

OBSERVATIONS ON ETHNOBOTANY OF TRIBALS OF SUBANSIRI, ARUNACHAL PRADESH

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ABSTRACT

The present paper deals with the plants used by the tribes of various ethnic groups like Nishi, Apatani, Hill-Miri, Adi etc. dominate the hilly region of Subansiri district in Arunachal Pradesh.

The paper gives an account of 129 plants of ethnobotanical importance, of which 112 are not known outside their tribal community. These are used by the tribals, for varied purposes such as food, medicine, fish-poison, fibre, local drinks, religious ceremonies, superstition, etc.

Some ethnobotanical studies conducted in other parts of the country are discussed in the paper.

The information obtained while studying the flora of the area is presented here. For each species, the botanical name with family, local name, uses, the way the plant or plant parts used, flowering and fruiting time, locality and the field number are given.

INTRODUCTION

Subansiri district is a mountainous tract in Arunachal Pradesh which covers approximately 14,797 kilometre squares of area. This district lies approximately between latitudes $26^{\circ}53'N$ and $28^{\circ}23.5'N$ and longitudes $92^{\circ}41'E$ and $24^{\circ}22'E$. It is bounded by Tibet to the north, Siang district to the east, Assam State to the south and Kameng district in the west. The main tribes of this district are Nishangs or Nishis or Daflas, Apatani, Hill-Miris, Adi and Tagins. The Nishis occupy a vast stretch of hills and forests which roughly cover the Western and the Central portion of the district, excluding a Central Apatani Plateau where the Apatani tribemen live and occupy about 50 sq. km valley. The Hill-Miris occupy the area on both the sides of the lower ridges of the Kamla river. The Adi occupy the area of Daporijo and along the boarder of Siang district. Other tribes of the district are the Bangros, Salungs. The total tribal popula-

tion of the district is 90,242 persons representing about 91 per cent of the total population (District Census Hand Book, Subansiri district 1972). Nishi economy is based on agriculture and animal husbandry. They are shifting cultivators. Paddy, millets and maize are the main crops. The flat land of Apatanang plateau has enabled the Apatanis to develop their irrigated agricultural fields. The vegetable and bamboo gardens and the pine plantations present ample evidence of the skill, hard work and attachment of the Apatani's to their land. The economic and social life of rest of the tribes are similar to that of the Nishis. The prevailing language of the district is broken Assamese. The lack of communication with civilisation have kept them closer to nature where they derive many of their day-to-day needs.

Intensive ethnobotanical work has been done among the tribal population in the several parts of India, mention can be made of the works of Bodding (1925, 1927) in Central India, Gupta (1963) in Bihar, Jain

(1962, 1963, 1963a-b and 1965) in Madhya Pradesh, Bal (1942) and Jain (1970-71) in Orissa, Jain *et al.* (1966) in West Bengal, Pal *et al.* (1971) in Andhra Pradesh, Shah *et al.* (1971) in Kumaon Himalayas, Borthakur (1976) in Mikir hills, Assam, etc. No ethnobotanical work has been done in Arunachal Pradesh but very few references of ethnobotanical interest exist for Kameng district (D. P. Dam *et al.* 1980) and Medico-botanical survey reports of Arunachal Pradesh (1976). The rich flora, the vast forest and large number of tribal population offers an immense scope for such ethnobotanical studies.

The botany of the State of Arunachal Pradesh is still imperfectly known. The author while studying the district flora, came across tribes known as Nishi, Apatani, Hill-Miri, Adi and gathered informations of those plants which are used by them for food, medicine, fish-poison, dye, local drinks, superstition, religious ceremonies and miscellaneous purposes. Many of these uses are not known outside their tribal community.

The present paper gives an account of ethnobotanical observations of 129 species. Information on uses of medicinal herbs and other uses of the plant of these 129, of which 112 plants (without asterisks) are not available in the works like Agarwal *et al.* (1968), Arora (1980), Biswas (1956), Bressers (1951), Chopra *et al.* (1956, 1969), Dastur (1957), Jain *et al.* (1964), Kanjilal *et al.* (1934-1940), Kirtikar and Basu (1933), Maheshwari *et al.* (1964), Pal (1973), Rao (1980), Watt (1889-1899) and Anonymous (1948-1976).

The purpose of the present paper is to record this information for wider circulation. The information will give significant contribution towards the understanding for our plant wealth of the country. The information is based on notes gathered from village headman (Gaoboora) of various ethnic groups. To eliminate any chance of error in identification, the specimens are collected in flowering and fruiting condition. All

collections are by author and the specimens are deposited in the herbarium of Arunachal Field Station, Botanical Survey of India, Itanagar, for further reference.

The species are arranged alphabetically by their botanical name, which follows the family, name of the tribes which follows the local name, use, the way the plant or plant parts are used as reported by the tribes, flowering and fruiting time, locality where the information was recorded and field number.

The following abbreviations have been used in the paper : Ad. : Adivasi ; Apa : Apatani ; HM. : Hill-Miri ; Ni. : Nishi ; Fl. : Flowering ; Fr. : Fruiting ; Loc. : Locality.

ENUMERATION

Abacopteris lakhimpurensis var. *hirta* Ching
(Thelypteridaceae)

Ad. : *Ruhra*.

