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Ethnomedicinal plants used by *Adi-Minyong* tribe of Arunachal Pradesh, eastern Himalaya

S Baruah[1]*, S K Borthakur[1], P Gogoi[2] and M Ahmed[2]

[1]Department of Botany, Gauhati University, Guwahati-781 014, Assam, India
[2] NEDFi R & D Centre for MAPs, Khetri, Kamrup-7824 03, Assam

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The paper deals with folklore medicinal uses of 31 plant species belonging to 25 families for various ailments among the *Adi-Minyong* tribe of Arunachal Pradesh. It is also recorded that some of the species like *Solanum spirale* Roxb., *Pueraria thunbergiana* Benth., *Calicarpa arborea* Roxb., etc, having multiple uses among the local people and their use in their festival and rituals have been recorded for the first time in the present study.

Keywords: Ethnomedicinal plants, *Adi-Minyong tribe*, Arunachal Pradesh, Eastern Himalaya.
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Introduction

Arunachal Pradesh is the eastern most part of Eastern Himalaya lying in between 26°30 'N and 29°28 'N latitude to 91°31 'E and 97°30 'E longitude and nearly 62% of its total geographical area (51,540 Km^2 out of 83,743 Km^2) is forested. The state is not only rich in biodiversity but also have the distinction of having rich diversity of traditional communities with 26 major and 110 subtribes[1]. Each of the tribes has a unique cultural tradition and lifestyle inhabiting in different parts of the state[2]. *Minyong* is one of the subtribe of *Adi* community inhabited in the east and south-eastern parts of East Siang district of Arunachal Pradesh. *Adis*, earlier known as *Abors* has a number of important subtribes, viz. *Padam*, *Pangi*, *Tagin*, *Karko*, *Bokar*, *Bori*, *Pasi*, *Pangi* and others, which together constitute about 26.52% of the total scheduled tribe population in the state. The village council among the *Adi* confederation is known as *Kebangs* has jurisdiction over its own village. The people of Arunachal Pradesh are practicing subsistence *Jhum* and largely depend on the forest resources of their habitats. A number of publications by other authors on ethnobotany of different ethnic groups or areas of Arunachal Pradesh have appeared[3-14]. However, no works has been carried out so far on *Minyong* subtribes of *Adi* community of Arunachal Pradesh. The present study is an attempt to focus on some lesser known medicinal plants used by the *Adi-Minyongs* of Arunachal Pradesh. In addition, some of the medicinal plants of the *Adi-Minyongs* reported in this paper are important in their religious rituals also.

Methodology

An ethnobotanical study was conducted during 2009-2010 in three villages Dashing, Lileng and Gobuk of East Siang district. The study areas of these three villages are located mainly in the Boleng circle in East Siang district of Arunachal Pradesh, India and situated at an altitude of average 450-500 m MSL. This area receives average annual rainfall of 400 cm and vegetation of the area is tropical evergreen. The inhabitants of the area are *Minyong* a sub-tribe of *Adi.* They practice *Jhum* and depend mostly on forest for their livelihood. Data were collected through personal interview, interacting with local people and 'Gum' (the village headman) of the villages and by personal observation. Voucher specimens were collected, processed and preserved as per standard herbarium techniques[15] and are deposited in NEDFi R & D Centre for MAP, Khetri, Kamrup, Assam. The findings of the present study are provided in tabular form with scientific names of the plants, family, local names, part(s) used and uses.

Results and Discussion

The traditional knowledge of the medicinal plants is not only useful for conservation of traditional

*Correspondent author:
E-mail: sanjibbaruah9@gmail.com
Phone: +91 8253815667

Plate 1–Ethonomedicinal plants used by *Adi-Minyong* tribe

cultural practices and biodiversity but also play a significant role in community healthcare system and in development of new alternative drugs[16]. During present investigation, it was found that different parts of 31 plants species (Plate 1) are used for various purpose, maximum utilization is of leaves and whole plant in the preparation of herbal recipes, of which 4 species are used both for medicine and associated with religious belief. 31 species belong to 29 different genera and 25 families of Angiosperms (Table 1). Among the plants 4 species were trees, 9 shrubs, 11 herbs, 1 epiphytic herb and 6 climbers. During field studies it was observed that the villagers have grown some of the medicinal plants in their homestead garden and thereby ensure their conservation. Some endangered species, viz. *Dendrobium nobile* Lindl., *Coptis teeta* Wall. and *Paris polyphylla* Sm. have been reported to occur and used by the local people from a number of localities of the study area. During the present study it was also observed that to ensure the conservation of the neighbouring the forest resources the villagers used to collect their forest

