamens 6; filaments linear, anthers reniform, cells confluent above; ovary conical, 2-3 celled, with many pendulous ovules, style and stigma minute. Berries oblong; seed few, oblong.
Specimens examined: Doimukh, 18-5-1987, 1068; Ziro area
11-8-1994 ,274.

Scarcely found in marshy & moist places the district and occasionally domesticated.

Usage in Ethno-medicine:

Parts used: Rhizome, leaves.

Apatani: (i) Paste of powdered fresh rhizome is applied on swollen and dislocation of bones and tied with the help of a cloth to set right the bone.
(ii) The paste is also applied on wounds for early healing and also used in abscesses.
(iii) Leaves juice is applied on snake bite.

Established reports of Utilisation in Medicine:

Rhizomes are used medicinally as carminative, stimulate to central nervous system and as tonic. Due to its essential oil contents it act as an expectorant, that is, it promotes flow of bronchial secretion and useful in asthma.
It also contains tannins and is, therefore, useful in diarrhoea and dysentery.

Roots and rhizomes use in various kinds of cancers.

The dried rhizome yields 1.5 percent of natural, yellow, aromatic essential Calamus oil with β asarone is major constituents. The chief constituent of this valuable oil is asaryl aldehyde. There is also bitter glycosides named acorin and other substances eugenol, asarone, pinene and camphene are present. Drug also contains an abundance of starch and little tannin.

It is one of the constituents of Ayurvedic or indigenous drugs “Myostal” useful in puerperal patients clinical trials. “Vitafix” useful in premature ejaculation and “Chandrodayawarti” useful in nebular corneal opacity pterigium of
19. *Ageratum conyzoides* L. - growing in abundance along the road side at Itanagar area.
recent origin. It is also constituents of some other formulations viz. Chandraprava Vati, Sanjivani Vati, Aswagandharista, Arvindasava etc.

Kohli (1992) reported 'Apatani used the juice of the rhizome for curing skin diseases and swollen joints against the local name 'Kile-tolyo'.

*NOTE: Although this plant has a number of uses including various kinds of cancer (Lloydia 30:412, 1967) as recorded by Asolkar et al. (1992 p.p. 19) but now found an additional new use for setting right dislocation of bones by Apatani.


An erect herb, 2.5-8.0 cm high; strongly aromatic, hispid. Leaves opposite, ovate, petiolate, crenate. Heads homogamous, in terminal corymbs or panicles with bluish purple flowers. Involucral bracts sub-equal. Sepals paleaceous of 5 scales, aristate, corolla tubular, 5-cleft; anthers appended, obtuse at base; stylearms elongate, obtuse. Achene oblong, ribbed, black, sparsely scabrous.

Fls. & Frts: Almost all the year round.

Specimen examined: Nyukum village, 5-8-1990, 203.

Abundantly found in waste places, jhumed areas, road sides as a weed through out the district.

Usages in Ethno-medicine:

Part used: Leaves.
Nishi: (i) The leaves are bandaged at bed time over swollen parts of body to relieve pain.
(ii) When the eyes are getting red (probably due to conjunctivities), the plant juice is applied in eyes twice daily for relief but said to be harmful and painful when applied more.
(iii) Nishi, Apatani, and Adi tribes also applied the paste of fresh leaves on cuts and wounds to check bleeding and early healing. This use is very much popular.

Established reports of Utilisation in Medicine:

The leaves are styptic, applied to cuts and sores and externally in ague. Leaves are also useful in boils, leprosy and skin diseases.

The juice of leaves considered antilithic. Essential oil containing phenol & (eugenol) 5%, a phenol ester with powerful agreeable odour. Ageratochromene (60%) is the major component of the herb.

(i) Leaf juice as eye lotion reported also in Khadi Gramodyog 19:219, 1972-73) as per report of Asolkar et al. (1992, p.p. 30.)
(ii) Leaves of the plant are crushed and paste is applied locally on cuts and wounds by Nishi tribe against local name “Paspaya” or “Karh”. (Singh & Anand Krishna 1983).


A slender herb; leaves, linear, basal membranous, slightly pungent, shorter than the tall sub-trigono us scape, 1-nerved. Heads globose, many flowered; pedicels much longer than the stellate white flowers; sepals linear, acuminate; filaments filiforms; capsules obcordate.
**Fls. & Frts. : Mar.- Jun.**

**Specimen examined** : Nyokom Lapang Village, 6-3-1994, 264.

Although found wild but often cultivated by Nishi tribe.

**Usage in Ethno-medicine:**

**Part used** : Bulb.

(1) Bulbs pounded and mixed with oil, warmed and is applied on throat and chest to cure cough and cold. It is also applied in wounds for healing.

(2) The ash obtained by burning of bulbs is applied with oil to cure rash or eruption of the skin and abscesses.

**Established reports of Utilisation in Medicine:**

No other established report is found.

**NOTE:** This is a New Report of medicinal use of the plant.

*Allium cepa* L., "Lahsun" (N.) also be used as substitute.


A sub-erect herb with a stout erect root stock. Leaves peltate, ovate-sagittate, shining above, acute at apex, cuneate at base, thin, membranous, 12-8x8-6 cm basal lobes about half as long as terminal one. Spathe yellow green with tubular green base. Spadix as long as spathe. Berries obovate, scarlet red, when ripe.

**Fls. & Frts.: Jun.- Nov.**

**Specimen examined** : Dariya pahar, 16-6-91, 221
Frequent as a herb in shaded regions and muddy bank of streams in Tropical forest.

Usage in Ethno-medicine:

Part used: Root stock

Root stock pounded and paste applied in crack of heels and abscesses.

Established reports of Utilisation in Medicine

Used medicinally (Wlth.India IA.189)

*NOTE: A new report of application in Ethno-medicine.


Plants c 2.5 m high, Rhizome perennial and tuberous. Leaves ligulate, lanceolate to oblong lanceolate, lamina c 45.0x8.5 cm sharply acuminate at apex, base acute to acutely round; ligule c 0.5 cm long, erect, round or broadly acute at apex, thickly coriaceous. Inflorescence terminal, rachis pubescent. Flowers pedicelled, bracteate, pinkish white with pink sepals. Capsules c 2 cm diameter, shining glabrous, black.

Fls. & Frts.: May - Jan.


Very common in marshy places among tall grasses and shrubs of secondary forests. colonial, partially sub-merged.

Usage in Ethno-medicine:

Parts used: Fruits seeds.

The powder obtained from mixed seeds (in equal proportion) of **Alpinia allughas** and **Datura metal** (Dhatura) when taken shows symptoms of mad-
20. A close up Photo of follicles of *Alstonia scholaris* (L.) R.Br.
(ii) Fruits are used as fish poison to catch fish from slow moving streams.

**Established reports of Utilisation in Medicine**

Rhizomes are useful in rheumatism, fever and catarrhal affections, especially in bronchial catarrh. It is used as flavouring agent. The tubers possess carminative aphrodisiac, stomachic and stimulant properties.

**NOTE:** Rao et al. (1972) reported this plant has medicinal properties whereas Nayar et al. (1989) and Asolkar et al. (1992) have not recorded its utility.


Trees, 10-25m. high, branches whorled trunk butteressed or fluted; bark grey with large horizontal lenticel bar and light vertical fissures. Leaves in whorls, 12-25 x 4-6 cm, lateral nerves parallel, many. Inflorescence compact, sub umbellate cymes; corolla-tube densely pubecent outside, 7-9 mm; lobes obovate, 3-4 mm pale green to pale yellow. Follicles 2, slender 15-55 cm, seeds ciliate at margins.

**Fls. & Frts.** : Oct.-May.

**Speciemens examined** : Kimin Basti, 25-6-1994, 272;


Scattered in lower elevation particularly in border areas of Assam. An Evergreen tree, grown as an ornamental tree in Garden and Parks.
Usage in Ethno-medicine:
Parts used: Bark, leaves and latex.
Nishi: (a) The white latex of the tree is given after delivery in about one tea spoonful with equal quantity of water for recovery of health and postpartum pain. 2-4 drops of latex are applied on skin eruption and abscesses at night up to 3 days for complete cure.
(b) Leaf Juice: The leaf juice is applied thrice daily over forehead as remedy for headache.
(c) Dried bark is powdered and mixed with water in the proportion of 1:4 and when taken twice daily for 3 to 7 days for complete curing of stomach trouble and are also said to control the blood pressure.

Established reports of Utilisation in Medicine:

Bark is known in commerce as Dita bark, and is used in medicine as bitter, febrifuge and astringent in treatment of malarial fever, chronic dysentery and diarrhoea. The application of latex is useful in ulcers. Et.OH (50%) extract of stem bark is hypotensive and anticancer. Bark contain two alkaloids - ditamine and echitamine. The latex is found to contain 2.8 to 7.9% caoutchouc, root barks contain echitamine, chloride and α amyrin. Picralinal, a Key alkaloid of picralimin group isolated and constitution are reported by Rastogi, et al. (1970).

The bark of the plant is constituents of several Ayurvedic formulations viz. Ayush 64, Brahat Guduci Tail, Chitrikadi Tail, Kustharaksasa Tail, Vajrak Tail etc.

Singh & Anand Krishna(1983) reported that the milk of tree is given in postpartum pain of abdomen in delivery cases but the name of tribe was not.

An erect annual herb, 30-80 cm; stem quadrangular, young parts glandular hairy. Leaves 4-6.5x1-2.5 cm, subsessile, lanceolate or linear lanceolate. Racemes axillary, laxly paniculate 3-8 cm; flowers in axils of linear;glandular, narrow, corolla white or purplish spotted, corolla tube narrow c 6 mm long straight, 2-lipped; stamens 2, filaments ciliate, anthers exerted; ovary hairy 3-9 ovules in each cell. Capsules glandular hairy when young, glabrous on maturity.


Specimen examined : Itanagar, 2-4-1989, 19.

Mostly found as undergrowth in tropical forests and found also cultivated in lower elevation of the district.

Usage in Ethno-medicine:

The juice extracted from stems and leaves of the plant is used against dysentery and worms infestation by Nishi people.

Established report of Utilisation in Medicine:

The herb is well-known under the name of ‘Kalmegh’ and forms the principal ingredient of a house hold medicine. The macerated leaves and
juice together with certain spices are made into little globules, which are prescribed for infants to relieve griping, irregular stools and loss of appetite. The root and leaves have also reputation of being a febrifuge, tonic, alterative and anthelmintic. In general debility, dysentery, dyspepsia, decoction or diffusion of leaves have been used with satisfactory results. Experiments have shown that the plant has antityphoid, and antibiotic properties.

**Chemical composition.**

Leaves contained two bitter substances and traces of an essential oil. The first bitter principle obtained as intensely bitter yellow crystals with formula \( C_{19}H_{28}O_{5} \) and m.p. 206°. The second bitter substance was obtained in an amorphous named “Kalmeghin” \( C_{19}H_{51}O_{5} \) m.p. 185°. a chief constituent of an Ayurvedic drug ‘SG-I switradilepa’ for dermatological diseases. (J. Res. Ind. med. 1976.11(2).66. as Asolkar et al. 1992 p.p. and constituent of drug “Terfroli” used in viral hepatitis (Antiseptic,1980.77.643), as recorded by Asolkar et al. 1992 p.p. 66.


Terrestrials, perennials; caudex erect, broad, massive fleshy, pink inside; stipe up to 1m long, smooth, green, swollen at base, with small brown scales and minute hairs. Fronds 1-3 m long, bipinnate; lamina 1 m long, jointed to the main rachis, wide spreading, swollen at the base; petiolules c 0.3 cm
long swollen pinnules 10-20x1-3 cm oblong lanceolate, acuminate, serrate or toothed, veins simple or 2-forked, nearly parallel; sori about 0.2 cm long, arranged in two close rows, sub-marginal; sporangia 7-15 in each sorus; spores hyaline, tetrahedral.

**Fertile:** May-Dec.

**Specimens examined:** Dariya pahar, 2-6-1991, 217; Senkie view River area, 10-5-1992, 235; Sagalee-Kheel, 10-10-1987, Singh, Pandey & Mohan Singh, 1131.

Frequent in dense natural forest, specially nearly water courses and slopes, one of the very variable species depending upon the habitat.

**Usage in Ethno-medicine:**

**Parts used:** Roots & rachis.

The aqueous extract of powdered candex or rhizome on dilution is taken against dysentery and diarrhoea. Powdered rhizome or in pieces used as food at the time of food scarcity by Nishi tribes.

(ii) Rhizome crushed and applied on itching.

**Established reports of Utilisation in Medicine.**

The Borthakur (1981) reported the use of rhizome and bases of rachis as food after boiling by Karbis (Mikirs) of Assam against the local name “chainau-aukimu”

In hills of Madhya Pradesh viz. Amarkantaka, Bastar, Bilaspur and Pachmarhi, the juice obtained from pounded rhizome is found to be highly effective in jaundice against the local name “Ghora top”.

*Note:* Reported here for the 1st. time its medicinal use of Caudex.

**Anisomeles ovata** R.Br. (LAMIACEAE) “Naratami” (Ap.): has been reported
22. *Artemisia indica* Willd - growing in its natural habitat at Ganga area. The soil is red lateritic.
by Pal, 1984 that whole plant is crushed and made into paste which is applied to relieve muscular pain.


Erect aromatic shrubs, 1-3 m high. Leaves sessile, lobed or deeply pinnatisect with stipule like lobes at base, 3-9x1-3 cm densely white woolly beneath, glabrous above. Heads ovoid, 3-4 mm diameter, solitary or fascicled on large terminal paniculate racemes; involucral bracts few, oblong. Achene oblong ellipsoid, minute.

**Fls. & Frts.** : Jul.- Feb.

**Specimen examined** : Ganga, 20-8-89, 30

Found throughout the study area generally in open situation and slopes.

**Usage in Ethno-medicine:**

**Part used** : Leaves

(i) According to Apatani the boiled leaves are used as vegetables and also to get relief from asthma.

(ii) Aromatic smell of the plant when inhaled clears the blockade of nose.

(iii) The juice extracted from the leaves is diluted and when taken bath in it relieves itching, and skin allergy.

According to Nishi:(i) Extracted juice from pounded fresh leaves when applied in little drops cure redness of eyes or other eye troubles and are said to be painful during application.

(ii) Paste of leaves is applied or used as bed sheet for relief from body pain.

(iii) The fomentation of leaves is given in case of headache to get relief.
23. An uprooted plant of *Begonia roxburghii* (Miq.) DC. - all the parts of the plant are used in Ethno-medicine.
Established reports in Utilisation of Medicine:

Herb is immenogogue, anthelmintic, antiseptic, stomachic. Root is tonic, antiseptic. Infusion of leaves and flowering tops administered in nervous and spasmodic affections, in asthama and diseases of brain. Plant yields essential oil, adenin, and volatile oil which is good larvicides and feeble insecticides.

The medicinal properties of this plant are based on santonin, contained in the young leaves and flower heads. Santonin is reported to be maximum just before the flowers begin to open, it diminishes soon after.

Leaves are warmed and the eyes are covered with it to cure any eye troubles (Hynniewta 1984). Fresh juice is taken to get relief from headache and stomach pain by Apatani (Kohli 1992).

Note: The two tribes Apatani and Nishi used this plant against different diseases. But Apatanies use for curing Asthma conform with the established report.


(BEGONIACEAE) “Babarai”, “Baya”(N.); “Lukhu”(Ap.).

A stout succulent plant, roots fibrous, stem erect, succulent, glabrous, pinkish. Leaves broadly ovate, cordate at base, acute to short-acuminate, at apex, 15-30 x 12-24 cm, main nerves 7-9, petioles 5-25 cm, stipules lanceolate 1-1.5 cm, peduncles axillary, dichotomous, 5-10 cm, bracts linear -
lanceolate, .4 to .7 cm. Flowers white, fragrant, ovary 4 celled; Capsules pendent, 4-lobed, turgid, 1-1.5 cm diameter.

**Fls. & Frts:** Mar.-Nov.

**Specimen examined:** Itanagar-Naharlagun, 20-8-1989, 31.

Shaded places in forest and as undergrowth. It has good ornamental value.

**Usage in Ethno-medicine:**

**Parts used:** Root, petiole and leaves.

*Nishi:* Roots, petiole and leaves are eaten raw as a remedy for cough, fever and malaria.

(ii) Leaves pounded and applied in itching.

(iii) Leaves are eaten as vegetables by both the tribes.

(iv) The other spp. of *Begonia* viz. *B. obversa* C.L. may also used as substitute.

**Established report of Utilisation in Medicine:**

So far not known but Asolkor et al. 1992 p.p. 118-119. recorded that tubers together with the fruits of *Solena heterophylla* are boiled and decoction taken in fever; root stocks in fecal discharge in bile dysentery.

*Note:* Utilisation of Root, petiole and leaf as a remedy for cough, fever particularly Malaria has been reported here as new application.

*Begonia palmata* D.Don (BEGONIACEAE): Stem is crushed and made into paste for preparing chataney. It is also used orally as medicine to relieve cough and cold, against the local name” Bayia” by Nishi tribe. (Thothathri & Pal,1987).
An Apatani man collected *Berberis wallichiana* DC. a threatened plant from Sero village (Ziro) for Ethno- medicinal use.

Thorny shrubs, upto 3m high; bark greyish brown, inside yellowish, branchlets angled. Leaves 3-8 x 1-2 cm lanceolate or oblong lanceolate, acute, cuneate, spinuous, serrulate, shining on both surfaces. Flowers yellow, c 8 mm across sepals c 5 mm long; petals nearly equalling the size of sepals; anthers dehiscing by valves; stigmas subsessile. Berries c. 0.8 cm long, oblong, ellipsoid, deep purple to blackish when ripe.

Fls. & Frts.: Mar.- Nov.

Specimen examined: Siro (Ziro),29-4-1988, Singh,Pandey& Mohan Singh,1348.

Frequent in high altitudes in open forests, forests margins, and road sides.

Usage in Ethno-medicine:

Parts used: Root, bark, fruits.

(i) The root or bark is pounded and applied on swollen parts of the body and also against body pain by Apatani people.

(ii) Fruits are edible by both tribes. The tongue and teeth become blackish after eating the fruits.

Established reports of Utilisation in Medicine:

Root and root bark contains oxyacanthine and umbellatine. Panigrahi & Naik (1961) reported that the bark is used for curing of swellings in the body against the local name “Tahmi” by Apatani.
*Note: Spines are useful in tattooing on chin and forehead of Apatani people which cause permanent black spot in the portion. But now this traditional custom is gradually diminishing.


Rhizome erect, stout, forming caudex; caudex short, erect, massive, densely covered by linear - lanceolate, shining, dark-brown scales at the apex; stipes 10-60 x 0.3 - 0.7 cm, tufted, erect, scaly at base; fronds upto 150-70 cm monomorphic, pinnate; pinnae linear-lanceolate, 6-30 x 1-2 cm, spreading, coriaceous, glabrous, base of pinnae adnate on the lower side narrowed at apex, veins simple or forked, parallel, free, sori linear, costal, continuous nearly to apex, sori fused forming coenosori; indusium narrow, firm, near costal, margins entire, spores round or oval, translucent, pale with narrow medium wing.

**Fertile.** Aug; Dec.

**Specimen examined:** Itanagar, 12-8-1990, 207.

Abundant along & road side walls, waste land and open slope on hills.

**Usage in Ethno-medicine:**

**Parts used:** Rhizome and fronds.

Rhizome and fronds are pounded and applied on cuts and wounds for clotting of blood and hasten its healings by Nishi tribe.

**Established reports of Utilisation in Medicine:**

52
It is used as poultice for boils in Malay. Rhizome is used as anthelmintic in China. Rhizome used for urinary disorders as cure of sanipat (delirium).

It contains chlorogenic acid.

*Note*: Reported here its new application for healing of wounds.


A small tree; stem prickly; bark whitish grey to greenish brown outside, blaze greenish-white. Leaves digitate with 5-7 foliate, common petiole 30 cm - 65 cm long; leaflets 10-30 x 5-11 cm, elliptic - oblong, lanceolate or ovate lanceolate, entire or distantly serrulate or crenulate when young, lateral nerves 6-10 on either side, arching, prominent-beneath. Panicles large, terminal; bracts oblong or lanceolate; umbels many flowered, racemed on the branches of the panicles. Flowers white, small, stellate tomentose; disk flat, obscurely 5- angled. Fruits upto 1cm across, sub globase, crowned by the disk and the persistant style; seeds 1 or 2 with pitted surface, albumen uniform.

**Fls. & Frts.**: Mar.-Feb.

**Specimen examined**: Kimin, 25-6-1994, 265.

Commonly found in tropical forest.

**Usage in Ethno-Medicine**: 

**Part used**: Fruits.

(a) 5-6 boiled fruits are eaten as a remedy for cough.
(b) Dried fruits are pounded mixed with water and is applied against skin eruptions and abscesses.

(c) Fruits are edible also used as Chatani(Condiment).

Established reports of Utilisation in Medicine:

Established report is so far not known. But Thothathri & Pal(1981) reported that Brassiopsis speciosa Decne & Planch Var. hirta Hook. known as" Tago" by Nishi, the leaves are taken in diarrhoea, stomachache and throat pain. They are also used to foment the injured swollen to relieve pain.

Note: Quite different application of this plant has been reported here.


Small tree, upto 12 m high with spreading branches; trunk stout with grey soft bark, young parts brown mealy-pubescent. Leaves broadly ovate, to oblong acute, 15-20 x 7-12 cm, densely short-stellate greyish-white upper surface glabrescent when old, petioles 2-5 cm long. Cymes congested, in much branched panicles; Flowers small, pinkish, 1.2mm, long, sub-truncate, stellately pubescent. Corolla 4mm long, pale purple, subequal. Anthers glandular, ovary imperfectly 2-celled, 2 ovuled in each cell. Drupe 2.5mm diameter, purple, turning black when ripe.

Fls. & Frts.: Jul.-Nov.

Specimen examined: Itanagar, 12-8-1989, 27.

Abundant in Banderdewa, Itanagar,Doimukh and Sagali area particularly along road sides and also in deep forest as an ornamental plant.

Usage in Ethno-medicine:
**Parts used:** Tender Stem and branchlet.

Adi and Nishi tribes used tender stems and branchlets as tooth brush for the treatment of toothache.