The whole plant is used in worship of God at the time of illness.

Loc. : Itanagar ; 76008.

Acacia concinna DC. (Mimosaceae)

Ad. : *Riji*.

The paste of pounded stem is thrown into stream. This stupefies the fish and makes them float up, facilitating an easy catch.

Fl. : November.

Loc. : Tamen ; 65918.

Ajuga macrosperma Benth. (Lamiaceae)

HM. : *Namdunghor*.

The whole plant is taken as vegetable.

Fl. : April.

Loc. : Tamen ; 77500.

Alpinia malaccensis (N. Bur.) Rosc. (Zingiberaceae)

Ad. : *Puprere* ; Apa. : *Tili*.

Fruits are edible, aromatic.

Fl. & Fr. : April-May.

Loc. : Itanagar ; 75921.

Anisomeles ovata R. Br. (Lamiaceae)

Apa. : *Narutami*.

The whole plant is crushed and made into

paste which is applied to relieve muscular pain.

Fl. : November.

Loc. : Doimukh ; 70242.

Arundinaria callosa Nakai (Poaceae)

Apa. : *Tabyo* ; *Ad.* : *Bud-Buji*.

Bark is used as rope which is very hard and durable.

Loc. : Pangi ; 77743.

Balanophora dioica Wall. (Balanophoraceae)

Ni. : *Poyou*.

The juice from fleshy rootstock is considered as gum. Gum locally called *potacapting-nene* is used for catching birds.

Fl. : April.

Loc. : Begi ; 78202.

Baliospermum calycinum Muell.-Arg. (Euphorbiaceae)

Ad. : *Gilgal*.

Leaves are cooked and taken as vegetable.

Fl. : April.

Loc. : Lichi ; 78313.

Bambusa tulda Roxb. (Poaceae)

Apa. : *Bije* ; *Ad.* : *Tabbe*.

Stem is used for making flute locally called *eloo*. It is used by priest during Dree festival. The sound is believed to keep evil spirits away.

Loc. : Ziro ; 77778.

Bauhinia variegata L. (Caesalpiniaceae)

HM. : *Pacham*.

The tender leaves and flowers are cooked and taken as vegetable.

Fl. : March.

Loc. : Tamen ; 77605.

Begonia episcopalis C. B. Cl. (Begoniaceae)

Ad. : *Sudum Meku*.

Leaves are cooked and taken as vegetable, sour tasted.

Fl. : November.

Loc. : Tamen ; 78498.

B. roxburghii (Miq.) DC. (Begoniaceae)

Apa. : *Bekhoo*.

The whole plant is eaten fresh.

Fl. : November.

Loc. : Itanagar ; 75740.

Berberis wallichiana DC. (Berberidaceae)

Apa. : *Tipetire*.

A bunch of spines is used for tattooing on chin and forehead. Skin is pricked with spines. A mixture of rice-starch and soot is applied on the wound. The rice-starch pierces the skin and soot gives the colour. The tattoo locally called *te* is significant and traditional custom.

Fl. & Fr. : March-December.

Loc. : Hapoli ; 77419.

Bidens tripartita L. (Asteraceae)

Ni. : *Nikampusi*.

Leaves are eaten either raw or after boil.

Fl. : April.

Loc. : Tamen ; 77623.

Blumea fistulosa (Roxb.) Kurz (Asteraceae)

Ad. : *Rumdum*.

Leaves are cooked as vegetable.

The boiled leaf is given in diarrhoea.

Fl. : January.

Loc. : Itanagar ; 75807.

Calamus floribunda Griff. (Arecaceae)

Apa. : *Easoo* ; *Ni.* : *Taneso*.

Fruits are eaten.

Stem is used for making basket locally called *nara* and hat called *beopa*.

Leaves are used for thatching the roof.

Fr. : November.

Loc. : Itanagar ; 75734.

Callicarpa arborea Roxb. var. *ovalifolia* (Verbenaceae)

Ad. : *Yalu*.

Dried stem is used as substitute for tobacco. This is taken orally by old men.

Fl. : June.

Loc. : Itanagar ; 75983.

C. vestita Roxb. (Verbenaceae)

Apa. : *Lamu*.

The leaves are used in preparing country liquor, *Apong*. For extraction of apong one cane basket is wrapped with the leaves and boiled rice is kept within the pot for few days. Leaves cause enhancing the fermentation.

Fl. : May.

Loc. : Itanagar ; 75918.

***Cardamine hirsuta* L. (Brassicaceae)**

Apa. : *Padhii-hamang*.

The whole plant is taken as vegetable either raw or after boil.

Fl. : November.

Loc. : Pangi ; 72573.

***Chenopodium album* L. (Chenopodiaceae)**

Ad. : *Taye*.

Seeds are eaten.

Seeds are used in preparing local drinks, *Apong*. A paste of pounded seeds is added to boiled rice and water. The mixture is kept for two days to increase the rate of fermentation.

Fl. & Fr. : May-June.

Loc. : Kimin ; 78346.

***Chlorophytum arundinaceum* Baker (Liliaceae)**

Apa. : *Tale*.

The entire plant is taken as vegetable either raw or after boil. It is used as a substitute for onion.

Loc. : Talevalley ; 77670.