Table 1—Ethonomedicinal plants used by *Adi-Minyong* tribe

S. No.	Scientific name	Family	Vernacular name (s)	Part(s) used	Uses
1.	*Ageratum conyzoides* L.	Asteraceae	*Aieng-ying*	Entire plants	Paste of entire plant is applied on wounds for healing and blood clotting.
2	*Albizzia lucida* Benth.	Caesalpiniaceae	*Tage*	Stem barks	Stem bark used for washing and also for washing hair to remove dandruff.
3	*Averrhoa carambola* L.	Rutaceae	*Kadung*	Fruits/Leaves	Fruits and tender leaves are used as hepato-protective agent. Half a cup of fruit or leaf juice is given once a day for a week.
4	*Bauhinia acuminata* L.	Caesalpiniaceae	*Agok*	Tender leaves	Flowers and tender leaves are eaten as vegetable which said to act as stomachic.
5	*Calicarpa arborea* Roxb.	Verbenaceae	*Toti*	Leaves	Paste of leaves applied to wounds as haemostatic and as antiseptic. Twigs of the plant are also used in the traditional festival '*solung puja'* of the *Adi-Minyong*.
6	*Clerodendrum colebrookianum* Walp.	Verbenaceae	*Owin*	Leaves	4-5 tender leaves pounded and 10 mL of the extracted juice prescribed once a day for a week to cure high blood pressure. Leaves also eaten cooked as vegetable.
7	*Castanopsis echinocarpa* King	Fagaceae	*Hirang*	Entire plants	Paste of the leaves applied to wounds to stop bleeding. Plant used to observe the religious festival '*solung puja'*.
8	*Coptis teeta* Wall.	Rananculaceae	*Rinko*	Roots	Root extracts diluted with water (1: 10 ratio) prescribed once daily for 3 days to cure fever and also to treat gastric trouble.
9	*Curcuma longa* L.	Zingiberaceae	*Keloti*	Rhizomes	Extract of rhizome applied to wounds and cuts for clotting of blood and as an antiseptic.
10	*Curanga amara* Juss.	Scrophulariaceae	*Bon-ging*	Entire plants	Plant extract used to cure cough and dysentery, 50 g of plant paste mixed in a glass of water filtered and two teaspoonfuls of the filtrate given twice daily for a week.
11	*Dendrobium nobile* Lindl.	Orchidaceae	*Hirra-appun*	Flower	Paste of the flowers applied on the forehead to get relief from headache.
12	*Drymeria cordata* (L.) Willd. ex Schult.	Caryophyllaceae	*Kaira*	Leaves	Paste of the leaves applied to ringworm and other skin diseases.
13	*Embelia ribes* Burm.f.	Myrsinaceae	*Hinkong*	Tender leaves	Tender shoots and leaves eaten cooked as vegetable is said to act as stomachic.
14	*Equisetum debile* (Roxb. ex Voucher) Hauke	Equisetaceae	*Hiru debung, Asi tabo*	Entire plant	Plant extract is used to cure jaundice. 50 g of plant paste mixed in a glass of water filtered and two teaspoonfuls of the filtrate given twice daily for a week.
15	*Gymnocladus assamicus* U.N. Kanjilal ex P.C. Kanjilal	Mimosaceae	*Dekang*	Fruits	Pods are crushed and used for hair wash to remove dandruff.
16	*Paris polyphylla* Sm.	Liliaceae	*Apuk*	Rhizomes/fruits	Rhizome is used to cure piles and as remedy for constipation. One teaspoonful of the rhizome extract, mixed with equal quantity water given once daily for a week. Ripe fruits are eaten.
17	*Paederia foetida* L.	Rubiaceae	*Yepe-tere*	Leaves	Besides used as vegetable to cure diarrhoea and dysentery, the paste of the leaves applied to skin diseases.
18	*Piper peepuloides* Roxb.	Piperaceae	*Rari*	Leaves	Dried leaves made into a paste with water and given to get relief from fever.

(*Contd.*)

Table 1—Ethonomedicinal plants used by *Adi-Minyong* tribe—(*Contd.*)

S. No.	Scientific name	Family	Vernacular name (s)	Part(s) used	Uses
19	*Piper wallichii* (Miq.) Hand.-Mazz.	Piperaceae	*Rari*	Female spikes	Dried leaves are made into a paste with water and given to get relief from fever and also leaves are eaten as vegetable.
20	*Polygonum barbatum* L.	Polygonaceae	*Rukji*	Leaves	Paste of the leaves is applied to ringworm and other skin diseases.
21	*Psidium guajava* L.	Myrtaceae	*Maduri*	Leaves	10 mL of the extracted juice from crushed tender leaves prescribed once a day for a week to cure dysentery and diarrhoea.
22	*Pueraria thunbergiana* Benth.	Fabaceae	*Ridin*	Entire parts	Religious plant used in traditional festival. Paste of bark applied to cuts and wounds to stop bleeding and for quick heeling.
23	*Rauvolfia densiflora* Benth.	Apocynaceae	*Ruki*	Roots/seeds	Decoction of root, bark and seeds in equal quantity diluted with water (3:2) is administered orally as a cure for malaria.
24	*Sauropus androgynus* (L.) Merr.	Euphorbiaceae	*Woein*	Leaves	Decoction of leaves taken as a revitalizing agent. Leaves are also eaten cooked as vegetable.
25	*Smilax ovalifolia* Roxb.	Smilacaceae	*Yorit*	Tender shoots	Tender stems used as tooth brush to get relief from toothache. Tender twigs are used as vegetable.
26	*Spilanthes paniculata* Wall.	Asteraceae	*Adi Marsang*, *Marsang*	Inflorescence	Inflorescences are swallowed to get relief from toothache and tongue infection. The herb also used as vegetable.
27	*Solanum spirale* Roxb.	Solanaceae	*Banko*	Leaves	Leaves used for treating malaria and high blood pressure.
28	*Solanum torvum* Swartz	Solanaceae	*Byako*	Fruits	Crushed fruits applied to gums to get relief from gum infection and toothache.
29	*Tacca integrifolia* Ker-Gawl.	Taccaceae	*Tagon*, *Babor*	Rhizomes	Rhizomes considered effective against stomach pain. The rhizome also mixed with rhizome of *Aconitum ferox* Wall. ex Ser. as arrow poison.
30	*Thunbergia grandiflora* (Roxb. ex Roht.) Roxb.	Acanthaceae	*Cocoriang*	Roots	Hot root extract is used as gargle to cure toothache and teeth infection.
31	*Zanthoxylum armatum* DC.	Rutaceae	*Hokum*	Fruits	Decoction of dry seeds mixed with a little amount of rock salt is given as gargle in toothache. Bark extract considered as a general health tonic. Fruits are used as spice.