**Established reports of Utilisation in Medicine:**

(i) Bark is aromatic, bitter, tonic, carminative. The decoction of bark is used in cutaneous diseases.

(ii) Paste of bark of leaf applied on scorpion sting.

(iii) Bark used in various skin diseases.

The Bark contain Me-betulinate, baurenol and P-sitosterop-OAc. Leaves contain, θ-sitosterol, maslinic, olvanolic and ursolic acides.

*Note:* Quite different application is reported here.

**Campylandra aurantiaca** (Baker) Tupistra, (LILIACEAE) “Dipa Talo” (Adi)

The villagers use small piece of its rhizome as debility tonic and curing various kinds of stomach disorders and ailments. It is also considered to have aphrodisiac qualities. (Kohli , 1992). The chemical analysis reveals that the most active alkaloid is berberin (Joshi 1985).


Juice obtained from the bark is used against insect bite. To check any epidemic disease like chicken pox, etc. the bark and resin of the tree is burnt inside and outside house of by villagers (Kohli 1992).

“Basar” (N.).

Tufted herbs, 30-150 cm; rhizome 15 cm long, 4-6 mm thick, brown outside, white inside; stems erect, trigonous 3-4 mm thick; leaves exceeding stems, acuminate, 4-10 mm broad; sheaths reddish-brown. Panicles 15-40 cm long; partial panicles 4-12, solitary or paired, sub-pyramidal 4-10 x 3-5 cm; bracts foliaceous; spikelets numerous, 6-16 mm; glumes ovate, 2-3 x 1.5 - 2.0 mm; Urticles ellipsoid, obscurely trigonous 3-4 x 1-2 mm; nuts ellipsoid, trigonous, brown.

**Fls. & Frt.:** May-Mar.

**Specimen examined:** Dariya pahar, 16-6-1991, 220.

Commonly growing in waste land, grass land, forest borders, walls & slopes in dry or moist places.

**Usage in Ethno-medicine:**

**Part used:** Seeds.

Dried seeds are pounded and is applied in wounds for 3-7 days for healing by Nishi tribe.

**Established reports of Utilisation in Medicine:**

So far not known.

**Note:** This is a new report of plant which is utilised in herbal medicine by Nishi Tribe of Arunachal Pradesh.


A herbaceous shrub, with weak succulent trunk & milky sap. Leaves al-
ternate, glabrous, digitately lobed, lobes orbicular, glaucous beneath, long petioled, forming a crown, palminered. Flowers dioecious, greenish-white, sub-sessile or in long pendant panicles; pepo variable pyriform, yellow when ripe. Seeds many brownish black.

**Fls. & Frts.** : Most part of the year.

**Specimen examined** : Chempu Basti, 27-11-1994, 284.

Cultivated for its edible fruits, in garden, home complexes and jhum areas of local people.

**Usage in Ethno-medicine:**

**Parts used** : Flowers & Fruits.

(i) 3-4 flowers boiled and taken twice daily, said to promote hearing power.

(ii) Raw fruits boiled and eaten with salt about 7 days, but not with chilly is said to promote lactation in women. Ripe fruits also have same property.

**Established reports of Utilisation in Medicine:**

Milky latex of unripe fruits used to remove freckles and other blemishes from the skin, anthelmintic. Ripe fruits are stomachic, carminative and diuretic. Seeds reported as heart stimulant and as diuretic. It is also amoebicide particularly for amoebic dysentery. One of the constituents of indigenous drug ‘Gasex’ useful in post operative period to relieve distension.

Papain the proteolytic enzyme contained in milky latex. Carpaine alkaloid is found in green parts and seeds.

*Note* : New information have been reported in Ethno-medicine.


A tall branched herb, glabrous except the cymes. Leaves 5-8 cm cau-
date acuminate glabrous or puberulous, open, panicled or corymbose 2-4 cm diameter, bracteol and calyx-teeth small, linear. Flowers yellow, calyx tube globose, lobes linear-oblong, obtuse; corolla-limb narrowly funnelshaped; lobes small, rounded; capsules, 4-lobed, many seeded.

**Fls & Frts.:** Apr.-May.

**Specimen examined:** Palin-Dui, 26-4-1988, Singh, Pandey & Mohan Singh. 1317.

Commonly found in Palin and Sagalee area.

**Usage in Ethno-medicine:**

**Part used:** Plant.

Decoction of plant given thrice daily in cough by Nishi tribe.

**Casearia vareca** Roxb. (SAMYDACEAE), locally known as ‘Nelo changne’ (Dafla) reported by Hynniewta (1987) that the fruit paste is taken in intestinal parasites. Fruit juice is dropped in earache.


Perennial herbs with long creeping stem, rooting at the nodes. Leaves reniform, crenate, palmately nerved, deeply cordate, long petioled; stipules scarious. Umbels several at a node. Flowers 3-5 in an umbel, subsessile, each with a pair of ovate sub-amplexicaule bracts. Petals deep red, ovate, acute or obtuse, imbricate. Stamens red. Mericarps indehiscent, laterally compressed,
brown, oblong with prominent secondary ridges.

**Fls.- Frs:** Nov.-Aug.

**Specimen examined:** Nyokom Lapang village, 20-8-1989, 33.

Commonly found in wet places, near house complexes, near streams, lakes and moist situation.

**Usage in Ethno-medicine:**

**Parts used:** Whole plant, leaves

(A) Apatani: Whole plant is taken with salt and chilly as vegetable and is said to be as blood purifier and also used as remedy for gastric.

(B) 10-15 fresh leaves are eaten thrice daily by Apatani & Nishi people to cure abdominal pain and is also used against constipation.

(C) Fresh stem and leaves are used to increase digestive power and promote the appetite by both tribes.

**Established report of Utilisation in Medicine:**

The leaves and stem of plant is used as an alterative, tonic and diuretic. It also considered useful in diseases of nervous system for improving memory and useful in syphilitic, skin diseases both internally and externally. Drug has weak sedative but cardio-depressant and hypotensive action. A decoction of whole plant is used in treatment of leprosy. The plant is also considered useful in certain kind of tuberculosis.

Dymock in pharmacographia India reports the presence of an oily substance, a resin, organic acid and tannin and traces of an alkaloid in this plant. It also contain alkaloid hydrocotyline and asiaticoside which is considered responsible for its use an leprosy. Experiment on animals have confirmed its property of inducing fast growth of skin, hair and nails. Rastogi et al (1960) have isolated six constituents two saponins-brahmosides,
brahminoside, two triterpene acid-brahmic acid, isobrahamic acid and betulic acid and stigmastan sterol.

The whole plant is useful in Ayurvedic formulations as a constituents of Brahma Rasayan, Brahma Vati, Brahma Ghrita, Saraswastarista and Gerteforte Tablet etc.

Note: The plant sold in vegetable market in bundles by local people which cost Rs.2.00 as per bundle approximately of 100 gm.


A semi scandent 4-5 m high, nodes not prominent, internodes 1m, walls thick; stem-sheath of young stem papery, trigose with pale brown hairs, blade long hairy within ligule narrow, leaves 10-20 x 2.5 - 5cm green, whitish beneath, lodicules ovate lanceolate; panicle of spiklets dense, globular, terminal or axillary.

Fls. & Frts: Jan.- Feb.


Usage in Ethno-medicine:

Parts used: Tender shoots and liquid inside bamboo.

Apatani: Tender shoots or liquid inside bamboo used in small quantity orally to get relief from diarrhoea, dysentery stomach troubles. Young tender shoots are also considered as wormicides if added in water before bath.

Established reports of Utilisation in Medicine:

In Hadagacaj, infusion of leaves given as tonic, anthelmintic, stomachic
Rhizome upto 0.4 cm wide, creeping, stout, stipes 20-40 cm long, pale brown, more or less densely covered with dark-brown, thin, linear-lanceolate scales. Fronds 25-55 x 15-30 cm, pinnate; lateral pinnae numerous, 15-22 pairs, close, alternate, largest pinnae 10-22 x 1.5-2.5 cm sessile, truncate to subtruncate at base; rachis shortly scaly or hairy, lower surface of pinnules more or less deeply clothed with acicular and glandular hairs on and between veins; veins upto 8-12 pairs in pinnules; sori medial or sub-marginal in two rows; indusia bearing both acicular and gladular hairs.

**Fertile:** Nov. - Jan.

**Specimen examined:** Nyokum Lapang village, 15-1-1989, 10

Most common and abundant in shady and moist and cleared forests, hill slopes also in near ditches and streamlets, as a weed.

**Usage in Ethno-medicine:**

**Parts used:** Fronds and tender pinnae mostly showing cercinate venation.

(A) Fronds pounded and is applied in cuts and wounds for immediate healing. It has strong properties of healing up of any kind of injuries. The pinnae are warmed above fire and tied tightly with the help of a cloth to relieve bone pain, swollen muscles and rheumatism by Nishi, Apatani and Adi.
(B) Pinnae are also used in preparation of local drink (Apung).

**Established reports of Utilisation in Medicine:**

So far not known but Pal (1984) reported that the tender fronds are used for giving fomentation to the gout and rheumatism by 'Adi' against the local name "Rukdik".

*Note:* Repeated here as new addition of plant in herbal medicine which is having strong properties of healing.

**Chromolaena odorata** (L.) King & Robinson in Physologia 20:204, 1970.


"Badmas" (N., Ap.); "Daglin" (Adi).

Branched shrubs, 1-2 m, high, internodes upto 10 cm Leaves deltoid, triangular to lanceolate, entire and abruptly acute at base; long-acuminate at apex. sub-entire to dentate at margins, 7-10 x 3-4 cm Heads 20-35 flowered, in trichotomous convex corymbs, involucral bracts many-seriate, pale or stramineous; corolla pale blue to white.

**Fls. & Frts.** Sep. - Nov.

**Specimen examined:** Itanagar, 13-9-1992, 258.

An obnoxious weed, quite common in the district in lower elevation.

**Usage in Ethno-medicine:**

**Part used:** Leaves.

Paste is made on pounding 3-4 fresh leaves and is applied on cuts and wounds for early healing by Apatani, Nishi and Adi. This is a common use of the plant by local people. Fomentation of young leaves given in case of
25. *Clerodendrum glandulosum* Coleb. ex. Wall. - an important plant for reducing high blood pressure.
headache and fever by Nishi tribe.

**Established Reports of Utilisation in Medicine:**

Bruised leaves are applied to cuts in the body as styptic. Plant is used also as fish poison. The Et.OH.(50%) extract of aerial parts are spasmolytic. The leaves contain ceryl alcohol and sterols, trihydric alcohol and anisic acid. *Note*: Its application for headache and fever reported here as new information.


Shrubs, 1-6 m high with a globose crown, bitter with disagreeable smell, leaves broad-ovate, acute, entire, 10-20 x 5-15 cm, lateral nerves 6-9 pairs, base cordate, leaf base on the ventral side bearing cluster of glands; petioles 2.5 -15 cm long. Inflorescence terminal, compact corymbose panicles. Calyx pubescent, cupular, teeth short. Corolla tube white, slender 2.5-3.5 cm long. style exserted. Fruits bluish green ø 8 mm diameter, globose, compressed above.

**Fls. & Frts.** : Jul.- Feb.

**Specimen examined**: P. Sect., Itanagar, 20-8-1989, 32.

Growing as wild along the edges of forest and commonly cultivated by local people in their village complex, house complexes and jhum areas.

**Usage in Ethno-medicine**:

**Part used**: Leaves.

(i) Leaves are used as vegetables and also considered as good for reducing
blood pressure by Apatani, Nishi and Adi.

The local people used the leaf decoction 3-4 tea spoonful twice daily in case of high blood pressure. Leaves are bitter in taste and said to be more effective during winter. Leaves are sold by local people one rupee per small bundle having 5-10 leaves in the local market.

**Established reports of Utilisation in Medicine:**

Young leaves are useful as anthelmintic. (BOBSI 18:166, 1976) as recorded by Asolkar et al. (1992) p.p. 216. Animal experiments on toad and dogs with liquid extract of the leaves from this plant conducted at Silcher Medical College (Assam) showed effect like a betablocking (Nath, 1988).


*Note:* A new report of application of plant for reducing high blood pressure.

**Coelogyn pectata** Lindl., (ORCHIDACEAE). “Tikhit” (N.) has been reported by Pal (1984) that dried pseudobulbs is crushed and made into powder. The powder is then applied to injured spot caused by fire, the burning pain is relieved immediately and wound is healed up.


Tubers globose, 1.0-2.5 cm diameter, leaves 1-3, peltate, ovate, rounded, retuse or sinuate at base, cuspidate-acute or obtuse at apex, 5-15 x 3.5-10
cm; peduncles 1-3, 5-12 cm long, tubes of spathe c 1.5 cm greenish, limb linear - lanceolate, acuminate 5-9 x 1.0 - 1.2 cm, appendage of spadix acute, golden yellow.

**Fls. & Frts:** Jun-Jan.

**Specimen examined:** Dariya pahar, 16-6-1991, 219.

Shaded moist places in forests and near villages.

**Usage in Ethno-medicine:**

**Parts used:** Spathe, inflorescence.

Nishi(i) 1 or 2 Spathe(s) and inflorescence are taken twice daily to cure cough, tuberculosis and fever.

(ii) Petioles and leaves juice is applied in itching.

**Note:** This is a new addition of plant in herbal medicine.


Rhizome long creeping, rather stout, thick, clothed with narrow lanceolate, dull brown scales; scales upto 0.6cm long. Stipes upto 65 x 1 cm or more long, erect, naked, glabrous, light brown; rachis glabrous, pale-brown, grooved on the upper surface. Pinnae 70 x 40 cm, ovate or oblong ovate, round or cuneate at the base, bifid to bipinnate at base, rest 3-8 pairs of pinnules. Sori linear, extending along the veins, spores yellow, trilete, exine granulose.
**Fertile:** Jun.-Dec.

**Specimen examined:** Dariya pahar, 9-9-1989, 41.

**Usage in Ethno-medicine:**

**Part used:** Leaves.

Leaves are warmed on fire and is applied or bandaged on burn injuries by Nishi tribe.

**Established reports of Utilisation in Medicine:**

So far not known.

**Note:** This is a new report of application of plant in herbal medicine.


Stemless perennial herb, Root stock horizontal, woody with persistant leaf bases and fibrous roots, yellowish-brown externally and golden yellow internally. Leaves 5-6, petioles 12-25 cm, lamina 3-lobed, pinnatified; scape slender, solitary, long or few flowered panicle. Flowers small, white tinged with green, pedicelled; bracts foliaceous greenish; sepals oblong - lanceolate, acute at the apex; petals narrow, ligulate, slightly shorter than sepals. Follicles 6-8, stalked.

**Fls. & Frts.:** Feb.-Apr.

**Specimens examined:** Anini, 14-1-1987,1056, Mayodia top, 25-11-1988, Singh & Mohan Singh.1560
(Whole plant transplanted in earthen pots at Experimental Garden. R.R.C. (Ay.) Itanagar to study phenological characters).

**Distribution:** Arunachal Pradesh: Dibang Valley district, Lohit district, Siang district and Upper reaches of the Subansiri district. In general “Adi” and “Nishi” “Idu” keep the dried rhizomes in their home for immediate use and stored in internodes of bamboo for a long period.

**Status:** Vulnerable (Red Data Book 1984). It’s natural population have been exploited for its medicinal rhizomes. Destruction of habitats for jhuming have come on the way of natural regeneration.

**Usage in Ethno-medicine:**

Rhizome 2-4 gm or small quantity taken with water for debility tonic. It is also taken in fever, headache and gastric by Adi and Nishi.

**Established reports of Utilisation in Medicine:**

Rhizome, bitter tonic, stomachic, efficacious in debility, dyspepsia, and mild form of intermittent fevers. it is also used as salve for the eyes. In China it is used as antidiabetic. It contains main alkaloid Berberin and coptine.

The local people use it in fever, especially in Malaria and back ache, debility tonic, stomach disorders and as an aphrodisiac (Kohli, 1992). The plant is banned for exporting as per Public Notice No. 47 (PN) 192-97 New Delhi dated 30-3-1994 by Director General of Foreign Trade.

**Conservation Measures:**

This plant survives in earthen pots without affecting the flowering and fruiting time. Proper environmental condition is required for cultivation and it is difficult to grow in lower altitude. Protection of natural habitat should be given prime importance as also cultivation in higher elevation is suggested.
27. *Costus speciosus* (Koen.) Sm., an important medicinal plant in its full bloom - now banned for trade.
Scientific methods of mass culture is required for trade.


This is the most common fungus on hard wood slash in woods and some times on conifers. The rot is soft, white spongy. Heartwood of living catalpa may be decayed, the fungus entering through wounds and dead branches. The conk are thin, tough, leathery, annual, upto 2 inches wide with a hairy or velvety surface; multicoloured-white, yellow, brown, gray and black. The undersurface is yellow or white.

**Specimen examined**: Itanagar, 10-7-1994, 278.

A common fungus on decayed wood, abundant in rainy seasons.

**Usage in Ethno-medicine**:

**Part used**: Whole plant.

One piece of plant boiled in water and decoction taken twice to get relief from dysentery by Nishi tribe.

**Note**: This is a new report in herbal medicine. The fungus has been identified by Prof. D.N.Baishya, Deptt.of Botany, G.U.

Root stock tuberous and prostrate. Stem unbranched 1-3 m high, spirally
twisted rarely straight. Leaves spirally arranged, oblanceolate to obovate, c 30
x 7 cm, subsessile, shortly acuminate, entire, glabrous above, silky villous
beneath; sheaths red, ligule collar like, encircling the stem. Spikes compact
sessile, terminal ovoid or ellipsoid c 8 x 6 cm. Bracts ovate oblong acumi-
nate-mucronate, greenish red becoming bright red in age: Flowers white lip
with yellow heart; lateral bracteoles scarious white, staminodes absent. Fruits
c 3 cm long, red, capsule with 3 longitudinal dehiscing suture.

**Fls. & Frts. :** Jul. - Dec.

**Specimen examined:** Itanagar-Naharlagun, 4-8-1991, 2.

Frequently found in marshy and shady places on forest edge.

**Usage in Ethno-medicine:**

**Part used:** Rhizome & Stem.

**Nishi:** (i) Rhizomes and lower portion of stems are eaten raw in case of
snake bite. The rhizomes and stems are crushed and made a paste. About 10-
20 gm of this is applied in the place of snake bite. Also used against insect bites.
(ii) The juice is extracted from stem is after heating on fire and applied on
burning wounds twice daily till complete relief.
(iii) Rhizomes and stems are edible by local people.

**Established reports of Utilisation in Medicine:**

Tuberous root stocks are bitter, astringent, depurative, purgative, tonic,
stimulant and anthelmintic also used in snake bite. These root stocks are
considered as raw material for commercial production of diosgenin precursor
of steroids including sex hormones and oral contraceptives. Antifertility, anti-
inflammatory and antiarthritic activity of steroidal compound isolated from
this plant have been experimentally demonstrated. Some steroidal compound
have also shown local anaesthetic action.

Rhizome yields diosgenin (2.12%) and tigogenin, saponins & genins cause spasmodic uterine contraction. Saponins showed estrogen like activity in albino rats similar to stilbestrol.

*Note: This is a new report of herbal medicine applied as an antidote to snake bite and burn injuries.

**Crassocephalum crepidoiodes** (Benth.). Moore in J. Bot. 50: 211, 1912.


"Gianda" (N.); "Genda hamang" (Ap.);

Herbs up to 1m high. Leaves 5-16 x 2-7 cm obovate-elliptic to oblong-elliptic, acute, tapering at base irregularly shaped, dentate, membranous, glabrous or nearby so. Heads in corymbs pendent when young; heads 0.8-1.6 cm long, deep red at tip, involucral bracts oblong, linear, scarious margins. Achenes minute, blackish.

**Fls. & Frts:** Apr.-Mar.

**Specimen examined:** Itanagar, 13-5-1989, 23.

Very common in the open areas, among weeds also in new plantation and follows abandoned Jhum land.

**Usage in Ethno-medicine:**

**Parts used:** Stem, leaves.

(i) The juice of stem and leaves is applied in wounds for healing and relief by both tribes.

(ii) Twigs of stem and leaves are boiled with salt and chilly and used as vegetable, which is considered good for digestion Nishi, Apatani and Adi
28. *Curcuma aromatica* Salisb. in its natural habitat along Donyi Polo forest area.
(iii) Stem and leaves used as vegetables by local people.

Established reports of Utilisation in Medicine:

Leaf decotion used as a lotion for headache and mild. Stomach. (With. India. IV, (280); Juice taken to treat constipation and other stomach disorders (Econ. Bot. 35.4.1981). Pal (1984) reported that leaf juice is applied to cuts to prevent bleeding. The pain is relieved and wound is healed up quickly.

*Note: Reported here with the additional application of Stem and leaves as digestive.


Rooststock large, palmately branched, sessile, annulate, biennial tubers, inside yellow, strongly aromatic, greyish stramineus outside. Leaves 40-60 x 10-22 cm, oblong-elliptic or oblong-lanceolate, caudate-acuminate, green, often variegated above. pubescent beneath, base deltoid, petioles as long as or longer than the blade; flowering peduncle appearing with or before leafing, 12-22 cm long, sheathed. Flowers fragrant, shorter than the bracts in spikes 15-25cm, long; flowering bracts 3.8-5 cm long, ovate, recurved, cymbiform, rounded apex, pale green connate below forming pouches for flowers, bracts of the coma 5-7.5 cm long, more or less tinged with red or pink; calyx 8 mm long, irregularly 3-lobed, corolla-tube 2.5 cm long, upper half funnel-shaped, lobes pale rose coloured, the lateral lobes oblong, the dorsal longer, ovate, concave, arching over the anthers, lip yellow, obovate, deflexed, subentire or 3-lobed; lateral staminodes oblong, obtuse, as long as the corolla lobes.
**Usage in Ethno-medicine:**

**Part used:** Rhizome.

Rhizome is pounded and mixed with other vegetable and eaten for clear motion by Nishi tribe.

**Established reports of Utilisation in Medicine:**

Rhizome - tonic, carminative externally applied in combination with astringent, bitter and aromatic to bruises and sprains to promote eruptions, powder used as anthelmintic. Essential oil from rhizome anthelmintic, antifungal, antimicrobial. Oil also useful in treatment of early stages of cervix cancer. The active constituents are curcumol and curdion.