****Citrus medica* L. (Rutaceae)**

Ad. : *Jipin*.

Ripe fruits are eaten, sweet-tasted.

Fr. : November.

Loc. : Tamen ; 66000.

****Clerodendrum colebrookianum* Walp. (Verbenaceae)**

Ad. : *Tapen*.

The tender leaves are taken as vegetables.

Fl. : November.

Loc. : Tamen ; 65918.

***C. squatum* Vahl (Verbenaceae)**

Ad. : *Tapein*.

Tender leaves are taken as vegetables.

Fl. : May.

Loc. : Itanagar ; 75989.

***Coelogyne pectata* Lindl. (Orchidaceae)**

Ni. : *Tikhiti*.

The dried pseudobulb 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.

Fl. : April.

Loc. : Ziro ; 77435.

***Crassocephalum crepidioides* (Benth.) S. Moore (Asteraceae)**

Ad. : *Jogen* ; Apa. : *Gendahamang* ; HM. : *Hogegain*.

The whole plant is eaten either fresh or after boil.

The leaf-juice is applied on cuts to prevent bleeding. The pain is relieved and the wound is healed up quickly.

Fl. : May.

Loc. : Itanagar ; 75909.

***Crepis japonica* Benth. (Asteraceae)**

HM. : *Rupjup Rubjup* ; Ad. : *Rum Dum*.

The entire plant is cooked as vegetable.

Leaves are eaten fresh.

Fl. : April.

Loc. : Raga ; 77493.

***Cyclosorus glandulosus* (Bl.) Ching (Thelypteridaceae)**

Apa. : *Riji*.

The whole plant is used in festivals.

Loc. : Itanagar ; 75759.

***C. parasiticus* (L.) Farwell. (Thelypteridaceae)**

Ad. : *Rukdik*.

The tender shoots (frond) are used for giving fomentation to the gout and rheumatism.

Loc. : Itanagar ; 70235.

***Dendrobium hookerianum* Lindl. (Orchidaceae)**

HM. : *Tachee*.

Yellow dye is obtained from flowers. The flowers are made into paste and mixed with sufficient water. The yarn or cloth is dipped in this mixture and kept for sometimes. It imparts yellow colour to the yarn and cloth.

Fl. : April.

Loc. : Tamen ; 77466.

***Dendrocalamus hamiltonii* Munro (Poaceae)**

Ad. : *Ea*.

The tender shoot is used to prepare *hiyup*, a sour-tasted pickle.

Stem is used in all religious and marriage ceremony.

The scape is locally called *hipuk* particularly used in marriage ceremony. *Beotop*,

a kind of umbrella is made up of scape by Nishis.

Loc. : Tamen ; 77480.

Dendrocalamus strictus (Roxb.) Nees (Poaceae)

Ad. : *Taoek* ; *Apa.* : *Eabing*.

This is planted in house and in places of worship. It is believed to keep devil spirits away. The plant is used in Meoko festival for decoration.

Stem is used for making arrow.

Bark is used as rope which is very hard.

Loc. : Begi ; 78250.

Dichrocephala bicolor (Roth) Schltl (Asteraeae)

Apa. : *Pechikai*.

The tender plants are edible.

Fl. : April-May.

Loc. : Raga ; 77602.

***Dioscorea hamiltonii** Hook. f. (Dioscoreaceae)

Apa. : *Engi*.

Bulbils and tubers are cooked and taken as food.

Fl. : August.

Loc. : Itanagar ; 76044.

Drymaria cordata (L.) Roem. & Schult. (Caryophyllaceae)

HM. : *Kaja Habo*.

The leaf-juice is applied to skin diseases.

Fl. : April.

Loc. : Tamen ; 77609.

Dryopteris elongata O. Kze. (Aspidiaceae)

HM. : *Turku*.

The tender shoots are edible.

The entire plants are used in religious ceremony.

Loc. : Raga ; 77495.

***Elaeagnus latifolia** L. (Elaeagnaceae)

Ad. : *Hari*.

The fruits are edible, sour-tasted.

Fr. : April.

Loc. : Tamen ; 77454.

Elatostema sessile Forst. (Urticaceae)

Ni. : *Tatomung*.

The whole plant is considered as frog poison.

Fl. : June.

Loc. : Itanagar ; 75961.

***Eleusine coracana** (L.) Gaertn. (Poaceae)

Ad. : *Tami* ; *Apa.* : *Sase*.

The country liquor *Apóng* is made up of this grains.

Fl. : November.

Loc. : Hapoli ; 75725.

Elsholtzia blanda (Benth.) Benth. (Lamiaceae)

Ad. : *Bok Pomro*.

The tender leaves are crushed and made into paste with common salt and is applied to old wounds of cattle to clear of pus and maggot.

Fl. : November.

Loc. : Ziro ; 78434.

Engelhardtia spicata Bl. (Juglandaceae)

HM. : *Ripekam*.

The paste of pounded roots is used as fish-poison.

Fr. : April.

Loc. : Tamen ; 77481.

***Eupatorium odoratum** L. (Asteraceae)

Ad. : *Telimbabo*.

The leaf-juice is applied in fresh cuts to stop bleeding and to relieve pain.

Fl. : November.

Loc. : Tamen ; 65935.