A caulescent herb with tuberous root stocks bearing sessile and long stipulate tubers, inside black, aromatic. Leaves 30-60 by 12-16 cm, broadly lanceolate or oblong, glabrous, with deep ferruginous purple cloud down the middle. Petioles and sheaths as long as the blade. Spike appearing rather before the leaves, c 15 cm long, flowering bracts green with a ferruginous tinge; coma bright red, tending to crimson. Flowers pale yellow reddish at the outer edge shorter than bracts.

**Usage in Ethno-medicine:**
**Part used:** Rhizome.

Roasted rhizome is eaten at bed time to get relief from cough and asthma by Apatani tribe.

**Established reports of Utilisation in Medicine:**

The rhizome is stomachic, cooling diuretic, aromatic, stimulant carminative, applied to bruises and pains. Decoction of rhizome with pepper, cinnamon and honey is also useful in cold.


Erect or ascending herbs, 20-55 cm; stems obtusely triangular, often tinged red; Leaves ovate to rhomboid-ovate, acute to rounded at base, acute or sub-acute, 2-8 x 1-4 cm petiole 1-10 mm; raceme 5-30 cm; rachis dense hairy. Flowers in spikes, often clustered and central flower of each cluster perfect, the 2 lateral ones imperfect; urticle ovoid, 1-2mm; seeds cochleate orbicular, shiny brown.

**Fls. & Frts:** Jul.-Jan.

**Specimen examined:** Itanagar-Naharlagun, 14-10-1989, 5.

Commonly growing in waste land, road sides, moist places and open places.

**Usage in Ethno-medicine:**

It is an ingredient of “Tapyo” which is known as “Apatani Black Salt”.

**Established reports of Utilisation in Medicine:**

Decoction of root given for dysentery in Malaya. Plant is used in external applications for various skin complaints. Plant is also ecdysterone.
29. Flowering twig of
Dendrocnide sinuata (Bl.) Chew.

“Meevla Tasha” (N.); “Doob” (H.); “Durba” (S.).

Perennial evergreen grass; stems, prostrate, widely; creeping, leaves 2.5-9.5 cm x 1.2-3 mm, narrowly linear or lanceolate, soft smooth, Spikes 2-6, radiating from the top of peduncles, 2-4 cm long, green.

Fls. & Frts: Nov.- Apr.


Common perennial grass in open places in field, garden and jhum areas.

Usage in Ethno-medicine:

Part used: Whole plant.

Plant grinded with stone and its paste or powder about 20-25 gm. taken with water as a remedy for regular mensuration and also relief headache by Nishi tribe.

Established reports of Utilisation in Medicine:

Whole plant is astringent, diuretic, used in dropsy, anasarca, hysteria, epilepsy, insanity and dysentery. It is also a constituent of the Ayurvedic formulations viz. Durvadikwath, Durvadi ghrit and Taila analine etc.

*Note: Application of plant by Nishi tribe in Mensuration and headache is new reports in herbal medicines.


Shrubs, branches greenish-white, clothed with stinging hairs, causing irritation; leaves 15-35 x 7-16 cm ovate, broadly-elliptic, acuminate, base rounded or cordate, upper half usually crenate or serrate; panicles 3.5 cm across. Urticles white c. 0.3 cm across, inflexed.


**Specimen examined:** Chandranagar, 13-9-1992, 256.

Common in shady areas as an under growth in evergreen forest.

**Usage in Ethno-medicine:**

**Parts used:** Root, leaves.

Nishi (i): Root pounded, warmed and a paste is made and applied against swollen muscles, injury and itching.

(ii) Leaves are mixed with leaves of *Stephania glabra* (2:1) and boiled with water. 1-2 tea spoonful of decoction is administered as a remedy for fever, malaria and while feeling hot.

Apatani: (i) Young leaves are boiled and the decoction is administered in case of urinal disorder or redish urine of male and female.

(ii) Leaves are boiled and the decoction is administered for a remedy of dysentery by the both tribes.

**Established reports of Utilisation in Medicine:**

Juice of leaves used in long standing fever. Seeds are used in same ways as coriander.

(ii) Plant hairs caused dermatitis with acute burning pain in body.

Roots and leaves applied to swelling and blind abscesses. Seed is also
medicinal (Wealth of India 6:34).

*Note: Reported here for the new application of plants in herbal medicine for remedies of dysentry, urinal disorder as also with leaves of *Stephania glabra* given in Malarial fever.


Large evergreen trees up to 25 m tall, buttressed at base; leaves 15-30 x 5-13 cm oblong, acute, dentate, glabrous above; petioles narrowly winged. Flowers white, peduncles 3-7 cm long, stout; sepals 5, fleshy green, pale along margins; petals 6.5 to 9 cm long, caducous, white; stamens about 2.5 cm long, numerous, white, anthers tips often incurved; carpels many, styles 10- many green, deflexed; ovules many; fruits large globose, 5-8 cm across green, tightly enclosed in the persistent calyx; seeds immersed in pinkish pulp.


**Specimen examined:** Kimin, 25-6-1994, 270.

Commonly found in tropical evergreen forest.

**Usage in Ethno-medicine:**

**Part used:** Fruits.

Nishi-(i) Ash obtained after burning of dried fruits is given 1-3 tea spoonful twice daily with water in case of stomach pain.

(ii) The fresh fruits are eaten with salt as a remedy for stomach pain by Apatani.
Fresh fruits are edible and used for preparation of tasty prickles. In daily market fruits are sold by local people @ Rs. 2.00 per fruit.

**Established reports of Utilisation in Medicine:**

Fruits are tonic, laxative and used in abdominal pains. Bark and leaves are astringent. The fruit juice mixed with sugar and water used as a cooling beverage in fever and as a cough mixture. Plant is also used in chest troubles, sores of Hg. poisoning and cholera. Bark and leaves contain tannin. Flavanoid(s) found in bark timber, fruit and pericarp.

* Note: Reported here for a quite different way of application of fruits after making ash in stomach pain.


Stem ascending upto 10 m. Leaves oblong lanceolate, elliptic-ovate, rounded or cordate at base, acuminate or mucronate 7-9 x 3-6 cm, petioles 4-8 cm. Male inflorescence upto 65 cm long leafless branches, 1-5 together, 1.5-3.0 cm. Female inflorescence solitary or paired upto 35 cm. Capsules on 3-4 mm long stipes retuse at base and apex wings 1.5-1.8 x 1.4-2.0 cm

**Fls. & Frts.:** Aug.- May.

**Specimen examined:** Daria Pahar, 16-6-1991, 224.

Usage in Ethno-medicine:

**Part used:** Tubers.

Tubers crushed and mixed with hot water about 1/2 tea spoon given
twice daily as a remedy for fever, malaria, headache and also in dysentery.

(ii) Tubers are stored by medicenmen for immediate use.

Established reports of Utilisation in Medicine:

So far not known.

Note: New application of plant in Ethnomedicine reported here.


"Angin" (N.); “Engin” (Ap.); “Sarlaka” (Adi).

Tubers globose or pyriform, 10-15 cm diameter with purplish black skin; bulbis numerous, irregular in shape, 2.5 cm across, brown, warted. Stems ascending, upto 35 m, twining to left terete or faintly angled. Bulbis axillary warted. Leaves, simple broadly cordate, caudate acuminate, 10x25x8-22 cm, basal nerves 5-7; petiole 6-12 cm. Male inflorescences 1-4 together on large pendulous upto 1m long panicles usually pedicelled. Female inflorescences solitary or paired, axillary 25-40 cm; Capsules on c 1 mm long stipe, wings semi-elliptic, rounded at both ends, 20-24 x 6-8 mm

Fls. & Frts.: Jul.- Jan.

**Specimen examined:** Itanagar, 14-1-1989, 9.

Shaded places in forest as a climber on shrubs and trees also cultivated in Jhum areas.

**Usage in Ethno-medicine:**

**Parts used:** Tubers, bulbis.

(i) Nishi: Tubers pounded and is rubbed for cooling on effect against burning
sensation and said to have same affect with Bulbils.

The tubers of *Dioscorea wightii*. Hook f. may also be used as substitute for the same and generally cultivated by aboriginals.

(ii) Tubers or bulbils one part and same quantity of tuber of *Stephania glabra* pounded together and mixed with water is administered to stop dysentery.

(iii) Tubers are edible after boiling. Tubers also sold in vegetable market @ Rs.10.00 per kg.

**Established reports of Utilisation in Medicine:**

Tubers are acrid but in most cases boiling make them edible. Tuber contains toxic principle dioscorin. Santals used plants against madness.

The genus has recently gained much repute as a source of steroid sapogenins, like diosgenin. These are promising starting material for synthesis of cortisone, which is useful in treatment of rheumatic arthritis and preparation of sex hormones. The tubers are one of the constituents of Ayurvedic formulations viz. Chyavanprash, Mahamas Tail, Narsingh Tail, Garbhahadharini Vati.

*Note:* Reported here as new application of plant with the tuber of *Stephania glabra* for remedies of dysentery.


Terrestrial; rhizome creeping; stipes erect, about 50 cm, or longer, gla-
brescent except for a few brown scales at base; Fronds bipinnate, large, about 100 cm or more long and about half as wide; pinnae with numerous pin­nules varying in size and lobation thin in texture, veins pinnate, 8-10 pairs, the lower 2-3 pairs of adjacent groups anastomosing, forming an irregular intermediate excurrent vein leading towards a sinus between adjacent lobes; rachis and costa glabrescent or pubescent beneath with numerous pale brown hairs and ovate toothed scales. Sori along the whole length of vein

**Specimen examined**: A Sect. Itanagar, 5-4-1992, 225.

Most common and abundant growing in stream side, river sides particu­larly in moist places along with edges of forest or as undergrowth.

**Usage in Ethno-medicine**:

**Part used**: Fronds.

Boiled young fronds preferably with circinnate venation are used as vege­tables for improving digestion, appetite and is also useful in constipation.

**Established reports of Utilisation in Medicine**:

So far not known. But Esculentic Acid: A new triterpene acid and its structure as 2α, 3α, 23 trihydroxyurs-12 -en- 28 - 01°c acid have been iso­lated by Tendon et al (1980).

* **Note**: Reported here as new application of plants.


"Kadokaro", "Ropsik-Romnik"(N.); "Kadokairo"(Adi).

Annuals, glandular pubescent or glabrate annuals; prostrate or spreading
rooting at nodes. Leaves orbicular to reniform or deltoid ovate, truncate or obtuse at base. Obtusely apiculate at apex, .5-2.5 cm x .5 to 3 cm, 3-7 nerved; petioles .2 to 1 cm. Cymes dichasial; terminal or axillary; pedicels .2-1.5 cm. Flowers white. Capsules ovoid .15 to .25 cm, dehiscing into 2-3 valves. Seeds dark brown.

**Fls. & Frts. :** May-Oct.

**Specimen examined:** Dariya pahar Jhum area, 5-8-1990, 202.

Most common and abundant along road sides, waste land moist slope forming a carpet among weeds through out the study area.

**Usage in Ethno-medicine:**

**Parts used:** Stem and leaves.

A. Nishi: (i) Stem and leaves crushed and applied in skin disorder like ringworm, abscesses, rupturing of skin and allergy.

(ii) Stem and leaves of the plant are boiled in water. The vapours and smell when inhaled considered remedy of inflamation of sinus and nose block.

B. Adi: (i) 3 to 4 Nos of plants mixed with fruit of *Psidium guajava* (Guava) and eaten for a remedy for gastric.

**Established reports of Utilisation in Medicine:**

Juice of plant is laxative and antifebrile. An antileukamic compound “Cordacin” \((C_{17}H_{22}O_{7})\) is found which is inhibitory to primary culture of human leucamiac cell.

This plant known as “Kaja Habo” by Hill Miri and used the leaf juice in skin diseases.(Pal, 1984).

The entire plants are crushed and mixed with bile of goat, boar or fish. The mixture is applied in skin diseases caused by ringworm against the local

*Note:* Application of plants found to be different by Nishi and Adi and reported here as additional application for curing inflammation of sinus and nose block as also with fruits of *Psidium guajava* for curing gastric.


Herbs diffused or erect, profusely branched, rooting at lower nodes, stri-gose, hispid or hirsute, Leaves opposite, short petioled, sub-entire or toothed, oblong or elliptic. Heads small white, peduncled, axillary or terminal hetero-gamous; involucre broadly campanulate with bracts 3 seriate, outer herba-ceous, ovate strigose, inner ones one nerved; ray florets sub-2 seriate, small, entire or 2 toothed, ligulate, white; disc florets campanulate; receptacle flat, anther bases obtuse. Cypsela minute; pappus obosolete of 2 short awns.

**Fls. & Frts.:** Apr.-Nov.

**Specimen examined:** A sect. Itanagar, 13-5-1989, 22.

Commonly growing in moist open places along with weeds.

**Usage in Ethno-medicine:**

**Part used:** Whole plant.

Apatani: (i) Plant crushed and applied on cuts and wounds.

(ii) 3-4 plants mixed with small quantity of salt and sugar and taken twice daily with water for the treatment of the stomach trouble and dysentery.

**Established reports of Utilisation in Medicine:**
The plant relieved headache when applied with little oil. The juice of leaves is given in jaundice and fevers. It is also used in intestinal parasite, asthama, anemia. Its application also promotes growth of hair on the shaved scalp. Herbs also used in skin diseases and leaves in boils.

It contains alkaoid ecliptine and nicotine. Leaves contain stigma sterol and α terthienyl methanol. The whole plant is used a constituent of some important formulations viz. Bhringraj Tail, Bhringrajasava, Ashok ghrit, Sutsokhar Ras Vrihat, Acidocid Syrup, Geriforte tablet etc.


Undershrub tall, fleshy leaves large 15-25 x 7-17 cm, sessile or petiolate, coriaceous, obliquely rhomboid to oblong lanceolate, cuspidate or caudate acuminate, crenulate or serrulate from the auricled base. Male flowers clustered, sessile, or shortly pedunled, exinvolucrate. Female small, tomentose, involucral bracts confluent into a fleshy disc with lobed margins.


_Specimen examined_: Foot path towards Donyi Polo Vidya Bhawan, 7-6-1992, 240

Commonly growing on river sides, and an undergrowth of the forest.

**Usage in Ethno-medicine:**

**Part used**: Root.

Fresh root juice about 1-2 tea spoonful is taken to induce vomiting and relief by Nishi tribe. It creates freshness.

**Established reports of Utilisation in Medicine:**
So far not known. But Singh & Anand krishna reported that one tea spoon dry powder of the root is given orally in case of vomiting but name of the tribe and local name was not mentioned.

*Note*: New report of application of root juice for inducing vomiting by Nishi tribe.


Plants 60-120 cm high with leaves often far over topping the stem, 5-7 mm broad with compressed loose sheaths and ligules of hairs. Leaves long, flat or folded, flaccid or firm. Spikes 4-7, suberect with their ends, or whole spike frequently incurved rhachis of spikes often pubescent at base, 3-gonous, or back flattened; spikelets much congested, awnless, 3-6 flowered; flowering glumes often with 1-2 nerves in the sides, variable in size upto 5 mm long; Seeds globose, dark brown, smooth or rugose, ø 1.75 mm diameter with a depressed black hilum and slightly flattened on one side.

**Frt.s.:** Nov. - Dec.

**Specimen examined**: Itanagar, Jhum area, 12-11-1989, 57.

Commonly cultivated in jhum areas by local people.

**Usage in Ethno-medicine:**

**Parts used**: Grain, grain dust.

(A) Nishi: Pounded grains mixed with water and dried and then powdered which is locally called “Apak”. This “Apak” is useful in fermentation and preperation of “Apong” popular drink for ethnic people.

(ii) This “Apak” is also used with hot water and applied in wounds for
blood clotting and healing and also against itching.

(iii) Ash obtained on burning of grains is locally known as "Tachoo". This is collected in pots and taken 1-3 tea spoonful with water twice daily in case of cough, cold and cleanliness of throat. This is also useful in neutralising the wine.

(iv) Grains are also used by Apatani for preparation of local drink.

Established reports of Utilisation in Medicine:

The grains are tonic, cooling; useful in biliousness, and blood diseases. The grains are also astringent. It is also source of Ragi flour. It is also used in measles, small pox, pleurisy, pneumonia (Eco.Tax Bot. 24: 241, 1970) as recorded by Asolkar et.al. (1992), p. 290. Plant contain cyanogenic glucosides, triglochinin and ochratoxin.

*Note*: Reported here as quite different way of application for curing cough and cold as also healing of wounds.


An immense woody climber, stem angled and much twisted, bark blackish or greyish-brown. Leaf rachis ending in 2 deciduous tendrils, pinnae 6-15 cm long; leaflets 3.5-5x 1-2 cm, obovate-cuneate, base acute or cuneate. Spike 8-20 cm long. Flowers small, 0.2-0.4 cm, long, yellowish-green, polygamous; petals free; stamens 10, free anthers deciduously glandular; pods upto 30-100 x7-10 cm, oblong, falcate, sinuate between seeds, laterally compressed, woody into 1-seeded segments; seeds discoid, hard, round, shiny, reddish brown.
**Fls. & Frts.**: Mar.-May (Next year).


It may easily be identified in the field due to falcate pods. Its distribution is scarce.

**Usage in Ethno-medicine**:

**Parts used**: Seed.

Paste or powder of seeds applied locally with M.oil in bone fracture by Nishi. (ii) Seeds are poisonous.

**Established reports of Utilisation in Medicine**:

Some hill tribes of India use the seeds in the same way as soap to wash their hair. A paste prepared from the seed is applied locally to inflammatory swellings of the glands. A poultice made from the kernel applied locally, is believed to relieve colic. The seeds are also used as fish poison in certain parts of India. Used in dropsy, anasarca, cancer, pain in loins, epilepsy, constipation and rinderpest. (Econ. Bot., 41. 241. 1970) as per report of Asolkar et al 1992. pp.293.

The saponin, Entada saponin A & B and Entanin antitumor seed saponin are the active principle.


Undershrubs or herbs upto 1.5 m high, corymbosely branched. Leaves 1-8 x 0.3-1.5 cm, linear-lanceolate, oblanceolate-spathulate or elliptic, acute, cuneate, base narrowed, serrate-incised or entire, adpressed hairy. Heads corym-
bose panicles, 1-2 cm across, involucral bracts lanceolate - elliptic; ray florets oblong, white or purplish ringed; disc florets yellow; pappus copious, white, achenes minute.

**Fls. & Frts.:** Jun. - Dec.

**specimen examined:** Ganga, 2-7-1989, 24.

Very common often gregarious in grass land, open areas, forest clearings, forest margins etc.

**Usage in Ethno-medicine:**

**Part used:** Fresh leaves.

Smell of fresh leaves inhaled in case of noseblock or in sinus by Apatani and Adi.

**Established reports of Utilisation in Medicine:**

Leaves used in Malaya for rheumatism and lumbago. Leaves and roots are useful for poulticing. Essential oil is fungitoxic. Essential oil contains d-limonene, 24; thujone, 13; isoeugenol, 26; Me-isoeugenol, 8; eugenol,6; eugenol-OAC,11%.

*Note:* Reported here as new application in herbal medicine.


Herbs diffuse, with aromatic smell; roots fusiform; Leaves simple 5-9 x 1-2 cm, thick, dark green, spatulate, margins spinous toothed. Flowers white, in heads, bracts spinulose, stellate pubescent; calyx teeth rigid, acute; petals white; fruit ellipsoid; seeds semi-ternate.

**Fls. & Frts.:** Jul.-Jan.
specimen examined : Nyokum Lapang village, 14-1-1989, 8.

Generally cultivated in domestic compounds and gardens, also occur wild amidst grasses, jhummed areas and in arable lands.

Usage in Ethno-medicine:

Parts used : Stem, leaves and seeds.

Paste from stems and leaves is applied together on forehead as a remedy for headache. Powder obtained from grinded seeds is administered against madness by Apatani & Adi. Leaves of the plant mixed with leaves of Centella asiatica and pounded in the preparation of 1:1 together and used as condiments (chatani). It acts as an appetiser by Nishi.

Established reports of Utilisation in Medicine:

Roots are stomachic. Herb yields volatile oil 0.02-0.04%. Root contains saponin. Et. OH.(50%) extract of plant is diuretic.

*Note : Reported here as additional application for the remedy of madness.

Ficus saemocarpa Miq.(MORACEAE) “Talasi”(N.). The white latex that exudes from the plant or fruits is applied on warts of pimples etc. for 2-3 times a day for 3 days (Thothathri & Pal, 1987).


Trees, 15-25 m, in height with a fluted trunk and rather short spreading branches. Leaves obovate or oblanceolate, cuneate at base, acute to sub-acute at apex, 10-30 x 5-12 cm, mid rib stout, lateral nerves 10-15 pairs; petioles
1-2 cm. Flowers, pale green in few flowered terminal panicles; sepals c.03 cm across, orbicular fleshy; petals slightly longer than the sepals but narrower. Male flowers with numerous stamens in a 4 cornered mass; anthers 2-celled but 4-angled. Female flower solitary, larger than the male terminal on a thick 4-angled peduncle, .5-16 cm long. Staminodes 20-30 in 4 bundles, connate below; stigma peltate, spreading, about 10 lobed. Fruit globose 8-10 cm diameter, yellowish, fleshy; seeds 8-10, reniform, enclosed in a fleshy aril.

Fls. & Frts.: Mar.-Nov.

Specimen examined: Bat village, 6-5-1992, 1698, Kimin forest area, 25-6-1994, 266.

Scarcely found in deep forests.

Usage in Ethno-medicine:

Part used: Fruit.

Fruits are edible but sour in taste. One fruit is boiled in 1/2 liter of water and is given to drink twice daily for remedy of dysentery and cough by Nishi people.

Established reports of Utilisation in Medicine:

Fruits are edible. Infusion of dry pericarp of fruit used in constipation and other stomach disorders(Econ.Bot.34: 264, 1978). Fruits are constituent of Ayurvedic formulation known as Dadhika Ghrirta. Fruit contains malic acid.


Perennial herb with creeping rhizome and erect stem c 1m high. Leaves
30. Fruit & Branchlet of *Gynocardia odorata* R.Br.
subsessile, distichous, oblong lanceolate to elliptic oblong, lamina c 35 x 7 cm pubescent beneath. Inflorescence in long terminal panicles. Flowers yellow; calyx funnel shaped 3-lobed. Corolla lobes reflexed tube c 1.5 cm long staminodes petaloid, oblong, lip bifid; filaments long, slender, appendaged; anthers with bifid wings; ovary globose, glabrous placentae parietal. Fruits irregularly dehiscing, subglobose, smooth c 2 cm diameter.


*Specimen examined*: Donyi Polo School site, 2-6-1992, 212.

Undergrowth in forests in shady places.

**Usage in Ethno-medicine:**

*Part used*: Rhizome.

Rhizomes crushed and is applied on injury or rubbed daily at bed time till relieve against body pain and swollen muscles by Nishi people.

**Established reports of Utilisation in Medicine:**

Roots are used against headache (B.B.S.I. 22:165, 1980) and chemical composition is so far not known.

*Note*: Reported here as herbal medicine for injuries, body pain and swollen muscles.


Middle sized evergreen trees upto 15 m high; crown oval, branchlets long drooping; bark grey or greyish-brown. Leaves 10-22 x 2-6 cm, oblong,
abruptly acuminate, base rounded or truncate, entire, glabrous. Inflorescence axillary and cauline. Flowers yellow; sepals ovate, 0.5-0.8 cm across; petals ovate oblong, appendaged; stamens in Male flowers with silky filaments; staminodes present in female flowers; ovary green; stigma spreading. Fruits globose, c 10 cm across, brown cauline, hard, lenticelled rind; seeds immersed in pulp.

Fls. & Frts.: Mar.-Feb.

Specimen examined: Gohpur Road forest area, 5-7-1992, 248.

Occurs in selected tropical evergreen and mixed evergreen forest of the district particularly in areas viz. as Sagalee-Kheel, Palin-Deed, Gohpur road forests.

Usage in Ethno-medicine:

Part used: Fruits.

Nishi: (1) Teeth can be extracted by applying pounded fruits mixed with water. Therefore, it’s fruits are prohibited to eat by local people. (ii) Fruits pounded and mixed with water and used as poison for killing insects, worms and fishes.

Established reports of Utilisation in Medicine:

Oil from the seeds used in leprosy and other skin diseases. Fruits are also used in fish poison. It contains glucoside gynocardin. Dry seeds with about 9% water produce upto to 0.8% HCN and fresh seeds produce over 1% HCN. Oil from seeds is used in leprosy and other skin diseases. (Veena Chandra 1989).

*Note: It’s new application is reported here for extraction of teeth.

The Apatanis get clear of throat problems, take polypharmaceutical mixture of Tapyo' (Apatani black salt) and Rikoh along with less quantity of chilly and common salt. (Kohli 1992). Dry seed powder is found to be anthelmintic (Kohli 1980). Investigator also found that the powder of stem or root about \(\frac{1}{2}\) tea spoon with water taken orally, twice daily as a remedy of cough and stomach troubles.

**Gynura cusimbu (D.Don) S.Moore** (ASTERACEAE), “Kochibamang” (Ap.).

The leaf juice taken orally as a preventive measure against worms (Pal 1984).


Rhizomes white inside faintly aromatic; stems 1.2-2.0 cm. Leaves sessile, lanceolate to oblong lanceolate, sub-caudate, 30-45 x 5x12 cm appressed silky beneath, ligules 1-4 cm. Spikes10-15 cm bracts oblong, 4-5 x 1-2.0 cm, pubcscent. Flowers white, with pale yellow blotch on lip, fragrant; corolla-lobes linear, 3.5 - 4 cm, latelal staminodes spathulate, 3.5 - 4 cm lip suborbicular 3.0 x 3.5 x 2.5-3.5 cm bilobed.

**Fls. & Frts.**: Jun. - Sept.

**Specimen examined**: P. Sect. Itanagar, (Domestic garden), 2-6-1991, 218

**Usage in Ethno-medicine**: 
**Part used**: Rhizome.

Rhizome pounded and made a paste with water or powder applied on injury and wounds for immediate healing and relief from pain by Apatani.

**Established reports of Utilisation in Medicine**: 
So far not known.
Note: This plant has been described from K. & J. Hills of Meghalaya by A.S. Rao & D.M. Verma in 1972 - A Neo-endemic species of Meghalaya, finding of this plant shows its wide distributed areas extended upto Subansiri district of Arunachal Pradesh. When the plant was in use as Herbal medicine it indicates that the plant was growing in the area long before it was newly described.

Reported here for the first time for occurrence of the species in Arunachal Pradesh as also its application for healing of wounds and injuries in Ethno-medicine.


Scandent shrubs, glabrescent green branches, young twigs minutely puberulous. Leaves opposite; elliptic or lanceolate, acute or cuneate at base, 5-15 x 2-4 cm; lateral nerves 5-6 pairs; petioles 3-8 mm; interpetiolar stipules truncate with 2-cusps, purple dotted. Inflorescence terminal, panicle of cymes; peduncles 1.5 cm to 2 cm long; pedicels .1 cm long, bracts and bracteoles deciduous; calyx tube dialated towards the apex, 4-toothed, oblong, space between the teeth sometimes minutely setose; corolla valvate in bud, 4-lobed; tube short; lobes oblong, reflexed lower portion shaggy within; stamens 4, alternating with corolla lobes filaments minute villous, anthers 2-celled; ovary 2-lobed, 2 celled, top free from the calyx tube, style glabrous at the base; stigma shortly 2-lobed, exerted; ovules in each cell numerous. Fruits capsular, globose, c 36 cm long, seated on the persistant calyx; seeds minute, many with an irregular rim.

_Fls. & Frts.: _Aug.-Jan._
Specimen examined: Itanagar, 5-8-1990, 205.

Abundantly found, climbing over low bushes on hill slopes, road sides and in deep forests throughout the study area.

Usage in Ethno-medicine:
Parts used: Stems and twigs.

Nishi: (i) Pieces of stem crushed or pounded, heated and are applied against toothache.

(ii) The juice extracted from stem is applied as eye drops (1 or 2 drops at a time against conjunctivities and also used in cleaning of dust and gum from eyes.

(iii) Twigs or stem pieces (12-15 cm long) slowly heated over flame and are used as toothbrush.

Established reports of Utilisation in Medicine:

The plant is used in eye diseases and troubles following child birth.

*Note: A new application for toothache and conjunctivities as herbal medicine.


A large shrub or small tree. Leaves 6-14x3-9 cm long, ovate, acuminate, more or less serrate, glabrous or with few scattered hairs on the veins beneath, 3-nerved at the base. Flowers solitary axillary red or rose; epicalyx segments 6-10, free, lanceolate; calyx gamosepalous, lobes imbricate; corolla 10-12 cm across; petals 5, twisted, united at the base and with the staminal column; stamens many, monadelphous, column exerted, anthers unilocular, reniform, longitudinally dehiscent.
31. *Houttuynia cordata* Thunb. uprooted plant showing creeping pinkish root stocks.
Fls. Through out the year.

**Specimen examined**: Itanagar, 24-4-1989, 20.

Cultivated through out the district as an ornamental plant particularly in house complexes, parks, gardens and temple complex.

**Usage in Ethno-medicine:**

**Part used**: Flowers.

Flowers mixed with leaves of *Michelia champaca* in the proportion of 1:2 and pounded together and is applied with water for washing of hairs to remove hair dust and dandruff and also used as hair tonic.

**Established reports of Utilisation in Medicine:**

Roots are useful in cough; petals infusion is given as a demulcent and refrigerant drink in fever. Leaves are emmolient, aperient; Flowers are also emmolient. Buds are useful in treatment of vaginal and uterine discharges.

Leaves and stems yields taraxeryl - OAC and β sitosterol. Flowers contain flavons.

*Hibiscus* *rosa-sinensis* L. ‘Bat’(Dafla) Flowers paste is taken in fever (Hynniewta 1987).

*Note*: A new addition for the utilisation plants.


A perennial with creeping root stocks, pinkish; stem herbaceous, angular. Leaves 3-8 x 2-5 cm, ovate, reniform-cordate at base, acute or acuminate, 5-
7-nerved, gland dotted; petioles 1-4 cm, often red; peduncles 1-5 cm. Spike cylinderic, 1-3 cm, terminal; lowest bracts 4 petaloid, ovate-oblong, obtuse, c 1.5 cm white; anthers yellow stigma recurved. Capsules subglobe, 2 mm; seeds 2-4, ellipsoid; testa membranous.

**Fls. & Frts.:** Apr. - Dec.

**Specimen examined:** Jhum area, Nykom-Lapang Village, 5-4-1992, 229.

Shaded places in forest and wastelands generally cultivated in jhum area by local people.

**Usage in Ethno-medicine:**

**Part used:** Whole plant.

(A) Nishi:
(i) The whole plant is used as condiment for improving appetite.
(ii) About 3-4 fresh plants are eaten twice daily for in case of jaundice and considered best remedies for the same. It also considered to promote blood.
(iii) About 5-10 plants are kept inside the banana leaf and roasted. The roasted plants are taken twice daily to stop dysentery.

B. Apatani: Stem and leaves are used as vegetables and considered for providing good sleep and freshness of mind. Plants are also used as condiment and sold in bundles (10-15 plants in one bundle) @ Rs.2.00 per bundle in the daily market.

**Established report of Utilisation in Medicine:**

Plants used as preventive amoebic dysentery, specially after child birth. Plant in chinese folk medicine used as antimicrobial, diuretic, and antitumor. Leaves diuretic and anti inflammatory, agents taken as therapeutic drink, eaten for blood purification and applied to treat sores and boils.

Plants contains quercitrin, Me-nonyl Ketone and decanoyl acetaldihyde. Aerial parts contain abzelin, hyperin, rutin, chlorogenic acid and β sitosterol.
*Note: Asolkar et al. (1992) reported its utilisation in Chinese folklore medicine. But this plant is used as herbal medicine for the treatment of number of diseases by Nishi tribe - Showing its application new to Indian Ethnomedicine.


Perennial prostrate herbs; stems rooting at nodes. Leaves 2.5-7 cm across, orbicular-rhomboid, 5-8 angular, cordate at base, margins crenate-serrate, glabrous, shining above; petioles 2-18 cm; stipules .3-.8 x .4-.6 cm. Umbels simple or irregularly compound, many flowered; peduncles 1-5 cm; leaf opposed; petals entire. Fruits orbicular; mericarps with emarginate dorsal ribs and lateral ribs, in commisure c 1 mm reddish brown to brownish, tapping black, compressed, disc like.

**Fls. & Frts.**: Rainy season.


Commonly found in shady, and moist places and stream sides.

**Usage in Ethno-medicine**:  
**Part used**: Whole plant.

The whole plant is eaten raw against stomachache and the whole plant also given raw after delivery by Nishi tribe. *H. rotundifolia* may also used for the same.
Established reports of Utilisation in Medicine:

The leaves are tonic, blood purifier, and also useful in dysentery, nervousness, and indigestion. It is used as a substitute for Centella asiatica. Plant: Et.OH (50%) extract is spermicidal and spasmolitic. Plants contain α amyrin - OAC, lignoceric acid, stigmasteral and its glucoside glucoside is the active principle.

*Note: A new additional use in after delivery.


Hairy undershrubs, 0.5-3 m high; stem obtusely quadrangular, aromatic. Leaves 1.5-5 x 1-3.5 cm, ovate ovate, elliptic, acute, obtuse or mucronate, base narrowed, cuneate, hairy. Flowers blue, 0.5-1.5cm long with spiny lobes; calyx 10-ribbed; corolla lips spreading, anther cells confluent, nutlets 0.4 cm long, seeds mucilaginous when ripe.

FIs. & Frts.: Mar.-Sept.


Almost common throughout the study area along riparian and road sides as also in waste land on sandy soil.

Usage in Ethno-medicine:

Parts used: Leaves and young twigs.

The juice extracted mainly from crushed leaves or pounded tender twigs is rubbed against skin disorders and itching. Where as 3-4 drops of juice (extracted from leaves only) mixed with water for taking bath against itching.
32. *Impatiens latiflora* Hook. f. & Th.- used in herbal medicine by Nishi.
Usually such bath is given to children for the treatment of cough and cold by Apatani people.

**Established reports of Utilisation in Medicines:**

Leaves used in cancers and tumors. Infusion taken in fever, applied in headache and to boils. In Ghana, stream from hot decoction of shoot as a cure for malaria and headache. Poultices used in curing wounds. Decoction used in piles and retention of pregnancy. It is also used in colic and stomachache.

Roots contain 8 sitosterol, oleanolic and L-peltoboykinolic acids

*Note*: Reported here as new application of plants in herbal medicine.


Herb attaining 30 cm height. Leaves petioled, elliptic lanceolate, caudate, acuminate, crenate, peduncles erect stout 2-3 flowered, bracts ovate, acuminate large. Flowers 2.5 cm diameter, pale rose or violet sepals acute, lateral lobe winged obovate, retuse, smaller than the usually acute terminal one, spur 2.5-5 cm long, slender, incurved. Capsules linear.

**Fls. & Frts.**: May-Jun.

**Specimen examined**: Donyi Polo downward, 10-5-1992, 233.

**Usage in Ethno-medicine**:

**Part used**: Whole plant.

The whole plant is mixed with *Torenia diffusa* in equal proportion and pounded and taken with water for recovery of fever/intermittent fever and against headache.

**Established reports & Utilisation in Medicine**:

So far not known.
Note: A new report of the plant used in Ethno-medicine has been recorded here for the first time.


Annual erect herbs, 20-60 cm, stem swollen at nodes, leaves elliptic lanceolate, cuneate at base, acuminate, closely crenate at margins, 3-8 x 1.0-2.0 cm, lateral nerves 12-15 pairs; petioles upto 2 cm long, stipules consisting of many cylindrical glands. Flowers reddish-purple, 1.3 cm across, axillary, solitary or fascicled, pedicels 8-15 mm Capsules linear - ellipsoid, 15-20 mm seeds upto 10, rough granulose.

Fls. & Frts.: Apr.-Sept.

**Specimen examined**: Forest area Donyi Polo Vidya Bhawan, 5-4-1992, 228.

Occasionally growing in river beds usually in moist and shady places.

**Usage in Ethno-medicine**:

**Part used**: Whole plant.

About 3-4 plants are eaten either raw or boiled thrice daily after meal to promote appetite by Nishi people.

**Established reports of Utilisation in Medicine**:

Juice of root used in haematuria.


A woody climber; stem grooved, scabrid, Leaves petiolate, broadly ovate, cordate, veins scabrid, 20.0-26.0x12.0x10.0 cm; petioles; 1.5 - 7.5 cm long,
Ixora acuminata Roxb. with its white showy flowers - the leaves of which are used in Ethno-medicine by Nishi tribe.
densely puberulous, tendril forked at apex. Inflorescence axillary shorter than leaves. Flowers in corymbose, dioecious, peduncles elongate, Male flowers with short peduncles, bracteate and bracteolate, sepals 5 free, longer than petals; petals 5 free, ovate lanceolate 3-5 nerved; stamens 5,4 in two pairs and 1 free, subsessile; anthers unilocular, reniform, hairy; Fruits oblong, fleshy, indehiscent, rind woody, seeds compressed, faintly marginate.

Specimen examined: Dariya Pahar, 5-4-1992, 230.

Usage in Ethno-medicine:
Parts used: Root and stem.

Roots and stems pounded or powdered together and is taken with hot water about 5 gms. twice daily against fever, headache, malaria and also for dysentery.

Established reports of Utilisation in Medicine:

So far not known.

Note: This is a Neo-endemic plant of North East region described by Chatterjee in 1947 but its application in herbal medicine for the treatment of aforesaid diseases has been reported here for the first time. Probably this plant was in use in Ethno-medicine long before its identity.


Bushy shrubs or undershrubs; branches stout, ribbed or angled. Leaves 14-40 x 8-18 cm opposite, obovate-oblong, obovate-ob lanceolate, oblanceolate-elliptic, abruptly acuminate, base rounded, cuneate or cordate, glabrous beneath. Corymbs sub-sessile or shortly peduncled, less than 3 cm long, dense
flowered, 5-15 cm across. Flowers 4-6 cm long, white; calyx pinkish or reddish; corolla tube slender, lobes oblong, spreading. Drupes 1.5-2 cm long ovoid, ellipsoid.

**Fls. & Frts.:** May-Dec.

**Specimen examined:** Sankie river side, 7-6-1992, 238.

As an undergrowth in forest.

**Usage in Ethno-medicine:**

**Part used:** Leaves.

Fresh leaves (3-4 at a time) are eaten either raw or boiled thrice daily as a remedy for headache and cooling of forehead.

**Established reports of Utilisation in Medicine:**

Root decoction is glactogogue. Chemical composition so far not known.

**Note:** This is a new application of plant in Ethno-medicine. This species has got horticulture importance and worth introduction to our gardens.


Shrubs upto 3.5 m high, gregarious, much branched, bark grey or greyish-brown. Leaves 8-20 x 30-6 cm, lanceolate, elliptic-lanceolate, acuminate or acute, base cuneate, attenuate, narrowed to the petiole. Spikes 5-10 cm long, dense flowered axillery, either solitary, or several together. Flowers 3-4 cm long, white; calyx, 5-fid; segments oblong acuminate; corolla 2.5-3.5
34. *Leea compatiflora* Kurz - flowers and berries are used in snake bite.
cm long, tube hairy outside, white; stamens 2, filaments hairy at the base only; ovary hairy, ovules 2 in each cell. Capsules 0.2 cm long, clavate, longitudinal channelled, 4-seeded. Seeds 3 cm long, sub-orbicular compressed.

**FIs. & Frts.:** Nov.-Feb.

**Specimen examined:** Itanagar, 21-11-1993, 262.

Frequently distributed and usually cultivated in house premises for their medicinal utility.

**Usage in Ethno-medicine:**

The decoction from leaves and roots is used for speedy remedy of cough and cold and bronchial troubles by Nishi tribe. Such ideas they have learnt from neighbouring Assemese or Ayurvedic physicians as per their comments.

**Established reports of Utilisation in Medicine:**

The chief use of the vasaka is as an expectorant. The leaves, the roots and flowers are extensively used in the form of juice, decoction or powder as a remedy for cold, cough, bronchitis, asthma and tuberculosis of the lungs. Recent experiments have confirmed the usefulness of Vasaka.

The leaves contain an alkaloid vasicine, and an essential oil. Vascinol, an alkaloid extracted from the root, has been investigated pharmaceutically and compared with vasicine and vasicinone (Lahiri & Pradhan, 1964).


Shrubs upto 5 m high; stems pubescent. Leaves pinnate or bipinnate, rachis winged, sheathing at base; leaflets 7-13, 12-25 x 3.6-8 cm, ovate lan-
35. *Litsea cubeba* (Lour.) Pers. - cultivated in jhum area for its edible fruits at the outskirt of Itanagar.
ceolate to oblong lanceolate or oblong elliptic, caudate, acuminate, base acute or rounded, glabrous and green above, pubsecent and of a coppery-brown colour underneath, margins crenate serrate; lateral nerves 15-20 on either half, mostly opposite. Cymes 8-18 cm long, congested with bright red pubsecent rachis and numerous ovate or lanceolate subpersistence bracts. Berries 0.6-1 cm across, depressed-globose, 1-5 seeded, black when ripe.

**Fls. & Frts.:** May-Dec.

**Specimen examined**: Donyi Polo downward, 10-5-1992, 232.

Frequent along shady area of evergreen forest at lower elevation.

**Usage in Ethno-medicine:**

**Parts used**: Flowers and berries.

Flowers and berries pounded and tightly tied with the help of a cloth against snake bite and other insects bite.

**Established reports of Utilisation in Medicine:**

No established report is found.

**Note**: A new report of application of plant in Ethnomedicine for cure of snake bite and insects bite.

**Lindera neesiana** Benth. (Lauraceae)

"Used medicinally in digestion" as reported by Hynniewta (1984) but local name and name of the tribe is not mentioned.

Small or middle sized trees up to 15 m high; crown lax, ovoid with usually slender, pendant branches, bark greenish brown. Leaves 7-18 x 1.5-5 cm lanceolate, tapering to the tip, long acuminate, base obtuse, glaucous beneath, umbels solitary or in short corymb, 0.7 to 0.8 cm across. Flowers yellow or pale or pale yellow. Fruits 0.6-0.8 cm across, ovoid - ellipsoid, yellowish green, having flavour.

**Fls. & Frts.:** Nov.-Jul.

**Specimen examined:** Doimukh area, 10-5-1992, 253.

Usually in secondary forest in lower elevation. This is also cultivated by local people in jhum areas and their house complex for edible fruits.

**Usage in Ethno-medicine:**

**Parts used:** Fruits and leaves.

(A) Nishi: Fruits and leaves (2:1) pounded and mixed with water to be taken 2-4 tea spoonful twice daily in blood dysentery, stomach trouble and fever. Paste of leaves is also applied on forehead in case of headache.

(B) Apatani (i): Ripe or unripe fruits are eaten fresh as a remedy for cold and cough and also taken for good sleep.

(ii) Fresh fruits are edible and also used as spices. Fruits are sold in open vegetable market about 50 gms @ for two rupees. The fruits and seeds are used as condiment. Seeds are also chewed in case of thread worm infection.

**Established reports of Utilisation in Medicine:**

It is a source of essential oil. Bark contains alkaloid N-methyl laurotetanine. Fruits used in stomachache under the synonym *Litsea citrata*, (Hynniewta, 1984). Kohli (1992) reported that seeds are chewed in case of worms infestation. The fruits and seeds are used as condiment.

**Note:** A new report of its application in herbal medicine.

Small trees or shrubs upto 8 m high, branchlets sikely or brown tomentose. Leaves very variable 7-25 x 2.5 - 9 cm, elliptic, lanceolate, oblong - lanceolate, acuminate, base cuneate, nevers much prominent beneath. Umbels fasciled, shortly peduncled, yellowish. Fruits 1-1.5 cm long, ellipsoid, obovoid, pale white.

**Fls. & Fruts.**: Feb.-Jun.

**Specimen examined**: Donyi Polo hill side, 12-8-1990, 209.

Found uncommon in the forests.

**Usage in Ethno-medicine** :

**Part used**: Bark.

Barks pounded and mixed with water and is applied on bone fracture and tightly tied with a piece of cloth to set right the bone. The paste obtained from pounded barks and administered twice daily against boils and abscesses.

**Established reports of Utilisation in Medicine**:

So far not known.