Fagopyrum esculentum Moench (Polygonaceae)

Ad. : *Amintatek*.

The leaves are cooked and serve as vegetable. Ripe fruits are eaten.

Fl. : November.

Loc. : Itanagar ; 75718.

***Ficus auriculata** Lour. (Moraceae)

Ad. : *Hote*.

Ripe fruits are edible, sweet-tasted.

Fl. : November.

Loc. : Yazali ; 65963.

F. elastica Roxb. (Moraceae)

HM. : *Sangri*.

Fruits are eaten by birds.

The crushed fruit is thrown into brooks or streamlets. This stupefies the fish and makes them float up, helping an easy catch.

- Fr.* : April.
Loc. : Tamen ; 77614.
- Ficus fistulosa** Reinw. (Moraceae)
Apa. : *Mobopu* ; Ni. : *Longee*.
The plants are used as firewood.
- Fr.* : July.
Loc. : Tamen ; 77628.
- F. hirta** Vahl var. *roxburghii* (Miq.) King (Moraceae)
Ad. : *Takchi*.
The fruits are given to pigs as food.
- Fr.* : July.
Loc. : Itanagar ; 75993.
- F. sp.** (Moraceae)
Ad. : *Hote* ; Apa. : *Tarro*.
Fruits are eaten when ripe.
- Fr.* : November.
Loc. : Itanagar ; 75719.
- Forrestia mollissima** (Bl.) Koorders (Commelinaceae)
Ad. : *Tachar Parin*.
The entire plant is crushed and the juice is applied to the arrowhead to make the arrow poisonous.
- Fl.* : June.
Loc. : Itanagar ; 75963.
- Gerbera piloselloides** (L.) Cass. (Asteraceae)
Ad. : *Pangnesir*.
The leaves are used for giving hot fomentation to relieve rheumatic pain.
- Fl.* : April.
Loc. : Raga ; 77487.
- Gnaphalium affine** D. Don (Asteraceae)
Apa. : *Miang* ; Ad. : *Buli*.
Dried plants are used as fuel.
- Fl.* : April.
Loc. : Yazali ; 77402.
- Grewia multiflora** Juss. (Tiliaceae)
Ad. : *Hakobangi*.
The stem bark is used as rope.
- Fl.* : July.
Loc. : Itanagar ; 75991.
- Gynura cusimbu** (D. Don) S. Moore (Asteraceae)
Apa. : *Kochibamang*.
The leaf-juice is taken orally as a preventive measure against worms, bitter.
- Fl.* : March.
Loc. : Itanagar ; 72517.
- Hydrangia robusta** Hook. f. (Hydrangiaceae)
Ad. : *Takmi*.
The leaves are cooked and served as vegetable.
- Fr.* : November.
Loc. : Ziro ; 78417.
- Impatiens racemosa** DC. (Balsaminaceae)
Ni. : *Yemchee*.
The cooked leaves are served as vegetable.
- Fr.* : May.
Loc. : Tamen ; 77608.
- I. scabrida** DC. (Balsaminaceae)
HM. : *Namcho*.
The entire plants are boiled and taken as vegetable. The tender leaves are most preferable.
- Fl.* : April.
Loc. : Raga ; 77496.
- Lasianthus longicauda** Hook. f. (Rubiaceae)
Apa. : *Santupaya*.
The fruit-extract is used as gum for praying birds.
- Fr.* : August.
Loc. : Itanagar ; 76015.
- Limacia oblonga** Miers. (Menispermaceae)
Ad. : *Titmilie*.
The ripe fruits are edible, sweet.
- Fl.* : November.
Loc. : Itanagar ; 70123.
- Litsea citrata** Bl. (Lauraceae)
Ad. : *Taier* ; Apa. : *Santetero*.
Both ripe and unripe fruits are edible. It is used as substitute of spices during preparation of vegetables, curry and meat. Pickle is prepared from the fruit, fragrant.
- Fl. & Fr.* : January-February.
Loc. : Itanagar ; 71653.
- Lobelia affinis** Wall. (Campanulaceae)
HM. : *Nimante*.
The leaves are cooked and taken as vegetable.
- Fl.* : April-May.
Loc. : Tamen ; 77611.
- Loropetalum chinense** (R. Br.) Oliver (Hamamelidaceae)

Apa. : *Marri.*

The plants are used in religious ceremony.

Fl. : April.

Loc. : Ziro ; 77764.

Lycopodium clavatum L. (Lycopodiaceae)

Ad. : *Dogomiri.*

The entire plant is used in marriage ceremony for decoration.

Loc. : Doimukh ; 75890.

Macaranga denticulata (Bl.) Muell.-Arg.
(Euphorbiaceae)

Ad. : *Yaduk.*

The leaves are used during religious and marriage ceremony.

Fl. : April.

Loc. : Tamen ; 77638.

Mahonia acanthifolia G. Don (Berberidaceae)

Apa. : *Taming.*

The ripe fruits are edible, sweet, tongue becomes black.

Generally they use to select their sacred places near this plant.

Fl. & Fr. : April-May.

Loc. : Talevalley ; 77688.

***Melastoma malabathricum** L. (Melastomataceae)

Apa. : *Akysanyi* ; *Ni.* : *Di-sengne* ; *Ad.* : *Pudiraju.*

Fruits are edible.

Fl. : June.

Loc. : Itanagar ; 75981.

Millettia cinerea Benth. (Papilionaceae)

Apa. : *Rolang.*

The stem is used as rope.

Fl. : June.

Loc. : Itanagar ; 75984.

***M. pachycarpa** Benth. (Papilionaceae)

Ni. : *Hapuling.*

The roots are used as fish-poison.

Fr. : November.

Loc. : Tamen ; 65967.

Mitracarpus verticillatus (Schum. & Thonn.)

Vatke (Rubiaceae)

HM. : *Talu.*

The young shoots and leaves are boiled and taken as vegetable.

Fl. : April.

Loc. : Tamen ; 77465.

Molineria prainiana Deb (Hypoxidaceae)

Apa. : *Loli.*

The fresh leaves are used to tie over the lower abdomen of pregnant lady for relieving of labour pain, easy and quick delivery.

Fl. : February.

Loc. : Itanagar ; 71660.

M. sp. (Hypoxidaceae)

Ad. : *Yekro.*

The ripe fruits are edible, sweet.

Fl. & Fr. : April-June.

Loc. : Pangi ; 77753.

***Morus indica** L. (Moraceae)

HM. : *Latek.*

The fruits are edible.

Fl. & Fr. : April-May.

Loc. : Raga ; 77489.

Mucuna pruriens DC. (Fabaceae)

Ad. : *Dimpa.*

The stem-juice is applied on eyes to relieve pain and to cure diseases.

Fr. : November.

Loc. : Tamen ; 65983.

Murraya paniculata (L.) Jack. (Rutaceae)

Ad. : *Nyibumtarum.*

The ripe fruits are edible.

Fr. : November.

Loc. : Tamen ; 65927.

Musa sapientum L. (Musaceae)

Ad. : *Kulu* ; *Apa.* : *Kol.*

The fruits and stem are taken as food.

Fruits are eaten by pig.

The entire plants are used in all festivals.

Fl. & Fr. : November.

Loc. : Yazali ; 65976.

***Mussaenda roxburghii** Hook. f. (Rubiaceae)

Ad. : *Tangmeng.*

The leaves are cooked and served as vegetable.

Fl. & Fr. : May-June.

Loc. : Itanagar ; 75966.

Mycetia longifolia (Wall.) O. Ktze. (Rubiaceae)

Ad. : *Tangmge.*

- The leaves are cooked and eaten as vegetable.
- Fl. & Fr.* : July-August.
Loc. : Itanagar ; 76020.
- ***Oenanthe javanica** (Bl.) Bl. (Apiaceae)
Apa. : *Aguahama*.
The whole plant is eaten raw.
Fl. : April.
Loc. : Lichi ; 78310.
- Osbeckia nepalensis** Hook. (Melastomataceae)
Ad. : *Pudirasa*.
The ripe fruits are edible.
Fl. & Fr. : November-December.
Loc. : Pangi ; 72560.
- Oxalis corniculata** L. (Oxalidaceae)
Apa. : *Ohokuhii* ; HM. : *Phagiyup*.
Fruits are edible, sour. The entire plant is eaten raw by Hill Miris.
Fr. : April.
Loc. : Begi ; 78278.
- Oxyspora paniculata** DC. (Melastomataceae)
Ad. : *Porkejale*.
The bark is removed from stem and then the stem is eaten raw, sweet.
Fl. : November.
Loc. : Itanagar ; 75717.
- Pericampylus glaucus** (Lamk.) Meir. (Menispermaceae)
Apa. : *Rukitaru*.
The stem is used as rope which is very hard and durable.
Fl. : April.
Loc. : Lichi ; 78316.
- Persicaria barbata** (L.) Hara (Polygonaceae)
Apa. : *Rerupi*.
The entire plant is crushed and made into paste. The paste is mixed with water to catch fish. It acts as fish-poison.
Fl. : November.
Loc. : Ziro ; 78443.
- P. chinensis** (L.) Hara var. **ovalifolia** (Meissn.) Hara (Polygonaceae)
Ad. : *Amintaktabe* ; *Ni.* : *Tuthiku*.
The ripe fruits are eaten, sweet.
Fl. & Fr. : April-May.
Loc. : Tamen ; 77455.
- P. pubescens** (Bl.) Hara var. **acuminata** (French. et Sav.) Hara (Polygonaceae)
Ad. : *Tamu*.
The whole plant is crushed and made into paste. The paste is thrown into stream. This stupefies the fish and makes them float up, helping an easy catch.
Fl. : August.
Loc. : Itanagar ; 76012.
- Pilea bracteosa** Wedd. (Urticaceae)
Ad. : *Guge*.
The leaves are cooked and served as vegetable.
Fl. : November.
Loc. : Itanagar ; 70243.
- Piper attenuatum** Buch.-Ham. ex Miq. (Piperaceae)
Ad. : *Dolopann*.
The fresh leaves are mixed with tobacco leaves and it is prepared for smoking.
Fl. : November.
Loc. : Tamen ; 65997.
- P. pedicellatum** Wall. ex Cas. (Piperaceae)
Ni. : *Radhk*.
The leaves are used for giving hot fomentation for sprains. After application the affected portion is wrapped by the same leaves. Leaves aromatic.
Fl. & Fr. : April-May.
Loc. : Tamen ; 77620.
- P. sylvaticum** Roxb. (Piperaceae)
Ad. : *Rari*.
The leaves are used as vegetable.
Fl. : May.
Loc. : Hawa camp ; 78331.
- Pogonatum** sp. (Polytrichaceae)
Ad. : *Tape-yeme*.
The plant is used by the local priest in religious ceremony.
Loc. : Begi ; 78271.
- Polygonum alatum** Ham. (Polygonaceae)
Ni. : *Yarung*.
The leaves are taken fresh, sour.
Fl. : April.
Loc. : Tamen ; 77622.