**Note**: A new report of plant and its application in Ethno-medicine.

**Macaranga denticulata** Muell. - Arg., (EUPHORBIACEAE). According to Hyniewta (1984) “The juice obtained from stem is used on wound and has-
tens in its healing”. The investigator also recorded the same use by Nishi tribe against the local name “Hara” (N.).


A large shrub of 2m high, branches closely pubescent, Leaves 20-13 cm base cordates, obtuse, margins serrate, elliptic or orbicular, softly hairy on both surfaces; petioles 2.5 cm long; Flowers in racemose panicled, scape often as long as the leaves, sparsely pubescent. Berries many, greenish.

**FIs. & Frts.**: Apr.-Aug.

**Specimen examined**: Donyi Polo Forest area, 7-6-1992, 239.

Frequently found among dense forest.

**Usage in Ethno-medicine**: Part used: Berries.

5-6 berries are eaten fresh thrice daily in case of any fever including malarial fever by Nishi.

**Established report of Utilisation in Medicine**: No established report was found.

**Note**: This is a new report of Ethno-medicinal use of the plant


Shrub upto 5 m high; bark brown, warty; branches slender. Leaves 5-18 x 3-8 cm, ovate or obovate - elliptic, elliptic - lanceolate, oblanceolate, caudate - acuminate or acute, membranous, glabrous, base rounded or obtuse.
remotely coarsely dentate; petioles 2-2.5 cm. Racemes upto 5 cm long, usually branched, shorter than the leaves; Flowers 0.2-0.3 cm across, white, calyx segments not ciliate. Berries white, spongy, juicy, 0.4-0.5 cm across subglobose.

Flrs. & Frts.: Mar.-Dec.

Sepcimen examined : Itanagar-Naharlagun,14-3-1993, 261.

Common in evergreen forests as an undergrowth and also in secondary forest.

Usage in Ethno-medicine:

Paste of leaves mixed with oil is rubbed against body pain.

Established report of Utilisation in Medicine:

Root bark and leaves possess insecticidal properties.

Note: Reported here as new application of plants in herbal medicine.

Mallotus albus Muell. (EUPHORBIACEAE) “Fishkuri”. The leaves powder is used in fever and cold one teaspoonful two times a day with water. Root juice is useful as ear drop in earache (Singh & Anand Krishna 1983).


Evergreen shrubs, erect, rarely branched, 1-3 m high; bark pale brown, wood yellowish. Leaves pinnate 18-45 cm long; leaflets 5-6 pairs, oblong or obovate-oblong, rounded or obliquely truncate at base 6-10 x 4-5 cm with 4-
6 spines at lower margin and 2-4 spines at upper margin; basal nerves 3-5.
Racemes, 10-25 cm long; dense-flowered. Flowers bright yellow, .5-.6 cm;
bracts 2.5-5 cm long, hyaline; persistent; sepals 6, petaloid imbricate in two
series, elliptic; petals 6. in two series; glandular at base; stamens 6, sensitive;
ovary I-celled; style short stigma capitate. Berries .5-1 cm long, elliptic or
globose, purple with glaucous bloom, style persistent.

**Fls. & Frts.**: Apr.-Feb.

**Specimens examined**: Hapoli-Ziro, 30-4-1988, Singh, Pandey, Mohan
Singh, 1365; Ziro towards Tamin, 17-2-1993,
Rama Shankar & Mohan Singh, 1743.

Sporadically found in higher elevation nearly road sides, in open situa-
tion, particularly in Ziro - Tamin area.

**Usage in Ethno-medicine:**

**Parts used**: Stem & Berries.

Apatani (i) The juice extracted from crushed stems is applied for the treat-
ment of itching and skin rushes.

(ii) Stem juice is used as a local yellow dye as colouring agent.

(iii) Fumes from boiling of stem are useful in conjunctivities and eyes
troubles.

(iv) Ripe berries are eaten by both the tribes.

**Established reports of utilisation in Medicine**:

Root and root bark yield a yellow dye; Berries are edible, considered di-
uretic and demulcent. Umbellatine (0.48%) is the chief alkaloid and neprotine
(0.02%) also present in the roots of old plant.

*Note : Sharma et al. (1993) reported its occurrence from Sikkim &
Meghalaya but now found its New report of distribution in Subansiri district
of Arunachal Pradesh. The uses of stem in itching, skin rushes and eye
troubles and their application are new reports in Ethnomedicine of Apatani
tribe.

Mastersia assamica Benth., Kanjilal et al. Fl. Assam I: 76, 1938; M.
Rading" (N.).

A stout woody climber, branches twining anti-clockwise, glabrous,
lucentelled. Leaves pinnately 3-foliolate, common petioles 9-12 cm; leaflets
10-15 x 8x13 cm ovate or obovate, tapering, acuminate the lateral oblique,
reibenous above, pubescent beneath, lateral nerves 9-10 one either half; base
rounded or sub-cordate; stipules £ 1 cm long, subulate. racemes generally
terminal and panicled; flowers conspicuously bracteate, calyx-tube 1 cm
long, turbinate, teeth long; corolla bluish-white, sub-orbicular, keel obtuse,
straight; stamens diadelphous; ovary sessile, many ovuled, style short, filiform,
incurved. Pods 38-12 x 1.5-3.5 cm flat
strap shaped, septal between the seeds; seeds oblong, 15-20 or more, black,
shining.


Specimen examined : Itanagar-Naharlagun, 5-8-1990, 206.

Abundant in tropical forest, climbing on shrubs and trees twining anti-
clockwise.
Usage in Ethno-medicine:

Part used: Stem.

Stem juicee is applied in cuts wounds and other injuries for immediate healing by the Nishi.

Note: This is the first report of application of plants in herbal medicine.


A handsome bushy shrub, upto 4 m high; young parts, petioles strigose with scales, reddish. Leaves 5-12 x 2.5-5 cm oblong-lanceolate, lanceolate or elliptic acuminate, scabrous above, bristly on tertiary nerves, basal nerves 3-5. Inflorescence in terminal fascicles; buds completely enclosed within the bracts. Flowers showy, attractive 4-7 cm across, mauve purple 1-5 at branch tips, calyx densely scaly, 5-lobed, lobes lanceolate, deciduous; petals 5.2-3.5 cm long; stamens 10 unequal, alternately long and short; anthers of longer stamens mauve coloured, shorter yellow. Fruits 0.6-0.8 cm across, turncate, purple, placenta breaking up irregularly.

Fls. & Frts.: Jul.-Dec.

Specimen examined: Gohpur Road, 5-7-1992, 245.

Common in open wastelands and near water courses and road sides.

Usage in Ethno-medicine:

Parts used: Stem, flowers and fruits.

(A) Nishi:(1) Stem is used as tooth brush(datoon).

(2) Fruits are edible and cause shinning of teeth.
Flowers are offered in worship to get better yield of paddy.

**Established report of Utilisation in Medicine:**

Leaves used in diarrhoea and dysentery. Leaves and flower tops used as astringent, in leucorrhoea and chronic diarrhoea. The bark and roots are used for healing wounds and skin diseases.

*Note:* Quite different way of application of plants is reported here.


Middle sized deciduous tree with a short trunk and large spreading crown, bark grey. Leaves bi or tripinnate 30-90 cm long; leaflets 2.5-5 x 1-2.5 cm, ovate-lanceolate, ob lanceolate, lanceolate or elliptic-lanceolate, acuminate, base cuneate, oblique, serrate to entire, stellate tomentose when young. Flowers 1-1.5 cm across, lilac blue, numerous in axillary cyme bearing panicles; calyx minute, deeply 5-lobed, stellate-to mentose; petals deflexed, white, c. 0.7 cm long; staminal tube purple; 0.5 cm long, cylindrical, glabrous; ovary 5-celled; stigma capitate. Drupes ellipsoid, globose, upto 2 cm long, yellow when ripe, 1-seeded, remaining long on the tree even after ripening.

**Fls. & Frts.**: Apr.-Jan.

**Specimen examined**: Itanagar, 2-4-1989, 16.

Usually cultivated in road sides, gardens under social forestry programme.

**Usage in Ethno-medicine:**

**Parts used**: Fresh bark and leaves.
(A) Fresh bark pounded and is applied twice daily against burning sensation till complete relief by both the tribes.

(B) About 3-6 leaves boiled in one bucket of water and is taken bath in case of itching by both the tribes.

**Established reports of Utilisation in Medicine:**

According to Ayurveda the root is acrid, bitter and anthelmintic, it removes tumours, relieves pain in the heart and useful in vomiting, leucoderma and blood impurities. Leaves and flowers applied as poultice to relieve nervous headache. Leaf juice used internally as anthelmintic, antilithic, diuretic and emmenagogue. Seeds are prescribed in rheumatism. Leaves, bark and fruits are useful internally and externally in leprosy and scorfula. Oil stimulant, antiseptic, alterative in rheumatism and skin diseases

The fruit contain amorphous bitter constituent is Bakayanin.


Scandent herbs; roots perennial consisting of several tubers. Stems slender, branched, furrowed, glabrous. Tendrils simple or 2 forked. Leaves 5-12x3.10 cm long, polymorphous, 3-7 angled or lobed, cordate at base, acute to short acuminate at apex; petioles 6-12 mm, long, pubescent. Male flowers subumbellate, 10-15 on a peduncle, 6-20mm long; pedicels filiforms calyx glabrous; tube campanulate, 4-6 mm long; corolla small, yellowish white,
segments triangular, acute 1.6 mm long, filaments slender, subglabrous. Female flowers solitary on short peduncle; ovary narrowly oblong, glabrous, 10 ribbed. Fruits oblong, subangular 4-5 x 2.0-2.5 cm seeds 6-12, ovoid, 4-5 mm smooth white to grey.


Specimen examined: July village, 20-8-1989, 37.

Rarely found in hill slope along hedges area viz. Banderdewa, Sagalee, Yazali etc.

Usage in Ethno-medicine:
Parts used: Tuber, roots and fruits.

Nishi: (i) 5-10 gms. of pounded tubers are taken with one glass of hot water (very bitter in taste) against fever, malarial fever, and headache.
(ii) The juice from fleshy roots is rubbed on itching skin till complete relief.
(iii) Fruits are edible. The children of local people are fond of these fruits.

Established reports of Utilisation in Medicine:

Juice of root along with cumin and sugar is given in cold milk as remedy for spermatorrhoea. The roots are also use in diabetes.

*Note: Over exploitation of tubers in Ethno-medicine have caused serious problem in its natural regeneration and gradually become threatened in its existence. The tuber and roots have new application in Ethno-medicine against fever, malarial fever and headache.

Stipe tufted, long, slender, fronds oblong lanceolate, pinnate; pinnae cut down nearby to the rachis or half way to the rachis, segments narrow-oblong, obtuse, not much narrowed upward, veins 6 on each side of the costule, sori medial on the vein, indusium glabrous or minutely pilose.

**Specimen examined**: Nykom Lapang village, 5-8-1990, 204.

Abundant in study area as a weeds and undergrowth of the forest.

**Usage in Ethno-medicine**:

**Parts used**: Fronds and tender pinnae.

Nishi: Leaves juice applied on itching. Fronds are also useful in cuts for immediate healing. The pinnae are warmed above fire and tied with the help of a cloth to relieve bodyache.

Fronds are used in small quantity in preparation of local drink (Apung) by ethnic groups.

**Established reports of Utilisation in Medicine**:

So far not known but Pal (1992) reported that the fronds are kept over flame to make hot for fomentation twice or thrice a day to relieve body pain.

**Note**: This is a new addition of plant in herbal medicine.


Large trees, 20-25m high; bark grey to greyish-brown. Leaves with conduplicate deciduous stipules, 10-25 x 4-7cm ovate lanceolate to ovate
acuminate, base cuneate, glabrous and dark green above, pale and glabrescent beneath, lateral nerves 15 pairs on either side of midrib. Flowers 3-4 cm long, axillary, pale or orange yellow, fragrant; perianth in trimerous whorls, inner ones narrower, oblanceolate; carpels ovoid or ellipsoid. Fruits 7-15 cm long, cone like, drooping;

**Fls. & Frts.** : May-Oct.

**Specimen examined** : Rajbhawan-Itanagar, 21-8-1990, 1633.

Cultivated as well as wild in foot hills. This plant is being scarce due to over exploitation for its best quality timber.

**Usage in Ethno-medicine:**

**Parts used:** Leaves and seeds.

(i) 3-4 nos of fresh or dry seeds either raw or boiled are eaten to improve the loss of appetite and liver disorder.

(ii) Leaves of the plant mixed with flower of *Hibiscus rosa-sinensis* (2:1) and pounded together is applied with water for washing of hair to remove hair dust.

**Established reports of Utilisation in Medicine:**

Bark febrifuge, stimulant, expectorant and astringent. Dried root and root bark is purgative, inform of infusion useful emmenagogue; mixed with curdled milk useful application to abscesses. Flowers and fruits considered stimulant, antiseptic, tonic, stomachic, carminative, bitter and cooling used in dyspepsia, nausea, fever, renal diseases, gonorrhoea and skin diseases. Oil from the flowers is useful in cephalalgia, ophthalmia and gout. Juice of leaves given with honey in colic. Seeds and fruit used for healing cracks in feet. Flowers contain essential oil. Flowers and fruits are one of the ingredient of some important Ayurvedic formulations viz. Baladhatryadi Tail and Chandana.
Bala Laxadi Tail and Mahalaxadi Tail.

*Note*: A new report of its application.


Large trees, up to 40 m high with a lax spreading crown, bark grey, rough corky outside all parts glabrous. Leaves 9-20 x 5-9 cm, oblongate, ovate-elliptic, long acuminate, base acute, cuneate, nerves prominent on both surfaces. Flowers 2-3 cm across, white to dull yellow; sepals oblong, oblanceolate; stamens yellow; carpels yellowish. Fruits cone like 12-18 cm long, dried carpels lax, sessile, obovoid, speckled.

**Fls. & Frts.**: Feb.-Nov.

**Specimen examined**: Ganga Lake, 5-9-1990, 1634.

Frequently found in lower elevation of district generally in evergreen forests. This plant is being scarce due to heavy cutting for the best quality timber.

**Usage in Ethno-medicine**:

Parts used and uses are similar to **M. Champaca** as substitute drug for **M. Champaca**.

**Established reports of Utilisation in Medicine**:

So far no established reports were found.

*Note*: A new report of its application.


Slender sub herbaceous twiners. Leaves triangular ovate, cordate or
hastate, sub-entire to conspicuously crenate or undulate dentate, 5-12 x 3-8 cm, 3-5 nerved at base. Heads 4-6 mm, in terminal and upper axillary corymbose panicles, bracts lanceolate, corolla 2-3 mm white; achenes 1.5-2.0 mm; pappus hairs 32-38 per achenes, 2-2.5 mm white.

**Fls. & Frts.**: Nov.-Jan.

**Specimen examined**: A Sect. Itanagar, 20-9-1989, 51.

A noxious weed rapidly spreading over open places in thickets, bushes and trees particularly during rainy season.

**Usage in Ethno-medicine**:  

**Parts used**: Stem, leaves.

Apatani: The juice of stem and leaves is applied in skin diseases, itching and skin allergy. 3-4 drops of juice may also mix with water and used as germicides during bath.

Nishi: (i) The juice from leaves is applied for healing of wounds also applied on cuts to stop bleeding due to immediate clotting. (e.g. Kumar et al; 1980). (ii) Leaves are warmed above fire and covered the eyes with it and repeated 4-5 times to cure any type of eye trouble.

**Established report of Utilisation in Medicine**:  

The plant is used as a remedy for snake bite and scorpion sting. Leaves are used in itches and poulticing wound in the different parts of the world.  

**Note**: The application of leaves in its warm condition to cure eye trouble is recorded here as new in Ethno-medicine.

A close up Photograph of *Molineria recurvata* (Dryand) Hebert. -Roots & fresh leaves of which are used in Ethno-medicine.

Herbs stout, tuberous rootstocks. Leaves 55-85x7-16 cm palm like, plicate, lanceolate, curved; petioles 25-50 cm long, hairy below. Flowers yellow, in dense bracteate heads, 5-10 cm across, scapes 7-20 cm long, compressed, villous; bracts ovate-lanceolate, acuminate; pedicels short; parianth lobes 6, rotate, sessile; stamens at the base of the parianth; filaments very short; anthers cohering, ovary turbinate, scarcely beaked; stigma minute. Fruit globose, hairy.

**Fls. & Frts.**: Jul.-Dec.

**Specimen examined**: Palin-Dui, 26-4-1988, Singh, Pandey & Mohan Singh, 1316; Itanagar, 12-7-1992, 26.

Scarcely found in shady and moist places in forest floor.

**Usage in Ethno-medicine**:

**Parts used**: Root & fresh leaves.

(A) Fresh leaves crushed and is applied against body pain and labour pain by Apatani tribe.

(B) Root juice is applied on cuts and wounds for early healing. Fruits are also eaten by Nishi tribe.

**Established reports of Utilisation in Medicine**:

So far not known.

**Note**: This is a New report of plant in Ethnomedicine.
**Molineria praniana** Deb, "Loli"(Ap.). The fresh leaves are used to the tie over the lower abdomen of pregnant lady for relieving of labour pain, for easy quick delivery (Pal 1984); Hynniewlta (1984).

**Note:** Hynniewlta (1984) reported the application of roots for clotting of blood.


Shrubs or small trees, 1-6 m high, root dark yellow. Leaves narrowly lanceolate or oblanceolate, entire, long acuminate, caudate-acuminate at apex, 15-35 x 3-15cm; lateral nerves 10-15 pairs on either half; petioles 8-12 mm long, papillose or pubscent; stipules sheathing. Flowers axillary or leaf-opposed pedunculate globose heads; ultimately elongating in fruits; calyx truncate or obscurely toothed; corolla white, 1.5-2 cm; Drupes turbinate 20-25mm diameter, almost white.

**Fls. & Frts.:** Jun.-Oct.

**Specimen examined:** Relo Basti,6-5-1992,1680, Ganga Lake,27-11-1994,282.

Commonly found along road sides, hilly slopes and waste lands.

**Usage in Ethno-medicine:**

**Parts used:** Leaves.

(i) 1-2 leaves just warmed over fire and is tied with a piece of cloth against body pain by Nishi tribe.

(ii) Roots juice taken for the remedy of cough.
Established report of Utilisation in Medicine:

Roots are source of yellow dye. According to Hynniewta (1984) “Roots are taken to cure cough” but the name of the tribe and its local name is not mentioned.

*Musa sapientum* L. (MUSACEAE) “kol” (N.): Juice of stem and leaves crushed and applied over swollen in feet and skin disorders.

*Musa velutina* Wendl. (MUSACEAE).

“Juice extracted from the stem used for dysentery” Hynniewta (1984).


Trees, 5-20 m high, crown dense; bark dark or blackish-brown, minutely warted, pustuled, horizontally wrinkled. Leaves 6-15 x 1.5-5 cm, oblong-oblanceolate to oblanceolate-elliptic, acute, base narrowed cuneate, glabrous, entire or remotely serrate. Panicles 6-15 cm long, green, turning yellow. Fruits 1-4 cm long, ovoid-oblong, tubercled, green turning red, soury.

**Specimen examined:** Joram, 18-2-1993, Rama Shankar & Mohan Singh, 1785.

Scarce among dense forest and gregarious higher elevation of the district.
Uses in Ethno-medicine :

Parts used: Bark; fruits.

(i) The juice extracted from pounded bark is applied on itching and skin eruptions. Some time juice is mixed with water and taken bath.

(ii) Fruits are edible and sold in the market.

Established reports of Utilisation in Medicine:

Bark is astringent, corminative, antiseptic, useful in fever, asthma, cough; powdered and used as snuff in catarrh with headache; mixed with ginger used as rubefacient, application in cholera. The bark is also useful in several Ayurvedic formulations as an ingredient in viz. Katphaladi Churna, Pushyang Churna, Khadiradi Gutika, Irinadadi Tail and Brihat phal Ghrit.

The bark contains the Glycosides Myricitrin. The 8.- Sitosterol, araxerol and a triterpene diol, m.p. 268-69°; have been isolated from the bark (Agarwal, 1963).

* Note: New application of plant is reported here.


Epiphytic, pseudobulbs subcylindrical or subclavate, 5-9x1-2.5cm Leaves elliptic-lanceolate, short acuminate 18-24 x 4-6 cm. Racemes 4-8 cm lax
flowered. Flowers white bracts broad, acute \( \approx 2 \) cm long; sepals lanceolate, \( \approx 2.5 \times 0.5 \) cm; petals linear, \( 2.5 \) cm; lip 3-lobed, \( \approx 1.5 \) cm, lateral lobes falcate, obtuse; midlobe lanceolate reflexed; claw orange red; column with pinkish-brown tinge \( \approx 2.5 \) cm, apex of column winged.

**Fls. & Frts.** : Oct.-Mar.

**Specimen examined** : Dariya Pahar, 9-9-1989, 42.

On trunks of trees in diffused sunlight.

**Parts used** : Pseudobulbs and leaves.

Pseudobulbs and leaves pounded together and is applied twice daily on burn injuries till complete relief.

**Note** : Reported here for the first time its application in Ethno-medicine.


Perennial, pubescent stoloniferous herbs. Stems creeping or decumbent, rooting at nodes. Leaves palmately 3- foliolate; petioles 2-6 cm; leaflets broadly obcordate, cuneate at base, emarginate at apex, 3-15 x 8-12 mm. Inflorescence subumbellate; peduncles 2-10 cm long. Flowers bright yellow, 1 cm in diameter. Capsules cylindric, 1-2 cm long, puberulous; seeds transversely ridged, dark brown.

**Fls. & Frts.** : Apr. - Dec.

**Specimen examined** : Itanagar, 2-4-1989, 14.

Common and abundant, found among weeds throughout the district.

**Usage in Ethno-medicine:**

**Part used** : Whole plant.
(A) Apatani: The whole plant is used either raw or boiled as vegetable and said to promote appetite but it should not be taken with local drink “Apung”.

(B) Nishi: The juice of plant is applied on cuts and injuries to stop bleeding.

(ii) The juice of leaves used as eye drops (1-2 drops) for removal of dust from eyes or against redness of eyes.