***Prunus cerasoides** D. Don (Rosaceae)

Apa. : *Puta*.

Ripe fruits are edible, sweet.

Fl. & Fr. : April-May.

Loc. : Hapoli ; 77413.

P. refa Wall. (Rosaceae)

Apa. : *Gonde*.

Fruits are edible.

Fl. & Fr. : April-May.

Loc. : Ziro ; 77772.

Quercus dealbata Wall. (Fagaceae)

Ad. : *Rajap* ; Apa. : *Kra*.

The leaves and flowers are used in Apata-nang festivals.

The woods are used for preparing poles and wooden materials for house construction.

Fl. & Fr. : September-November.

Loc. : Itanagar ; 75976.

Rhaphidophora lancifolia Schott. (Araceae)

Ad. : *Tachitale*.

The entire plant is used in religious ceremony to cure disease.

Fl. : April.

Loc. : Pangi ; 77754.

Rhynchotechum calycinum C. B. Cl. (Gesneriaceae)

Ad. : *Jaro*.

The leaves are used in funeral ceremony.

Fr. : June.

Loc. : Itanagar ; 75958.

Roydsia suaveolens Roxb. (Menispermaceae)

Ad. : *Titegille* ; Apa. : *Rokputtutum*.

The fruits are edible, sweet.

Fr. : July.

Loc. : Itanagar ; 76006.

***Rubus ellipticus** Sm. (Rosaceae)

Apa. : *Jilyung*.

Ripe fruits are eaten, sweet.

Fr. : April.

Loc. : Yazali ; 77401.

R. insignis Hook. f. (Rosaceae)

Ad. : *Taptere* ; Ni. : *Chechenimri*.

Leaves are eaten with bark of *Callicarpa arborea* Roxb. var. *ovalifolia* as substitute of peper betel. Lip turns red. Ripe fruits are eaten, sweet.

Fl. & Fr. : April-May.

Loc. : Yazali ; 77463.

R. niveus Thunb. (Rosaceae)

Apa. : *Nikhee* ; HM. : *Kiblupum*.

Fruits are edible.

Fr. : May-June.

Loc. : Tamen ; 77603.

R. paniculata Sm. (Rosaceae)

Ni. : *Chechenimri* ; Ad. : *Taptara*.

Leaves are eaten by Adi children as substitute for peper betel. Ripe fruits are eaten, sweet.

Fl. & Fr. : November-January.

Loc. : Itanagar ; 75703.

R. rosaefolius Sm. (Rosaceae)

Apa. : *Hitimbulum* ; Ad. : *Kibo-lepum*.

Fruits are edible, sour.

Fr. : April.

Loc. : Yazali ; 78320.

Sapium baccatum Roxb. (Euphorbiaceae)

Ad. : *Shigum* ; Apa. : *Samperai*.

Fruits are eaten by deer. They are fond of it.

Fr. : July.

Loc. : Itanagar ; 76001.

Saurauia armata Kurz (Saurauiaeae)

Ad. : *Himpum*.

Ripe fruits are edible, sweet.

Fr. : August.

Loc. : Itanagar ; 75980.

***S. panduana** Wall. (Saurauiaeae)

HM. : *Hinchi*.

The fruits are edible when ripe, sweet.

Fl. & Fr. : April-May.

Loc. : Raga ; 77486.

***S. roxburghii** Wall. (Saurauiaeae)

Apa. : *Tarsingahi* ; Ad. : *Hinche* ; Ni. :

Ekeeprin.

Leaves are used for preparing country liquor. Bamboo (*Dendrocalamus hamiltonii* Munro) basket is wrapped with leaves and boiled with water is kept within the pot for few days. Leaves promote quick fermentation.

Ripe fruits are eaten.

Fr. : April-May.

Loc. : Begi ; 78242.

- Selaginella wallichii*** (Hook. ex Grew) Spreng
(Selaginellaceae)
Ad. : *Hojum*.
The tender leaves are cooked and served as vegetable.
Loc. : Itanagar ; 75780.
- Setaria italica*** Pal-Beauv. (Poaceae)
Ni. : *Tayak*.
The seeds are used for preparing country liquor.
Fr. : November-December.
Loc. : Hapoli ; 78461.
- Sida acuta*** Burm. (Malvaceae)
Ad. : *Holap*.
The tender leaves are cooked and taken as vegetable.
Fl. : November.
Loc. : Tamen ; 65920.
- Silene heterophylla*** Lour. (Caryophyllaceae)
Apa. : *Jajru* ; HM. : *Jajrar* ; Ad. : *Kubumekeu*.
Fruits are edible, sweet.
- **Solanum indicum*** L. (Solanaceae)
Ad. : *Sotabayom* ; Ni. : *Beako*.
Fruits are taken as food after fry, bitter.
Fr. : April.
Loc. : Tamen ; 77464.
- S. torvum*** Sw. (Solanaceae)
Ad. : *Bako*.
Fruits are cooked as vegetable.
The paste of pounded fruits is applied as a cure for skin disease.
Fr. : December.
Loc. : Tamen ; 65930.
- S. verbascifolium*** L. (Solanaceae)
HM. : *Totnom*.
The leaves are used for ripening banana. Green banana is wrapped with the leaves and kept for four to five days.
Fl. : April.
Loc. : Tamen ; 77459.
- Sonerila maculata*** Roxb. (Melastomataceae)
Ni. : *Jakmalo*.
The leaves are cooked and taken as vegetable.
- Fl. : April.*
Loc. : Tamen ; 77632.
- Spiradiclis bifida*** Kurz (Rubiaceae)
Ad. : *Sokho*.
The leaves are boiled and taken as vegetable.
Fl. : August.
Loc. : Itanagar ; 76032.
- Streptolirion volubile*** Edgew. (Commelinaceae)
HM. : *Tadaro*.
The whole plant is cooked and served as vegetable. Palatable.
Fl. : April.
Loc. : Raga ; 77494.
- Styrax polysperma*** C. B. Cl. (Styracaceae)
HM. : *Tugu*.
The decoction of fruit is used as dye. Ripe fruits are blue.
Fruits are eaten by birds.
Fr. : April.
Loc. : Tamen ; 77497.
- Symplocos racemosa*** Roxb. (Symplocaceae)
Ad. : *Tumle*.
The plants are used in religious ceremony.
Fl. : November.
Loc. : Pangi ; 78411.
- Tacca integrifolia*** Ker.-Gawl. (Taccaceae)
Ad. : *Tagoon*.
The decoction of leaves along with normal salt are prescribed orally two teaspoonful twice a day for two to three days to the patient suffering from blood dysentery and acute diarrhoea. Overdose acts as poison, bitter.
Fl. : August.
Loc. : Itanagar ; 76035.
- Terminalia myriocarpa*** Heurek et Muell.-Arg.
(Combretaceae)
Ad. : *Gilak*.
The plants are used as timber.
Fl. : November.
Loc. : Tamen ; 78486.
- Thelypteris graciliscescens*** (Bl.) Ching (Thelypteridaceae)
Ni. : *Nipiati*.

The bark of the stipes are used as thread for killing rats.

Loc. : Itanagar ; 75913.

Thelypteris graciliscescens (Bl.) Ching var. *glandulosis* Kze. (Thelypteridaceae)

Ad. : *Rukdik.*

The entire plant is used for preparing country liquor.

The leaves are used for giving hot fomentation for sprains to relieve pain.

Loc. : Itanagar ; 75994.

Toddalia aculeata Pers. (Rutaceae)

Ni. : *Tiktaksen* ; *Apa.* : *Tanoai*.

The fruits are edible, fragrant.

Fr. : April.

Loc. : Tamen ; 77640.

Trevesia palmata (Roxb.) Vis. (Araliaceae)

Ad. : *Tago*.

Fruits are used as fish-poison. The paste of pounded fruits is mixed in the water of stream or pond. This stupefies the fish, facilitating an easy catch.

Fr. : April.

Loc. : Lichi ; 78318.

Trichosanthes bracteata (Lamk.) Voigt (Cucurbitaceae)

Apa. : *Bullungkoha*.

The fruit is considered as poison.

Fr. : July.

Loc. : Itanagar ; 75936.

Villebrunea frutescens (Roxb.) Bl. (Urticaceae)

Ad. : *Tappen*.

Dried leaves are pounded and applied as paste on skin diseases and the wounds due to burn. Fresh leaves are used as a poultice over cuts to relieve pain and to cure wounds.

Fr. : April.

Loc. : Tamen ; 77451.

V. integrifolia Gaud. (Urticaceae)

Ni. : *Boree* ; *Apa.* : *Pattatan* ; *Ad.* : *Tane*.

The bark is used as rope. Sometimes it is used as a substitute of cotton thread for preparing fishing-net.

Fl. : April.

Loc. : Tamen ; 77629.

Viola betonicifolia Sm. (Violaceae)

HM. : *Tadro*.

The leaves are cooked and taken as vegetable.

Fl. : April.

Loc. : Raga ; 77601.

Vitis repens W. & A. (Vitaceae)

Apa. : *Tarupakhu*.

The fruits are edible, sour.

Fr. : November.

Loc. : Nirjuly ; 70193.

Xanthoxylum acanthopodium DC. (Rutaceae)

Apa. : *Yokhung*.

The tender shoots are cooked and taken as vegetable. Fruits are eaten.

Pounded fruits are prescribed orally for dysentery and stomach-ache.

Fl. : November.

Loc. : Tamen ; 65932.