Established reports of utilisation in Medicine:

Leaves are cooling, refrigerant, stomachic, antiscorbutic. Plant is useful in cure for scurvey and dysentery. The leaves are good source of vitamin C, carotene and calcium. The whole plant is also one of the ingredient of Aayurvedic formulation viz. Changeri Ghrit.

The plant in raw is eaten to promote digestion. Its juice is applied for curing skin diseases (Kohli 1992).

*Note*: Reported here with quitie different application of plants in Ethnomedicine.


A perennial acaulescent herb, perenating by underground compact brown scaly bulb aggreated on tuberous white napiform roots. Leaves radical, palmately 3-foliolate, long petioled, broadly obcordate, cuneate at base, deeply emerginate at apex. Flowers sub-umbellate on long peduncles, rosy-pink, sepals ovate, imbricate; stamens 5 short, alternating with 5 long. Capsules 5-
valved, valves cohering to the axis.

Fls. & Frts.: Apr.-Aug.

Specimen examined : Itanagar, 2-4-1989, 15.

It is growing frequently in open waste land and among weeds having showy floweres.

Usage in Ethno-medicine:

Parts used : Whole plant.

The whole plant is used as vegetable either raw or cooked and is said to promote appetite but local drink "Apung" should not to be taken with the plant.

Established reports of Utilisation in Medicine:

No established report is found.

Note : This is new report of plant in Ethnomedicine.


Shrub upto 3m high, young parts and petioles fugacious, scurfy and decidously bristly. Leaves 16-26 x 4-5 cm, broadly lanceolate or elliptic lanceolate, acuminate or acute, base rounded or sub-cordate, glabrescent above, bristly and scurfy along nerves beneath, 5-7 nerved, obscurely serrate, tertiary nerves parallel. Panicles stellate pubescent, 15-25 cm long, branches ending in cymes. Flowers 1-15 cm across, purlish pink; calyx 0.6-0.8 cm long, teeth triangular, acute, calyx campanulate; petals 0.8 cm long, ovate, apex acuminate; stamens 8,4 yellow and shorter, 4 purple and larger; anthers poricidal; capsules 1 cm long crowned by the accrescent calyx limb, fusiform; seeds
37. *Paederia foetida* - a twining climber - the leaves of which are most effective for the treatment of gastric.
minute, falcate, with 2 unequal beaks at either end with the onn on the back long, the other short and continuous with the lateral ridge (raphe).

**Fls. & Frts.:** Jul. - Dec.

**Specimen examined:** Gohpur road, 5-7-1992, 245.

Common at lower elevation, often forming gregarious patches.

**Usage in Ethno-medicine:**

**Parts used:** Stem, flowers and fruits.

Nishi:(i) The stem is used as tooth brush (datoon).

(ii) The fruits are eaten for shining of teeth.

(iii) Flowers are offered to deities to get better yield of paddy.

**Established reports of Utilisation in Medicine:**

No other established report is found.

**Note:** New application of plant has been reported here in Ethnomedicine.


Slender twining shrubs, foetid when bruised; winding anti-clock-wise. Leaves opposite; 4-11 x 2-6 cm; ovate or lanceolate, acute or cuspidate base broad or narrowed; nerves 4-5 pairs, fine; petioles 1.3-3.8 cm long; stipules ovate-lanceolate, bifid. Panicle in cymes axillary, and terminal, c 14 cm long; peduncles c 7 cm long with, spreading branches. Flowers violet, shortly pedicelled; calyx campanulate, acutely toothed. Corolla 8 to 1 cm greyish-purple outside, deep purple inside. Fruits orbicular, wings pale, c 1.1 cm across.

**Fls. & Frts.:** Sept. - Dec.

Commonly found hanging on bushes and hedges, throughout the valleys.

Usage in Ethno-medicine:

Parts used: Leaves & fruits.

Nishi: (i) Due to foetid smell the plant is used as cooked vegetable, which is very effective in gastric trouble. For storage the small tablets are made from powdered leaves, mixed with water and dried in sun and stored in bottle. This tablet is often used in gastric trouble.

(ii) Fruits grinded and mixed with water and is applied against skin emitting bad odour particularly bad odour of armpit and abscesses and allergy.

Apatani: (i) The juice from the pounded leaves is given in 1 to 2 tea spoonful mixed with boiled water twice daily for drinking against gastric.

(ii) Boiled leaves and twigs are used as vegetable and is said to be effective for cleaning of stomach and also against stomach swollen and diarrhoea.

Established reports of Utilisation in Medicine:

The plant is bitter, aphrodisiac, tonic, laxative, root and bark are emetic. Whole plant is used in rheumatic affections, piles fever, diseases of eyes, night blindness. The juice is given to children in diarrhoea. It is also useful in constipation, impotency, pareflegia.

Herb contain essential oil and alkaloids. The leaf contains 44.6% protein, (on dry basis), rich in carotene, (36mg./100 mg) and vitamin C. The plant and leaves are useful in Ayurvedic formulations as an ingredient in viz. Balarista, Parasarini Tail.

*Note: This is the best medicine for gastric used by local people and is found to be very much popular in the area.

Annuals, up to 2m high. Leaves opposite, petiolate, ovate, crenate-serrate, acuminate, hairy above. Flowers in axillary and terminal racemes of 2 flowerd whorls; bracts small; calyx campanulate, bilabiate, upper lip with 3 oblong, obtuse teeth, lower with 2 lanceolate teeth; corolla white, campanulate, upper lip 4 lobed, lower lobe subtruncate; staments 4, anthers 2-celled; style equally 2 fidi at the apex; nutlets globose, Pale brown, with reticulate marks. seeds brown, oily.


Specimen examined. Daria Pahar (Jhum area), 9-9-1989, 40.

Growing as undergrowth in forest but often cultivated in Jhum land by the local people.

Utilisation in Ethno-medicine:

Part used: Seeds

Seeds are edible but if taken more is harmful and develops cough. Oil from the seeds applied on forehead against headache and fever by Apatani people.

Established report of Utilisation in Medicine:

Stem, leaves and seeds are resolvent, diaphoretic and cephalic. plants used as sedative, antiseptic and antidote. The oil is edible, has been used for food purpose from earliest time.

Shrubs up to 2m high, much branched, young parts rusty tomentose, subterect. Leaves 20-45 x 10-20 cm obovate, broadly oblanceolate- elliptic, obtuse or acute, base cuneate, glabrous, tomentose beneath when young, lateral nerves 8-10 on either half. Inflorescence erect, 15-20 cm long, densely pubescent; calyx teeth linear, lanceolate .4- to .5 cm long; corolla scarlet red, usually over 4 cm long curved, bitter. Capsules 4-6 cm long.

**Fls & Frts.** : Sep. - Apr.

**Specimen examined**: Jully Village, 6-9-1992, 250.

Common in lower elevation (below 800 m) along water courses, marshy areas in tropical forests.

**Usage in Ethno - medicine** :

**Part used** : Flowers,

Pounded flowers are used as condiment. About ½ tea spoonful is taken with meal twice daily for remedy of colic pain and also act as purgative.

**Established reports of Utilisation in Medicine** :

No other established report is found.

**Note** : A new report of application in Ethnomedicine.

**Phlogacanthus tubiflorus** Nees, The red flowers are mixed with fish curry considered for relieving cough. Flowers are edible.

Small or middle sized trees, 3-15 m high, usually with a crooked stem, bark grey or white with horizontal wrinkles, blaze reddish, branchlets 3-20 cm long. Leaves 0.6-1.5 x 0.05-0.2, cm deciduous, linear oblong, acute, base rounded. Flowers minute, white or yellowish, ç 0.1 cm across. Drupes 1.5-3 cm across, globose, often depressed, stone trigonous, greenish. Fls. & Frts. Jul. - Nov.

Specimen examined : Itanagar, 12-8-1989, 28.

Generally cultivated in gardens, home complexes and road sides. Now a days inhabitants undertook its plantation in their land.

Usage in Ethno-medicine :-

Part used : Fruits

Fruits are edible and used as appetiser and freshness of mouth by the both the tribes. Fresh fruits are sold in daily market @ Rs. 10/ per kg.

Established report of Utilisation in Medicine:

Fruit is of great medicinal value. It is one of the richest source of vitamin C. The fresh fruit is refrigerant, tonic, antiscorbutic, dieuretic and laxative. It is used in fevers, vomiting, indigestion, habitual constipation and other digestion troubles. The dried fruit is a good astringent, refrigerant, stomachic, antiscorbutic and blood purifier. It is given in diarrhoea, dysentery
and haemorrhage. The infusion of seeds is useful as eye-wash in ophthalmic diseases. Root and root bark is astringent. Seeds are useful in asthma, bronchitis and biliousness.

Fruits, bark and leaves are rich in tannin. Fruits are richest source of vitamin C. The seeds contain c 26% of fixed oil. The oil contains 57% of mixed acids, sitosterol and phytosterol. m.p 124°-25°. (Dhar et al. 1951).

Note: The fruits are one of the three constituents of the well known Indian preparation “Triphala” and other formulations are viz. Amlaki Churna, Triphala Churna, Triphala Ghrit, Chavanpras etc.


An erect herb. Leaves alternate, ovate, toothed, acuminate, membranous, base cuneate, 4.0-9.0 x 1.0-2.6 cm; petioles 0.5-2.0 cm long. Flowers solitary, axillary, yellowish; calyx 5-lobed, enlarged and subglobose in fruit; corolla 5-lobed, short; stamens 5, inserted near the corolla base, ovary 2-celled, seated on a large disc. Berries globose, hidden by enlarged calyx.


Occasionally found in waste land and river beds in open situation.

USAGE in ETHNO-MEDICINE:

Parts used: Leaves and fruits.
(i) The juice extracted from crushed leaves (3-4) and fruits (1-2) is administered with water twice daily for at least one week for remedy of gastric by Adi and Apatani people.

(ii) Berries are edible.

**Established reparts of Utilisation in Medicine**:

Fruit considered tonic, diuretic, aperient. Juice of leaves mixed with water and mustard oil used as remedy against earache. Fruits are edible in different parts of tropics.

**Physalis angulata** L., “Phuligach” : The seeds 8-10 nos. and fruits 8-10 nos. of the plants are eaten raw in gastric trouble but name of the tribe has been not mentioned (Singh & Anand Krishna, 1983).

**Pinus excelsa** Wall., Pl. As. Rar. III (1832) t. 201; Hook. f., Fl. Brit India 5:651, 1886; Kanjilal et al. Fl. Assam 4:342, 1940. (PINACEAE)

“Pusasan” (N.); “Tel ghos” (Ap.); “Chir” (H.); “sarala” (S.)

A tall tree, bark smooth, slate-coloured when young, rough with shallow fissures on old trees. Leaves fascicles of 5, 10-20 cm long, bluish or grayish green, slender, drooping sheath of bud-scales deciduous. Male catkin 7.5 mm long. Female cones at the ends of the shoots, usually 2-3 together; ripe cones, 15-30 cm long cylinderic, scales only slightly woody with obtuse tips; Seeds 7.5 mm long, wing three times the length of the seed; cotyledons 8-12.

**Specimen examined** : Ziro area downward, 11-8-1994, 273.

Abundant in Ziro area forming a beautiful pine forest.
Usage in Ethno-medicine:

**Parts used**: Resin from stem.

Resin collected from live plants by piercing the stem and is applied in cracks of heels usually during winter at bed time for one week for complete healing by Apatani people. Resin of other species of *Pinus* may also be used for the same.

**Established reports of Utilisation in Medicine**:

Resin stimulant, used internally as stomachic, and as a remedy for gonorrhoea, externally as a plaster applied to buboes and abscesses for suppouration. Wood stimulant, diaphoretic, useful in burning of the body, cough, fainting and ulceration.

*Note*: A new report of its application in Ethnomedicine.


A woody climber; branches angled, grooved. Leaves 5-12 x 2-8 cm orbicular, ovate or elliptic lanceolate, abruptly acuminate, membranous, sparsely puberulous beneath, 5-7 nerved, base cordate or turncate or acute; petioles .3-.5 cm long. Male spikes slender; bracts adnate, cupular, with raised margins. Fruiting spikes c 15 cm long. Fruits globose c .3 cm across.

Specimen examined: Sankie river side, 7-6-1992, 242.

Usage in Ethno-medicine.

Part used: Leaves.

Leaves warmed above fire either covered locally or tied over with a piece of cloth against bodyache which mainly occurs due to tired ness by Nishi. Roots are chewed by Apatani as a remedy for cough.

Established reports of Utilisation in Medicine.

Root macerated in water as an excellent diuretic.

Piper brachystachyum Wall.,

“Seeds used with honey Bee for curing cough” (Hynniewta, 1984)

Piper pedicellatum Wall. ex. Cas, “Radhak” (N.) : The leaves are used for giving hot fomentation for sprains. After application the affected portion is wrapped by same leaves. (Pal, 1984),


Herbs; rootstock erect, stout, 1-4 cm. Leaves radical, ovate-oblong to obovate, acute to subacute, sinuate-toothed, 3-9 x 1-3 cm, 3-7 nerved; peti-
oles up to 9 cm long, peduncles axillary, slender, 4-16 cm. Spikes 4-12 cm; bracts ovate; 1-2 mm. Flowers regular, sessile; corolla salver shaped, scarious, white, c 3 mm. Capsules 4-8 seeded, 1-4 celled, circumscissile, seeds angled, minute, rugose blackish-brown, one side is arched and other side is concave, oily taste when crushed.

**Fls. & Frts.** : Apr.-Nov.

**Specimen examined**: Daily market, 12-11-1989, 58.

Commonly found in roadsides, waste lands, forest edges in shady places in tropical & subtropical forests.

**Usage in Ethno-medicine**:

**Part used**: Leaves.

Apatani: leaves either raw or boiled are used as vegetable and considered as remedy for constipation. It also improves digestion.

**Established reports of Utilisation in Medicine**:

Seeds are tonic, stimulant and used in indigenous medicines in India as a remedy for dysentery. This is also used as a substitute for *Plantago ovata* Forsk. (Isopogol). Leaves and roots are astringent and used in fever. Leaves applied to bruises.

Leaves contain glucosides, saponins, bitter compounds. 10% ointment of powdered leaves in vaseline quickly stop pus formation in impetigo.

The leaves along with the leaves of *Ageratum conyzoides* "Pasu payou" (N.) Crushed and made into pills. One pill thrice a day is administered to cure blood dysentery against the local name "Nido Marto" by Nishi (Pal, 1992).

* **Note**: Reported here as new application in herbal medicine.
Plectranthus japonica (Burm.f.) Koidz. (LAMIACEAE) “Yode” (Ap.):

Fresh juice obtained from the leaves applied externally on swollen parts and wounds resulting from insect bites (Kohli, 1992).

Plumbago zeylanica L. (PLUMBAGINACEAE):

According to Hynniewta (1984) “The root is said to increase digestive powers to promote the appetite and to be useful in dyspepsia, piles, skin diseases, “but the name of tribe and local name is not mentioned”.


Erect to decumbent, succulent annual herbs, up to 45 cm. Leaves opposite below, ovate or obovate, cuneate at base, rounded or obtuse, 2-40 x 1-15 mm; Petioles up to 5mm. Flowers solitary or 2-6 in a head within an involucre of leaves; sepals < .4 cm, keeled and joined in a tube, persistent enclosing; petals 4, yellow caducous. capsules obovoid, 3.5 - 8.5 mm; seeds black, tuberculate - punctate.


Specimens examined : P.Sector, Itanagar, 12-4-1989, 13.

Common as weeds in gardens and cultivated plots.

Usage in Ethno-medicine :

Parts used : Stem, leaves and flowers

1. Stem and leaves are used as vegetable to promote appetite by the
both tribes.

2. Pounded stem, leaves and flowers applied against skin allergy, rashes etc. by Nishi tribe.

**Established reports of Utilisation in Medicine:**

Plant is refrigerant, alterative. It is also useful as an article of diet in scurvy and liver diseases. Juice of stem applied to prickly heat and to the hands and feet when a burning sensation is felt. Seeds acts as vermifuge. The juice of the stem cure diarrhoea, dysentery, leprosy and piles.

The whole plant is one of the ingredient of Ayurvedic formulation Viz. Changeri Ghrit and also used as a single drug.

The herb contains moisture 90.5; protien, 2.4; ether extract 0.6; crude Fibre, 1.3; carbohydrates, 2.9 and mineral matter 2.3%. Vitamin C is the highest in the green leaves of young plants and decreases after flowering.

*Note*: A new additional report of application in Ethno-medicine is recorded.


An evergreen climber. Stems, woody, c 18 m high, 1.5 cm dia. smooth, terete internodes 1.3-3.8 cm long. Leaves, distichous, alternate, 9-18 x 3-5cm, oblong or ovate-oblong, acuminate, base rounded, dark glossy green above, pale and glossy beneath, thick, nerves indistict; petioles 2-10 cm long, winged on either side to form a leaf like expansion 7.5-2.5 mm,
broad; peduncle solitary, axillary, 1.3 - 1.8 cm long below the spathe; spathe sub-orbicular, cordate, cuspidate, 13-15 mm across, green tinged with purple, stipe .5-.7 cm long terminating in an ellipsoid, yellow, fleshy, many flowered, spadix .7-1.3 cm long. Berries ellipsoid, compressed.

**Fls. & Frts.** Nov. Apr.

**Specimen examined:** Itanagar-Naharlagun, 21-11-1993, 263.

**Usages in Ethno-medicine:**

**Part used:** Leaves

Leaves warmed above fire and bandaged over in dislocation of bones by Nishi people.

**Established reports of Utilisation in Medicine.**

In Lakhimpur the leaves, fried in ghee, are eaten to cure various pains, against the local name “Hathi denkiya”.


A climbing plant, clothing trees and walls like Ivy; Stem as thick as the little finger, much branched, tough, smooth, internodes 1.2-2.4 cm long. Leaves variable 5-10 x 0.8 - 5cm, obovate, elliptic or lanceolate, acute to acuminate, glossy green, base cuneate or rounded; petioles broadly winged 2.5-7 x 6 - 16 mm long; peduncles 5-10 mm long, the base clothed with ovate acute imbricating cataphylls, c 4 mm long; spathes 4-6 mm long, cymbiform, cuspidate green. Spadix yellow, stipitate, globose, ovoid; anthers terminal, minute, the cells divaricate; Ovary 3-celled truncate; stigma minute,
lobulate. Berries 13-17 mm long, oblong, scarlet when ripe.

**Specimen examined**: Sankie river area, 7-6-1992, 243.

Generally climbing on stem of large trees in dense forest.

**Usage in Ethno-medicine**:

**Parts used**: Stem and leaves.

Boiled stems and leaves are used as vegetables for clear motion and in constipation.

**Established reports of utilisation in Medicine**:

1. In Malaya, the powdered leaves are applied to the body to cure smallpox.
2. A portion of stem with Camphor is smoked like tobacco for asthma.

*Note*: A new additional report of application in Ethnomedicine is recorded.


A suberect or decumbent herb 20-70 cm; roots tuberous. Leaves opposite, lanceolate or oblong-lanceolate, cordate at base, acute to acuminate, 1.5-8×5-2.0 cm, basal nerves 3; petioles upto 4 mm long; stipules ovate, 3-4 mm. Flowers in close clusters, axillary, 5-merous, sessile, reddish, globose, truncate, hairy above. Achenes ellipsoid, c 2 mm, dull black when ripe, 2-3 ribbed rarely winged.


Commonly found in steep gullies, rock crevices and grass lands. It is also cultivated by local people in their home complex and Jhum areas.

Usage in Ethno-medicine:

Part used: Stem & leaves.

Stem and leaves are used as vegetable. It is considered that the vegetable of this plant increase lactation in women.

Established reports of Utilisation in Medicine:

So far not known.

Note: A new application of plant has been reported here.

Pouzolzia viminea Wedd., “Phuti Bum” The paste of whole plant is applied locally on affected portion of itching as reported by Singh & Anand Krishna (1983) but the name of particular tribe was not mentioned.


Trees upto 7 m high; deciduous, crown lax, spreading, bark dark grey or blackish. Leaves 10-16 x 3-5 cm, oblong lanceolate, acute, glabrous at length, sharply serrate, glabrous and dark green above, pubescent beneath along midrib when young; petioles glandular or not; stipules subulate.
fimbriate; pedicels less than 0.2 cm long. Flowers axillary or fascicled, usually before, sometimes with the leaves, pink or rose, 2-2.5 cm across; calyx lobes densely silky tomentose; petals oblong rounded at tip. Drupes 3-5 cm long, ellipsoid-ovoid, rugose, red tinged, ellipsoid pyrene, stone deeply and irregularly furrowed.


Specimen examined: Doimukh, 10-5-1992, 252.

Cultivated for their edible fruits as well as for ornamental purposes. A fast growing fruit yielding plant cultivated along the edges of Jhum land and village complexes throughout the district.

Usage in Ethno-medicine:

Parts used: Leaves, fruits.

Nishi: (i) Young leaves pounded and mixed with water and about \( \frac{1}{2} \) teaspoon is given twice daily after meal against dysentery.

(ii) Leaves warmed above fire and rubbed against insect bite and pain in eyes.

(iii) Young leaves pounded and applied on wounds for killing of wound worms. This is more popularly used in case of animals wound such as cow, mithun etc.

(iv) Fruit are edible, also sold in market about 3-4 Nos. @ two rupee.

Established reports of Utilisation in Medicine:

Flowers are diuretic, purgative; fruits are stomachic, demulcent and antiscorbutic, also considered to be useful as ascaricide. It contains HCN.

* Note: New application of plants in Ethno-medicine has been reported here.

“Madhuri” (N.); “Amrud” (H.), “Mansala”(S.).

Small or middle sized subdeciduous trees upto 10 m high; bark pinkish-brown, exfoliating in thin long flakes. Leaves 5-15x3-6 cm, opposite, oblong to elliptic-oblong, acute or obtuse, base cordate, lateral nerves much prominent; petioles upto 1 cm long. Flowers white, 2-4 cm across; calyx urcreolate; petals free; stamens numerous, long, exerted; ovary 3-4 celled, ovules numerous. Berries globose or pyriform, yellowish-white, c 6 cm in length; Seeds numerous; immersed in a sweet pulp.


Cultivated throughout at lower elevations for their edible fruits which are extensively marketed.

Usage in Ethno-medicine :

Parts used : leaves and fruits.

(i) leaves pounded, boiled with water and added 3-4 drops of Mustard oil and little quantity of salt and filtered. About 2-4 tea spoonful of the extract is taken twice daily to cure dysentery.

(ii) Fruits are edible.

Established reports of Utilisation in Medicine :

Bark of root is astringent, used in diarrhoea of children. Fruit laxative and leaves are used as astringent, for bowels, also wounds and ulcers. Decoction of leaves used in Cholera for arresting vomiting and diarrhoea. Leaves contain essential oil, eugenol.

Shrubs, Leaves 10-16 x 7-12 cm elliptic, obovate or oblanceolate, acuminate, entire, coriaceous, glabrescent above, puberulous beneath, lateral nerves 14-16 on each sides; petioles 1.2 - 2.5 cm long; stipules large with two cuspidate tips. Flowers on long peduncle, terminal or axillary, corymbose cymes; calyx teeth obscure; corolla tubular, throat villous. Fruits globose, ≤ .5 cm across, pyrenes plano-convex, smooth.


Specimen examined : Sankie river side, 7-6-1992, 240.

Usage in Ethno-medicine :

Part used : leaves.

Leaves crushed and applied in cuts of iron and wound for immediate healing and relief.

Note : New application of plants in Ethnomedicine has been reported here.

Pterospermum acerifolium Willd. (STERCULIACEAE) “Sippopasing” (Ap.), “Tanguru Changne” (Dafla) : The paste of floral calyx is applied as plaster in swelling in the body (Hynniewta, 1987).

Rhus chinensis Miller, Gard. Dict. (ed.8) R.no. 7, 1768; R. semialata

Small, deciduous trees, with spreading branches, bark ashy-grey warty, dull greenish white inside. Leaves imparipinnate over 30 cm long; leaflets 4-6 pairs, opposite, lateral sessile, 5-13 x 2.5-5 cm, elliptic ovate or oblong lanceolate, acuminate, deeply crenate or dentate, membranous, pubescent, densely grey tomentose beneath, lateral nerves 10-15 on either half, parallel, base rounded, oblique. Panicles terminal, 15-20cm, long, dense flowered. Flowers £ .25 cm across, whitish or pale green; pedicels minute, sepals small, ovate, pubescent, petals oblong, ciliate. Drupes pink, 5 mm long subglobose, compressed, tomentose.

Fls. & Frts. : Jun.- Mar.

Specimen examined: Rajbhavan, Itanagar, 13-9-92, 261.

Not Common in study area.

Usage in Ethno-medicine:

Part used : Fruits

(A) Fruits are edible, 10-15 fruits eaten twice daily in case of blood dysentery by Apatani.

(B) Fruits are used like that of tea leaves against body pain

Established reports of Utilisation in Medicine.

Galls yield high quality tannin and gallic acid; also used for dyeing. They are astringent and expectorant and employed in preparation of ointments used for swellings and wounds. Fruits are edible, and also used for treatment of colic and dysentery. Vegetable wax extracted from fruits is
used for candles.

* Note: New application of plants with their fruits has been reported here.


A tall shrub, upto 4m high, stout, hollow; Leaves large, alternate, peltate, orbicular, digitately lobed, lobes oblong, serrate, acuminate at apex, membranous, as long as broad, ≤ 17 cm diam. Flowers pale yellow, monoecious in erect, large terminal panicles; male flowers below, female above. Capsules sub-globose, oblong-ellipsoid, spinous, seeds blackish brown, oily.

**Fls. & Frts**: almost through out the year.

**Specimen examined**: A sector Intanagar, 27.11.1994, 281.

It is found wild in fields, gardens, and waste places, Often cultivated.

**Usage **\* Ethnomedicine **:

**Parts used**: Young twigs, leaves and seed oil.

(i) Seeds oil massaged in joint pain.

(ii) Local application of young twigs in vagina caused abortion.

(iii) Leaves fomentation is given in muscular pain.

**Established reports of Utilisation in Medicine** :

The oil obtained from the seeds, called castor oil is used as purgative and lubricant. Caster oil is also used in ointments as soothing agents and as an oil vehicle in eye - drops. Leaves applied to the head to relieve headache and as poultice for boils. Roots are carminative, purgative and useful in leprosy.

Climbing herbs, with perennial root stocks, roots very long, golden yellow, cylindrical, flexuose with a thin red bark. Stem long, rough, grooved, becoming slightly woody at the base, quadrangular, bark white. Leaves 3.8-9x1.6-3.5 cm; in whorls of 4, ovate-lanceolate, rounded or subcordate at base, long acuminate at apex, nerves 3-5 palmate; petioles 4-8 cm; panicles much branched, 3-15 cm, pedicels 1-2 mm. Flowers in terminal panicles of cymes; calyx < 0.85 mm long, tube globose, glabrous, limb 0; corolla greenish or orange-red divided nearly to the base, lobes 5, ovate, acute; styles 2; stigma globose. Berries 5-7 mm diameter, didymous or globose, smooth, shining, purplish black when ripe.


Abundant in Ziro-Tamin area of district along road sides, steep slopes, and as a climber on hedges. Root stocks have been transplanted at Itanagar Experimental Garden of R.R.C. (Ayu) Itanagar and growing properly.

Usage in Ethno-medicine:

Part used: Roots

(i) Roots are used as red dyes for colouring of local clothes and articles etc.

(ii) 1-2 tea spoonful of powder roots mixed with water is given to drink
against cold & cough often roots are chewed for the same purpose.

iii) Powder is also applied on forehead in case of headache.

**Established reports of Utilisation in Medicine:**

Roots are the tonic, alterative, astringent and also used in rheumatism. It is used in urinary disorders, fevers and skin diseases. Decoction of leaves and stems used as Vermifuse.

It contains munjistin, a glucoside. Roots are also source of red dye.

**Note:** Root and stem are ingredient of several Aurvedic formulations viz. Manjisthadi Tail, Mahanarayan Tail, Mahamanjithadi Arka, Asvagandharista and Mahamanjistha-dyarista.


Subscandent shrub with curved or deflexed hooked prickles. Stem and branches patent hairy. Leaves 5-14 x 5-12 cm, variable size, pubescence, ovate or sub-orbicular, 3-7 lobed or angled, lobes ovate triangular, obtuse, minutely serrate, glabrous or glabrescent above, hairy beneath particularly along nerves, palmately 5 nerved from base; petioles 1 - 2 cm long, greyish; stipules and bracts deeply lobed with erecto patent hair. Racemes short, c 7 cm long, glomerate. Flowers c 1.5 cm across, white; calyx lobes ovate-lanceolate, tip 2-3 fid or entire, patently villous; petals equalling the sepals, shorter than calyx lobes, white, obovate. 1-1.3 cm long; stamens numerous, glabrous; carpels many, glabrous. Berries globose, 1-1.5 cm across, scarlet,
succulent, reddish.

**FIs. & Frts.** : May - Nov.

**Specimen examined** : Pappu Nala, 10-9-1989, 43.

Found Common in Itanagar, Sagalee-Mangio and Ziro areas as an scandent shrubs leaning on trees.

**Usage in Ethno-medicine** :

**Parts used** : Young stem twigs and fruits.

Young stem twigs are chewed to cure cough by Nishi tribe. Fruits are also edible.

**Established reports of Utilisation in Medicine**: Leaves are astringent, emmenagogue, abortifacient. Fruits considered a useful remedy for the nocturnal micturition of children.

*Note: A new reports of its application.

**Rubus paniculatus Sm.** (ROSACEAE). locally known as "Iktojin" (N.) the leaves of the plant are chewed raw in case of diarrhoea and stomach disorder (Singh & Anand Krishna, 1983).
**Saurauia cerea** Griff. ex Dyer in Hook. f., Fl. Brit. India 1:288, 1874;

Small trees, leaves obovate, cuneate, acute or rounded at base, apex
cuspidate-acuminate, glabrous above, glabrescent beneath, petioles scaly.
Flowers ç 2.5 cm across, white with red ting.


**Specimens examined:** Midpu Village, 24-8-1989, 1586; Kimin forest area,
25-6-1994, 268.

Occasionally found in road sides and forest areas.

**Usage in Ethno-medicines :**

**Parts used :** Young twigs and leaves.

(i) Crushed young twigs and leaves are applied on cuts and wounds to stop
bleeding and for healing.

(ii) Fruits are edible.

**Established reports of Utilisation in Medicine :**

So far not known.

* **Note :** A new application of plant in Ethnomedicine is reported here.

*Heptapleurum Venulosum* (W.&.A.) Seem. in J. Bot. 3:80, 1865; Clarke in
(ARALIACEAE) “Paleh” (N.).
38. *Scoparia dulcis* L.- the whole plant is used for the treatment of Jaundice by Nishi Tribe.
Soft wooded climber, sub-scandent, often epiphytic; attaching by means of adventitious roots. Leaves 5-7 foliolate; Leaflets elliptic or oblong or oblong elliptic, glabrous, shining above, 7-15 x 3-10 cm lateral nerves 5-7 pairs; Petiolules 2.5-5 cm long, jointed at the apex. Panicles terminal, 10-20 cm umbels racemose on lateral branches, rachis purplish; pedicels up to 5 cm long; calyx truncate; petals 5, obovate-oblong, acute. Fruits ovoid, 5-ridged.

**Fls. & Fruit**: Mar. - Oct.

**Specimens examined**: Palin-Old Palin, 27-4-1988, Singh, Pandey & Mohan Singh, 1333.

A gregarious climber over the other trees. Common in primary forest.

**Usage in Ethno-medicines**

**Part used**: Leaves.

Warm leaves are applied to get relief from back pain by the Nishi tribe.

**Established reports of Utilisation in Medicine:**

So far not known.

**Note**: A new report of plant used in Ethnomedicine.


Erect herbs or undershrubs up to 1 m; stem angular. Leaves opposite,
elliptic, rhomboid, obovate or oblanceolate, serrate, 1-3 x .4-1.3 cm. Flowers small, axillary, solitary; pedicels 5-7mm; calyx segments imbricate in buds; corolla white, 5.6 mm across; filaments, woolly at base. Capsules, small, globose 2-3 mm, 4 valved; seeds many, obovoid, angled, blackish.

FIs. & Frts: Apr.-Dec.

Specimen examined: A sector Itanagar, 12-11-1989, 55

Dry and moist situations in wastelands, road sides among weeds throughout the study area.

Usage in Ethno-medicine:

Parts used: whole plant & roots.

3 to 4 nos of plants mixed with small quantity c 2gms of rhizome of Curcuma longa and pounded and a paste is made with water. Two tea spoonful of the paste is taken with water twice daily for the treatment of Jaundice till relief. It also controls diabetes.

Established reports of Utilisation in Medicine:

The plant infusion is used in agne, a cold decoction is given against gravel & kidney complaints. An infusion of leaves, roots and tops are applied in fever, cough and bronchitis. Leaves and stems are used for diabetes. All parts of plant are emetic. It contains an antidiabetic principle amellin.

* Note: It's a new application of plant in Ethno-medicine.
39. *Solonum kurzii* Brace ex Prain: cultivated by local people for its edible fruits and also used Ethno-medicine.
Skimia laureolosa (RUTACEAE) “Dising” which are not known in Indian medicine are used by the Apatani of the district for the treatment of gastric pain (Rao, 1972).


Understrubs; branches densely stellately woolly. Leaves7-8 x 5-6 cm, Ovate, irregularly lobed, densely stellate tomentose beneath, less so above; petioles 2.5-3 cm long. Flowers in rusty pubescent subterminal racemose cymes, violet;calyx campanulate, pubescent; corolla stellately pubescent outside, deeply lobed, one lobe longer than the remaining. Berries globose yellow.

Fls.& Frts. : Almost through out the year.

Specimens examined :-Nykom Lapang village, 5-4-1992, 231.

Uncommon, generally grown in village complexes, jhum areas, cultivated by tribal people for edible fruits.

Usage in Ethno-medicine:

Part used: - Fruits

(A) Apatani : (i) 10-15 fruits with small quantity of salt are eaten for the treatment of cough.
(ii) Dried fruits are powdered and mixed with water (1:4) and boiled, all reduced to ¼ of the decoction. About 100 ml of decoction is taken twice a
40. *Solonum myriacanthum* Dunal - Berries are used in Ethnomedicine by both Nishi & Apatani Tribes.
day up to one week for complete relief from worms infestation.

(B) Nishi Tribe used 4-5 fresh fruits for the same purpose and also for the treatment of stomach pain.

**Note:** New report of application of fruits of the plant has been reported here for the first time.

"Byako"; "Thitbyako"; (N. & Ap.).

Prickly undershrub, 0.5-1 m high, young parts yellowish-hirsute, prickles straight or recurved. Leaves ovate-acute, cordate at base, shallowly lobed 15-25 x 10-17.5 cm, prickly. Flowers few in lateral racemes; calyx hirsute, not prickly, segments lanceolate; corolla white, lobes lanceolate. Berries c 2.5 cm diameter, dark yellow. Seeds yellow, suborbicular, compressed, muricate.

**Fls. & Frts.** : May - Dec.


Frequently found through the study area along road sides in open situation and hill slopes among the weeds, often gregarious in waste land.

**Usage in Ethno-medicine:**

**Parts used:** Root & seeds.
(A) 1-3 teaspoonful of decoction of roots administered twice daily for the treatment of malarial fever by Nishi tribes.

(B) dried seeds pounded and mixed with water and mustered oil and kept on heated stone. Liberating smoke is inhaled through mouth for removal of teeth worms by Nishi tribes and some times by Apatani tribe.

**Established reports of Utilisation in Medicine:**

(1) Pounded roots are applied to gums to relieve toothache.

(2) Smoke produced by burning seeds is inhaled to cure ulcerated nose.

The leaves contain 0.69% total alkaloids. A new glycoalkaloid, solakahasin, containing galactose and rhamnose as sugar components have been reported. The fruit contains diosgenin.

**Note:** The investigator also noted the same way of application and use by Idu tribe in Dibang valley district of Arunachal Pradesh. The plant locally called "Saketa" by "Idu" (Mishmi).

Hynniewta (1984) recorded the ash obtained from burning the stem of *Solanum crassipetalalum* is a cure for toothache.


"Hora" (N.), "Harohamang", (Ap.); "Akana" (Idu mishmi); "Makoi" (H.) "Kakmachi" (S.)

Annual herbs, upto 1 m. Leaves ovate lanceolate or ovate oblong, entire, sinuate, toothed; 4-8 x 2.4-4 cm. petiole 1-2 cm. Flowers in subumbellate cymes, extra axillary; calyx sparsely puberulous, 5-toothed, seg-
ments rounded; corolla white; stamens yellow. Berries globose 5-7 mm diameter, reddish yellow to black. Seeds, yellow, discoid, minutely pitted.

Fls. & Frts : May-Dec.

Specimen examined A. sector Itanagar, 2-7-1989, 25.

Always in waste places, nearby villages; crevices of walls and floors, as a weed in open and moist localities, found in abundance in study area.

Usage in Ethno - medicane :

Parts used : Stem, leaves and fruits.

Stem and leaves are used as vegetable and considered digestive liver tonic also useful for clear motion by Apatani Nishi and Idu tribes. Berries are eaten raw.

Established reports of Utilisation in Medicine :

Berries used in fevers, diarrhoea, eye diseases, and hydrophobia. Juice of plant is hydrogogue, cathartic, diuretic, alterative, given in chronic enlargement of the liver, in blood- spitting, piles, dysentery etc, young shoots given in skin diseases and used in psoriasis. Decoction of leaves is diuretic, laxative.

It contains askaloid solanine, saponin in plant and berries. The leaf is rich source of riboflavin. The various vitamins present in the leaves are riboflavin, nicotinic acid and vitamin C.

Note: The whole plant is one of the constituents of some important Ayurvedic formulations viz. Makoy Kwath, Makoy Churna, Kakmachi Ark, Geriforte tablets, Liv.52, drop syrup and tablet.

"Byakta" (N.); "Bykh" (Ap.) "Byako"(Adi); “Titbaigun” (H.).

Shurbs, 1.5-3 m high sparingly armed, sparsely stellate pubescent. Leaves up to 30 x 18 cm ovate, shallowly and obtusely lobed, serrate, stellate pubescent; petioles up to 4 cm long. Inflorescence extra axillary racemose; few flowered; pedicels c 2 cm long in fruit; calyx hirsute; stamens symmetrical. Berries 1.0 to 1.5 cm diameter, globose yellow.


Specimen examined:- Ziro point tinali, 20-8-1989, 34.

Abundantly found in village complex, road sides, waste and jhum areas as wild vegetation.

Usage in Ethno-medicine:

Part used : Fruits

10 to 15 fruits are mixed with little salt and pounded and given thrice daily for the treatment of cough by Apatani and fruits juice applied in skin disorders. Seeds burnt and the smoke or fumes inhaled through mouth for killing of teeth worms and also against toothache by Nishi tribes. Fruits are used as chatani and also eaten raw by tribal people. This is the substitute of S. anguivii and S. kurzii. Fruits are sold in daily market by local people.

Established reports of Utilisation in Medicine:

The fruits are used as a vegetable. Fumes of burning seeds are inhaled for toothache. Plant is reported to be useful in cough, and as seda-

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tive, diuretic and digestive tonic. Paste of pounded fruits is applied as cure for skin diseases by ‘Adi’ tribe against local name ‘Bako’ (Pal, 1984). Root extract taken in malaria against the local name “Bangko” (Adi.) as reported by Hynniewta (1987).

*Note: Additional report of application in Ethnomedicine is recorded here.


A tall perennial up to 1 m high; root stock with long slender creeping stolons. Stems glabrous, more or less angular, 0.6-1.5 m high, hollow below. Leaves 15-30 cm long, green and shining above, glaucous beneath, glabrous, lower leaves narrowly oblanceolate, subacute entire or pinnatifid or runcinate -pinnatifid; middle and upper cauline leaves lanceolate and spinous toothed dentate margins. Heads few 2.5 - 5 cm across, unbellately corymbose; peduncles glandular hairy involucral bracts clothed with long hairs , tipped with greenish yellow glands. Florets bright yellow, pappus white, silky. Achenes scarcely compressed, longitudinally ribbed and transversely rugose.

**Fls. & Frts.** : Jan. - Sept.

**Specimen examined** A. Sect. Itanagr, 15-1-1989, 12.

Commonly found as a weed on open situation, grassland and roadsides.
Usage in Ethno-medicine:

Parts used: Stems and leaves

1. The decoction is made from stems and leaves after boiling in water. About 2-3 tea spoonful of the decoction is administered for the treatment of gastric, stomach pain, and waist pain.

2. Boiled leaves are used as vegetables and said to be effective in stomach troubles.

Established reports of Utilization in Medicine:

Plant is cooling sedative, diuretic diaphoretic and expectorant. It is also useful in the treatment of cough, bronchitis, asthma, phthisis and pertussis. Roots are given in jaundice. Plant contain bitter principle.

* Note: Additional application of plants in Ethnomedicine is reported here.


An annual erect herb with milky juice, 0.5 - 0.9 m high; stem glaucescent, striate, branched above. Leaves cauline, sessile, oblong or obovate, entire or runcinate pinnatifid, dentate, glabrous. Heads in irregular umbellate cymes, campanulate, 1.2-1.5 cm long, many flowered. Flowers yellow, pedicels often glandular; involucral bracts glabrous outer bracts shorter than the inner c 1.3 cm long; pappus copious, pure white, longer than achenes; Achenes c 3 mm long, compressed, nariowly obovoid, longitudinally ribbed, distinctly transversally muriculate, light brown.

Specimen examined: Ganga Lake, 30-6-1994, 277.

Usage in Ethno medicine:

Parts used: Stem and leaves.

Stem and leaves are used as substitute for S. arvensis.


"Getepatey" (Adi).

Rhizomes stout, short creeping or semierect, covered with hairy scales, scales ≤ 0.2 cm long, dark brown, stiff; stipes ≤ 58 x 0.2 cm, glabrous, grooved. Fronds 5-55 x 5 - 20 cm tripinnate or quadripinnatified, lanceolate or ovate, herbaceous; lower pinnae ovate, lanceolate; pinnules rhomboidal, oblique, deltoid, lanceolate 2-4 lobed. Sori marginal or submarginal on 1-3 terminal veinlets, usually solitary, spores bilateral, hyaline or brown.

Fertile: May - Jul.

Specimen examined: Rajbhawan Itanagar, 2-9-1989, 44.

Common in open areas and also along road sides and walls of hill-ocks.

Usage in Ethno-medicine:

Part used: Fronds
41. *Spilanthes paniculata* DC: A trailing herb with yellow flowers growing in its natural habitat at A Sector, Itanagar.
The paste of the fronds is rubbed against swollen portion of body and sprains of feet by local people.

**Established reports of Utilisation in Medicine:**

Used internally for chronic entritis in Mauritius.

*Note*: Additional reports of Ethnomedicinal use has been recorded here.


"Byadhi" (N.); "Yakho hama" (Ap.)

A trailing herb, rooting at basal nodes. Leaves 1.5 - 6 x 1-3 cm, ovate to ovate elliptic, narrowed at base, obtuse or acute at apex, 3-nerved, distantly serrate; peduncles 2-15 cm. Heads yellow, solitary or in long terminal panicles; involucre ovoid or campanulate, bracts sub 2-seriate, 8-12 slightly unequal; receptacles elongate, pales enclosing the florets; anther-base truncate; style-arms rather long, truncate, Achenes. Glabrous, verrucose 2.0-2.5 mm long with persistent 2-3 bristles.

**Fls. & Frts:** Jan.Dec. (through out the year)

**Specimen examined**: Jully Basti, 24-9-1989, 49.

Gregarious in Wet localities in open places, rice fields and river banks. Cultivated in house complexes and domestic gardens for daily use.

**Usage in Ethno-Medicine**:

**Parts used**: Stem, leaves and flowers.

(A) **Nishi**: Leaves and flowers are eaten as remedy of cough. Stem twigs
with leaves mixed with golmirch (Piper nigrum) and is used as a condiment to kill intestinal worms.

(B) Apatani: The leaves are used as a condiment or eaten raw or boiled to remove constipation.

Flowers made into paste and is applied or chewed in case of toothache by both the tribes.

Established reports of Utilisation in Medicine:

Flowers made into a tincture used to relieve toothache and also powerful mosquito larvicides. Seeds chewed to produce salivation when the mouth is dry.

Its flower contain spilanthol has strong local anaesthetic action. Flowers contain also a sterol and non-reducing polysaccharide.