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REFERENCES

- AGARWAL, V. S. AND S. SAHA. Unreported medicinal plants of India. *Journ. Andhra Pradesh Acad. Sci.* 2 : 21-33. 1968.
- ANONYMOUS. *Wealth of India*. A dictionary of Indian Raw Materials, Vols. 1-9. New Delhi. 1948-76.
- Arunachal, Report of Medico-botanical Survey team. *Cent. Coun. Res. Ind. Med. & Homœ.* New Delhi. 1976.
- ARORA, R. K. Native Food Plants of the Northeastern Tribals. *Glimpses of Indian Ethnobotany* 91-106. (edited by S. K. Jain), Calcutta. 1980.
- BAL, S. N. Useful Plants in Mayurbhanj State in Orissa. *Rec. Bot. Surv. India* 6 : 1-119. 1942.
- BISWAS, K. Common Medicinal Plants of Darjeeling and Sikkim Himalayas, Govt. of West Bengal, Calcutta. 1956.
- BODDING, P. O. Studies in Santal medicine and connected folklore-I, Santals and disease. *Mem. Asiat. Soc. Bengal* 10(1) : 1-132. 1925.
- Studies in Santal medicine and connected folklore-II, Santals medicine. *Ibid.* 10(2) : 133-426. 1927.

- BORTHAKUR, J. K. *District Census Handbook, Subansiri District.* Series no. 24. Part 10. Shillong. 1972.
- BORTHAKUR, S. K. Less known medicinal uses of plants among the tribes of Karbi-Anglong (Mikir Hills), Assam. *Bull. bot. Surv. India* 18(1-4) : 166-171. 1976.
- BRESSERS, J. The Botany of Ranchi District. 1951.
- CHOPRA, R. N., S. L. NAYAR AND I. C. CHOPRA. Glossary of Indian Medicinal Plants. C.S.I.R. New Delhi. 1956.
- , I. C. CHOPRA AND B. S. VERMA. Supplement to the Glossary of Indian Medicinal Plants. C.S.I.R. New Delhi. 1969.
- DAM, D. P. AND P. K. HAJRA. Observations on Ethnobotany of the Monpas of Kameng District, Arunachal Pradesh. *Glimpses of Indian Ethnobotany* 107-114 (edited by S. K. Jain). Calcutta. 1980.
- DASTUR, J. F. Useful Plants of India and Pakistan, Bombay. 1951.
- Medicinal Plants of India and Pakistan, Bombay. 1952.
- GUPTA, S. P. An appraisal of Chotanagpur tribal pharmacopea. *Bull. Bihar Trib. Res. Inst.* 5(2) : 1-18. 1963.
- JAIN, S. K. Studies in Indian Ethnobotany—Plants used in medicine by the tribals of Madhya Pradesh. *Bull. Reg. Res. Lab. Jammu* 1 : 26-129. 1962.
- Studies in Indian Ethnobotany-Less known uses of fifty common plants from the tribal areas of Madhya Pradesh. *Bull. Bot. Surv. India* 5 : 223-226. 1963.
- Observations on Ethnobotany of the tribals of Madhya Pradesh. *Vanyajati* 11 : 183. 1963a.
- Plants used in Medicine by the tribals of Madhya Pradesh. *Bull. Reg. Res. Lab. Jammu* 1 : 126-128. 1963b.
- Medicinal Plant Lore of the tribals of Baster. *Econ. Bot.* 19 : 236-250. 1965.
- Some magico-religious beliefs about plants among Adibasis of Orissa. *Adibasi* 12(1-4) : 39-44. 1970-71.
- AND J. N. DE. Some less known plant foods among the tribals of Purulia (W. B.). *Sci. & Cult.* 30 : 285-286. 1964.
- AND — Observations of Ethnobotany of Purulia (W. B.). *Bull. bot. Surv. India* 8 : 237-251. 1966.
- , D. K. BANERJEE AND D. C. PAL. Medicinal Plants among certain Adibasis in India. *Ibid.* 15 : 85-91. 1973.
- KANJILAL, U. N. ET AL. Flora of Assam. Vols. 1-5, Shillong (Vol. 5 by N. L. Bor), 1934-1940.
- KIRTIKAR, R. K. AND B. D. BASU. Indian Medicinal Plants. Calcutta. 1935.
- MAHESHWARI, P. AND UMROOSING. Dictionary of Economic Plants of India. New Delhi. 1964.
- Pal, D. C. Tribal folklore about some plants associated with eye treatment. *Folklore* 14(12) : 446-447. 1973.
- AND D. K. BANERJEE. Some less known plant foods among the tribals of Andhra Pradesh and Orissa State. *Bull. bot. Surv. India* 13 : 221-223. 1971.
- RAO, R. R. Ethnobotanical studies on the Flora of Meghalaya—Some interesting reports of Herbal Medicines. *Glimpses of Indian Ethnobotany* 137-148 (edited by S. K. Jain). Calcutta. 1980.
- SHAH, N. C. AND M. G. JOSHI. An ethnobotanical study of the Kumaon Region of India. *Econ. Bot.* 25 : 414-422. 1971.
- VARTAK, V. D. Some edible wild plants from the hilly region of the Poona district. *Journ. Bombay nat. Hist. Soc.* 56(1) : 8-25. 1959.
- WATT, G. *A Dictionary of the Economic Products of India.* Vols. 1-6. London. 1889-1899.