Flowers chewed to cure tooth-ache against the local name “Marsang” by Adi (Kohli, 1992).

*NOTE: Additional information for ethnomedicinal use has been recorded here.

Staurenthera grandiflora Benth., (GESNERACEAE) “Beeh”.

The stem powder is used in rheumatic pain recorded by Singh & Anand Krishna (1983) but the investigator found the bark of the plant used in joint pain by Nishi tribe against the local name “Beeh”.

Climbers perennating by corms, weight of corms varies 5-15 kg; or more, bitter, yellow, inside; branches fistular, sulcate, striate, glabrous. Leaves herbaceous membranous on both sides, broadly ovate or suborbicular, at the base round, 4-12 cm broad, primary nerves about 5; petioles 3-15 cm long, slender. Flowers unisexual, monoecious. Male inflorescence axillary or on leafless branchlets arising by the side of minute bracts; peduncles 4-8 cm long. Rays of umbel often 6, very slender; flowers on filiform pedicels, 2.4 mm linear oblong, 2-2.5 mm long, scarcely 0.5 mm broad; petals 3, stouter 1.8 mm long biglandular above the middle. Drupes obovate, compressed, endocarp with 20-25 transverse ribs running from the dorsal line, orange.

**Fls & Frts**: Jul. - Oct.

**Specimen examines**: Itanagar-Naharlagur, 1-12-1991, 7.

Climbing on trees or shrubs Annual vegetative parts generally dry up during December or onward.

**Usage in Ethno-medicine**:

**Parts used**: Corms and leaves.

(i) Small fresh piece corms 10-20 gm. or its powder is given thrice daily with water after child birth for removal of delivery pain. It is also given in case of abdominal pain and internal injuries.

(ii) A few pieces, of corm, 3 to 4 leaves an mixed with 3-4 leaves of *Dendrocnide sinulata*, “Pudrangta” (N.) and is boiled with water. The deco-
tion is given 2-3 tea spoonful twice daily for the treatment of fever, malarial fever and also said to be a good cooling agent.

(iii) Boiled leaves are eaten for the treatment disentery

Established reports of Utilisation in Medicine:

The corms are acrid, used in pulmonary tuberculosis, asthama, dysentry and fever, and intestinal complaints. The roots are also used in urinary diseases.

The tubers contain three crystalline alkaloids gindarine, gindarinin and gindaricine. Gindranine nitrate possess definite antibiotics actions against staphylococus. Gindarine and gindarinine are identical with tetrahydropalmatine and palmatine respectively (Chaudhury, 1952).

According to Hynniewta (1987), tubers dried and powdered mixed with wild bee honey is taken in case of asthama against the local name “Geniyong” (AP).

*Note Additional information of Ethnomedicinal use has been recorded here for the plant.

Stereospermum suaveolens DC., (BIGNONIACEAE) “DAMIUM” (N):

The leaves after warming are used in fomentation, 2-3 times a day to relieve pain in sprain etc. (Thothathri & Pal 1987).
42. *Tacca integrifolia* Ker.-Gawl. perennial herb with brownish black berries in its natural habitat at Ganga Lake.

Perennial herbs with creeping rhizome. Leaves radical, variable, large 30-75 x 12-30 cm, entire, petioles 20-45 cm. long. Flowers regular, bisexual, umbellate at the apex of a long leafless scape; involucre of 2 pairs of sessile bracts, bluish white showy; perianth lobes 6, in two trimerous whorls; stamens 5, white carpels 6, syncarpous, ovary inferior, unilocular, with 3 parietal placentae. Fruits berries, dark when ripe.

Fls. & Frt.: Jul. - Nov.

Specimen examined: Ganga lake side, 13-9-92, 259.

Usage in Ethno-medicine:

Parts used - Rhizome, berries.

NISHI: (i) Rhizome pounded and paste is applied in wounds and also applied in cracks of heels, for healing.

(ii) Berries pounded and mixed with water and taken 2 to 3 tea spoonful twice daily in dysentery. It is also said to be effective in stomach disorder and stomach pain.

Established reports of Utilisation in Medicine

The decoction of leaves along with common salt are prescribed orally to patient suffering from blood dysentery and acute diarrhoea against the local name "Tagon" (Adi) as reported by pal (1984).

* Note. This is the additional report of application of plant in herbal medi-
The leaf juice of *Tacca leavis* is given twice daily for treatment of diarrhoea but local name is not mentioned. (Singh & Krishna 1983).


Large deciduous tree up to 40 m high; crown lax, spreading, ovoid; bark dark ashy grey or brown, warty and fluted at base, scaly, young parts rusty tomentose. Leaves 8-16 x 6-12 cm, obovate, obovate-orbicular, abruptly acute, sometimes rounded or truncate, base cuneate, glabrous, glaucous beneath, lateral nerves 5-8, sometimes up to 10 on either half, alternate, clustered at the ends of branches; petioles 2.5 cm -7 cm long, glands, absent. Spikes 6-16 cm long, spreading. Flowers 0.8-2.2 cm across, greenish yellow, foetid smelling; calyx hairy outside, woolly within, limb cup-shaped, teeth- 5; petals 0. stamens 10, in two series, inserted on the calyx, tube, epigynous; ovules 2-3, pendulous. Drupes globose, 2-2.5 cm in diameter, grey velvety, obscurely ribbed when dry.

**Fls. & Frts:** Mar. - Dec.

**Specimen examinad:** Itanagar, 27-11-94, 280

Commonly found in tropical forests and under plantation in social Forstry.
43. *Terminalia chebula* Retz. - A deciduous tree - the fruits are used in Ethno-medicine.
Usage in Ethno-Medicine:

Part used: Fruit

Fruits are eaten raw in constipation and also act as an appetiser.

Established reports of Utilisation in Medicine:

The fruits are bitter, astrigent, tonic, laxative, antipyretic. It is given in piles, dropsy, diarrhoea, leprosy, biliousness, dyspepsia and headache. Half ripe fruit is given as purgative and fully ripe as an astringent. Kernel is narcotic. The fruits are also used as a lotion for sore eyes. It is also used as brain tonic.

Fruits contain about 17% tannin substances.

Note: The trade name Bahera is based on the Indian name of the tree. The dried fruits of the tree constitute the drug "Bahera". The Bahera fruit is one of the three constituents of the famous Indian preparation 'Triphala' and also others viz. Triphala Churna, Triphala Kwath, Sanjivani Vati, Kutajaveleh, Lohasava and Herbetone etc.


Trees deciduous, bark grey or ash coloured, rough and furrowed outside; young parts rusty pubescent. Leaves 8-16x5-8 cm, alternate or subopposite, glabrous, elliptic or ovate-oblong, shortly acuminate at the apex, coriaceous, rounded or cordate at the base, lateral nerves 6-12 on
each side, arcuate, prominent; areoles between nervules of leaves white with minute felt; petioles 3-8 cm long with two or more glands at the top. Spikes terminal or from upper axils on new shoots, often panicled or fascicled. Flowers, minute, rusty pubescent when young, with obnoxious smell, all bisexual; calyx limbs expanding and cup shaped, glabrescent outside, villous with in. Drupes 2.5-5 cm long, ellipsoid or obvoid, yellowsish green when ripe, 5 angled, bitter.

Fls. & Frt.: Apr. - Dec.

Specimen examined: A sect., Itanagar, 12-11-1989., 54.

Cultivated in homestead compound, under plantation and also wild in forests.

Usage in Ethno-medicine:

Part used: Fruits.

1-2 fruits chewed 2-3 times daily for the treatment of cough. Fruits are considered stomachic.

Established reports of Utilisation in Medicine:

The dried fruits of the tree constitute the drug commonly known as chebulic myrobalan. Fruits are astringent, laxative and alterative. Bark is diuretic and cardio tonic.

Fruits contain about 30% of an astringents substance, astringency is due to the characteristic principle chebulinic acid. It also contain tannic acid (20-40%), gallic acid, resin, etc. and some purgative principle of the nature of anthraquinone.

Note:- The fruits are ingredient of the several well known Ayurvedic
formulations viz. Triphala, Triphala Ghrit, Haritaki Churna, Abhayarista, Lohasava, Chitrak Haritaki.


Large tree up to 35 m high, deciduous. Stem buttressed at base; crown ovoid, spreading; bark grey or greyish brown, vertically fissured outside, light yellow, turning brown and fibrous inside branchlet green with white, elongated specks. Leaves 10-20 x 4-8 cm, broadly ovate; lanceolate or oblong elliptic, often orbicular, acuminate to subcordate, lateral nerves many, 25-36 on either side, subparallel, few hairs along the nerves; petioles thick, glands on petiole prominent. Racemes panicked, pubescent, 7-15 cm long. Flowers yellow, 0.3-0.6 cm across; sessile, hermaphrodite; calyx glabrous outside, rusty villous within; limb broad, cupular, teeth 5, erect; stamens erect. Drupes 3-5 x 2-2.5 cm oblong, lanceolate, obtusely 5-angled.

*Fls & Frt.* : May - Jan.

*Specimen examined* Kimin forest area, 25-6-1994, 269.

Found in deciduous and tropical evergreen forests at lower elevation, also under plantation by Forests department in different localities.

*Usage in Ethno-medicine:*

*Parts used* : Fruits and barks.

(1) 1-2 fruits chewed twice daily as a remedy for cough.
(2) The bark is taken orally against colic.

**Established reports of Utilisation in Medicine:**

Fruits and bark having properties similar to *T. chebula.*


A large deciduous, woody climber with succulent stem, pecked with lenticels, bark corky; young shoots glabrous. Leaves 5-10 x 3-8cm, ovate or roundish, 7-9 nerved; petioles slightly shorter than leaves. Flowers minutes, greenish-yellow, glabrous, axillary and terminal raceme or racemose panicles. Male flowers clustered and Female flowers solitary. Drupes ovoid, glossy, succulent, red; seeds curved.

**Fls & Frts:** Feb.-Jun.

**Specimen examined:** Kimin Basti, 25-6-1994, 267.

Commonly found in lower elevation upto 1000 m Medicinemen also cultivated the plant in their domestic gardens for immediate use.

**Usage in Ethno-medicine:**

**Part used:** Stem

Nishi:(i) About 1 cm long stem is pounded and given with water twice daily in empty stomach to get relief from gastric, dysentery and fevers. (ii) Stem juice is applied against swollen muscles. Stem juice is considered
as aphrodisiac.

**Established reports of Utilization in Medicine:**

Stem is considered alterative, antipyretic, aphrodisiac, bitter, diuretic, febrifuge stomachic and tonic. It is also useful in diabetes, enteric fever, gonorrhoea, jaundice, leprosy, piles. It is good blood purifier. Stem contains Berberin and natural substances. Fresh stem contains Giloin and Gilonin.

Guduchi satwa the glucoside extract prepared from Guduchi is a favourite tonic of the Ayurvedic Pharmacopoea is much used as an aphrodisiac and tonic. The stem is a ingredient of several other formulations Viz. Amritasava, Amritarista, Aswagandha Churna, Chandra Prabha Vati, Guduchi Tail, Chandra Kala Ras. etc.

**Note:** The bitter root stock of *Gentiana* sp known as”Rankay” (N.) collected from higher elevations are used as substitute and also used orally in any kind of fever.


Branched herb, nearly glabrous or pubescent, diffuse, creeping below; branches 14-25 cm long, slender. Leaves 3.5 -5 cm, acuminate, ovate- cordate or lanceolate, serrate; pedicels axillary and subumbellate. Fruiting stock thickened, fruiting calyx 2.5 cm long, narrowly oblong, keeled hardly winged, base decurrent; corolla 3-3.5 cm, blue with very dark violet, lateral lobes, bitter; stamens with longer filament, appended; fruiting calyx narrowly winged or keeled.
Fls. & Frts: Jul.-Aug

Specimen examined: Dariya pahar (Jhum areas), 5-8-1990, 201.
Occasionally found, often cultivated in Jhum area.

Usage in Ethno-medicine:

Part used: Leaves.

Fresh leaves about 5-10 or its powder eaten with meal as a remedy for stomach troubles, gastric and enhance clear motion and appetite by Nishi tribe.

Established reports of Utilisation in Medicine:

No established reports was found.

Note: This is a new report of Ethno-medicinal use of the plant.


Erect or decumbent herbs, diffusely branched, rooting at nodes. Leaves petioled, ovate or oblong-ovate, sub-obtuse, serrate 2-4 x 1-2 cm. Flowers solitary, blue or violet; calyx _c 1 cm at anthesis, _c 2 cm at fruiting, lobes narrowly oblong, winged, acute; corolla 2-3 cm. Capsules linear _c 1 cm long.

Fls. & Frts: May-Oct.

Specimen examined: Sankie view forest area, 10-5-1992, 234.

Commonly growing along streams, moist grassy and open places along with weeds.
45. *Trichosanthes tricuspidata* Lour.- the stem and root of which used in Ethno-medicine by Nishi Tribe.
**Usage in Ethno-medicine**

**Part used**: Whole plant.

The whole plant is mixed with *Impatiens latiflora* "Riong"(N.) about equal proportion and pounded and is used as condiment in curry. But it is very effective if it is taken orally thrice daily as a remedy for fever, intermittent fever and headache. Plant juice is also applied over forehead to get relief from headache.

**Established reports of Utilisation in Medicine.**

So far not known.

**Note**: A new report of the plant used in Ethnomedicine has been recorded here for the first time.


An extensive climber; stem robust, woody below, branched. Older light grey with scabrous spot, younger smooth green. Tendrils 2, commonly 3-cleft. Leaves c. 6.3 x 12.5 cm palmately 3 or more lobed, cordate, scabrous, lobes caudate at tips, margins distantly cuspidately toothed; petioles 2.5-7.5 cm long striate, puberulous. Male flowers on elongate simple racemes 15-20 cm long, 5-10 flowered; pedicels thick, erect, very short; bracts c. 2.5 cm long, broadly ovate, pale green, dotted with dark green glandular spots;
calyx tube 3.8 cm long, pubescent, teeth lanceolate, erect or spreading; petals c. 2.6 cm long, wedge shaped; filaments slightly villous. Female flowers axillary, solitary on short peduncle. Fruits 3-5 cm in diameter, globose, red when ripe; seeds numerous, 1-1.3 cm long ellipsoidal smooth, slightly attenuated at the base.


It is found sporadically in surveyed areas as a climber on trees and shrubs. It looks beautiful during fruiting.

Usage in Ethno-medicine:

Parts Used: Root and stem.

(i) Root and Stem pounded, and is taken 1-2 tea spoonful with hot water twice daily for the treatment of dysentery by Nishi tribe.

(ii) Stem is kept in home for a long period after drying. The small pieces mixed with other vegetables and eaten as a remedy of stomach trouble. It is also used as appetiser if 10-15gms. of almost dried stem is taken with hot water at bed time.

The root of Thunbergia coccinea Wall. may also are in use as substitute.

Established reports of Utilisation in Medicine:

Fruits smoked as a cure for asthma, hydrogogue, cathartic. The oil obtained by boiling it in coconut, gingelly oil when applied to the scalp said to cure hemicrania and ozoena. Roots used in lung diseases of cattle. The
mature seeds are claimed to be useful in birth control. It contains bitter substances.

*Note:* It is found to be quite different way of application of plant in Ethnomedicine.


"Boriyal"; "Sitoyorik" (N.).

Erect undershrubs, up to 2 m. Leaves orbicular, incised, middle ones palmatifid, upper ones ovate to oblong lanceolate, occasionally rhomboid, rounded to acute at base, acute at apex, serrate to crenate, 2-10 x 1-12 cm, 3-9 nerved at base; petioles 0.5 to 10 cm, stipules lanceolate, .2-.4 cm

Flowers pink, with a purple centre, 2-3 cm across, solitary or in clusters of 2-3; pedicels short, clustered; bracteoles 5, connate below; lobes equalling the calyx; calyx deciduous, tube short lobes < 2 cm long, ovate to oblong lanceolate; petals 5, tomentose outside, connate below and adnate to the staminal tube, ovary 5- celled, each with one ovule;style with 10 capitate stigmatic branches. Fruits .4-.5 x .3-.4 cm subglobe covered with glochidia, breaking off from the axis into usually 5 - mericarps.

**Fls. & Frts.** : Jul. - Feb.

**Specimen examined** : Jully Village, 20-8-1989, 36.

Commonly found among weeds, along road sides and closed canopy in the forest areas.
Usage in Ethno medicine:

Parts used: Roots and stems.

2-3 gms of roots are powdered and is taken with rice water or plain water thrice daily for the treatment of hyperacidity and dysentery. The stem is also used as tooth brush by Nishi tribe.

Established reports of Utilisation in Medicine

Root is diuretic and also used as an external remedy for rheumatism. Seed contain urease.

*Note: Additional information for the utilisation of plant in Ethnomedicine has been recorded here.


Erect perennial herbs, 10-110 cm high; stemsstiff, striate, pubescent. Leaves 2-8 x 1.5-3cm, subsessile or petiolate, elliptic,subspathulate to lanceolate, obtuse or actue, entire or repand. Heads homogamous .6-.7 x .4-.5 cm, 18-20 flowered, purplish white, corymbosely paniculate; peduncles filiform .2 - 1.2 cm long, pubescent; involucral bracts 4-seriate, .4-.5 x.06-.02 cm. Florets pink purple; pappus of hairs .4-.6cm long, white.

Fls. & Frts. : May - Dec.

Specimen examined - Itanagar- Naharlagun, 14-1-1989, 6.

Almost common through out the area in waste land among weeds.
Usage in Ethno-medicine:

It is used in preparation of "Tapyo" which is known as Apatani black salt.

Established reports of Utilisation in Medicine

Plants considered diaphoretic, decoction used to promote perspiration in febrile conditions. It is also used as a remedy for spasm of the bladder and strangury in piles and intermittent fever.

Note: The whole plant is an ingredient in preparation of some Ayurvedic formulations Viz. Bala Tail, Ceandrakala Ras, Cystone Tablet.

Vitis quadrangularis Wall: (VITACEAE) “Saru” (Dafla):

Leaves and young shoots dried and powdered, then mixed with water and is taken in menstrual disorders. Stem juice is dropped in earache. (Hynniewta 1987).


A small strongly aromatic tree up to 9 m high. Stem thorny; bark greyish brown, blaze yellowish, turning blackish brown. Leaves imparipinnate, rachis winged. Leaflets 5-11, 3-9 x 1-2 cm oblong-lanceolate, ovate to elliptic lanceolate, acuminate, base cuneate, obscurely serrulate, glabrous, nerves prominent beneath; spines straight or upcurved. Panicles pyramidal, pubescent, axillary. Flowers small 3 mm across, greenish yellow;
calyx 6-8, linear; petals 0; stamens 6-8; Carpels 1-2, rarely 3, reddish, compressed; seeds black shining, globose, rugose.

**Fls. & Frts.:** Mar. - Nov.

**Specimen examined:** Deed zoram, 21-3-1993. **Rama Shankar, & Mohan Singh, 1846.**

Frequently in higher elevations in the surveyed area and also some time planted in hedges in the vicinity of villages. Introduced in the garden of R.R.C (Ayu.) Itanagar for its conservation.

**Usage in Ethno-medicine.**

**Parts used:** Stem, leaves, fruit, and seeds.

(A) Apatani (1) The fruits and seeds are used directly or in the form of powder with equal quantity of salt against cold, cough, and fever. Also taken to promote appetite. The dried fruits and its powder are stored in houses of most of the Apatani families for day to day use. It is said to be very effective in herbal medicine for the treatment of above mentioned diseases.

(ii) Seeds are also used as a spice in small quantity. Fruits chewed and twigs are used as tooth brush in toothache.

(B) Nishi: The decoction obtained from boiled dried fruits when taken 1-2 tea spoonful twice daily for a period of 5-7 days completely cures stomach disorders.

**Established report of Utilisation in Medicine:**

Seeds and bark are aromatic, tonic, stomachic, carminative. It is useful in gastro-intestinal diseases. Its dried fruits (Seeds) on steam distillation yield
and essential oil and on prolonged distillation yields 0.9 percent of a crystalline substance.

Hynniewta (1984) reported the fruit of this plant (Z. alatum) have been utilised against stomach pain. Pal (1984) reported that fruits are prescribed for dysentry and stomach. Where as Kohli (1992) reported that the Apatani takes dried fruits used in preparation of 'Tapyo' (Apatani black salt) which cures stomach disorders. While Nishi used decoction obtained from dried fruits in water to get rid of stomach pain.

**Note:** This plant is considered as most useful by both Apatani and Nishi tribes. Over exploitation of fruits and seeds of the plant has come on the way of natural regeneration and threatened in its natural habitat. Immediate conservation measures must be taken to save the plant from the verge of extinction.


Large scandent shrub; branches stout woody, prickles crooked; petioles glabrous or more less pubescent or velvety. Leaves aromatic, 15-22 cm long, ovate; leaflets 2-4 pairs, subsessile, suddenly narrowed in to a broad notched apex, base rounded, glossy on both surfaces, glabrous or pubescent, subparallel nerves. Cymes 8-11 cm panicled, very slender. Flowers, shortly pedicelled, petals 4-5. Fruiting carpels 2-4, globose. Seeds brownish black, aromatic.

**Fls. & Frts.** : Mar. - Jul.
Specimen examined: Chempu Forest area, 5-7-1992, 249.

Usage in Ethno-medicine:

Part used: Tender leaves.

Tender leaves are used as condiment and considered as a remedy of constipation and cold. by Nishi tribe. The leaves also sold in vegetable market @ Rs. 2 per 5-8 tender leaves.

Established Reports of Utilisation in Medicine:

Fruits are aromatic and stimulant. Kohli (1992) reported that the roots and barks are used to cure Malaria. The tender sticks are used as tooth brush by Adi tribe locally known as “Omabe” or “Ombeng”.

The dried fruits and seeds contain essential oil with pleasant odour. The leaves are aromatic and contain essential oil.

*Note: A new application of plant in Ethnomedicine is recorded here.

Zingiber officinale Rosce (ZINGIBERACEAE), "Sing" (Ap.)

Stem dried mix with indigenous salt and is rubbed in hysteria. (Hynniewta, 1984). While Investigator found that Rhizome is eaten fresh or pounded, 1-2 tea spoonful juice taken as a remedy of cough by Apatani tribe against the local name “Taki”.

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