resources like fuel wood from localities far away from their villages. The study reveals that some of the species enumerated have great trade potential in the medicinal plants market. Species like *P. polyphylla*, *D. nobile*, *Embelia ribes* Burm.f. and *Coptis teeta* could be cultivated on a large scale for economic development of the villagers. It is also recorded that some of the species like *Solanum spirale* Roxb., *Pueraria thunbergiana* Benth., *Calicarpa arborea* Roxb., etc. have multiple uses among the local people and their use in their festival and rituals have been recorded for the first time in the present study. With the increasing demand of herbs in pharmaceutical and other products, crude drug dealers have come up for trading of these items in large scale.

Conclusion

Due to habitat destruction coupled with illegal exploitation and trades, these resources, are dwindling rapidly. Therefore, promising plant resources need immediate attention for conservation and sustainable utilization for economic development of the state.

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References

1 Dollo Mihin and Choudhury D, Eco-cultural heritage of Arunachal. Pradesh *In*: Proc Natl Seminar Interpreting the Heritage of North East, India (INTACH, New Delhi), 2006, 42-59.

2 Solanki GS, Socio-cultural and faunal diversity of Arunachal Pradesh, *Him J Env Zool*, 2000, **16**(2), 159-170.

3 Dam DP and Hajra PK, Observations on ethnobotany of Monpas of Kameng district, Arunachal Pradesh, *In*: Contribution to Indian Ethnobotany, edited by Jain SK, Vol. 1, (Scientific Publishers, Jodhpur), 1997, 153.

4 Tag H, Das AK and Kalita P, Plants used by the Hill Miri tribe of Arunachal Pradesh in Ethno-fisheries, *Indian J Trad Knowledge*, 2005, **4**(1), 57-64.

5 Rawat MS and Choudhuary S, Ethnomedicobotany of Arunachal Pradesh (Nishi and Apatani tribes), Bishen Singh Mahendra Pal Singh, Dehra Dun, 1998.

6 Pal GD, Observation on Ethnobotany of tribals of Subansiri, Arunachal Pradesh, *Bull Bot Surv India*, 1984, **26**(122), 26-37.

7 Srivastava RC and Adi community, Traditional Knowledge of *Adi* tribe of Arunachal Pradesh on plants, *Indian J Trad Knowledge*, 2009, **8**(2), 146-153.

8 Gajral PR, Rethy P, Singh B and Angami A, Ethnobotanical studies of *Adi* tribes in Dehang Debang Biosphere Reserve in Arunachal Pradesh, Eastern Himalaya, *Ethnobotany*, 2006, **18**, 114-118.

9 Ramashankar, Some medicinal plants from district Tirap (AP) with note on ethnobotany of Nocte tribe*, Bull Medico-Ethnobot Res*, 1998, **3**(1&2), 12.

10 Das AK, Some note on the folk medicines of the *Adis* of Arunachal Pradesh, *In*: Ethnomedicine of the tribe of Arunachal Pradesh, edited by Mibang T, 2003.

11 Rawat MS and Ramashankar, Observation on Medico–ethnobotany of *Idu Mishmi* in Dibang Valley (AP), *Bull Med Ethnobot Res*, 1998, **17**(1&2), 18.

12 Tag H, Das AK and Loyi H, Anti-inflammatory plants used by the *Khamti* tribe of Lohit district in Eastern Arunachal Pradesh, India, *Nat Prod Rad*, 2007, **6**(4), 334.

13 Kohli YP, *Tapyo*-A folk medicine of Zero valley, *Echo Arunachal Pradesh*, 1989, 6-7.

14 Baruah S, Gogoi P and Ahmed M, Some over exploited medicinal plants of N.E India with special reference to Arunachal Pradesh, *In*: Medicinal Plants of N.E. India edited by Borthakur SK, Ahmed M, Gogoi P, Dutta DN and Ahmed GU, North Eastern Finance Development Corporation Limited, 2010, 198-206.

15 Jain SK and Rao RR, A Handbook of Field and Herbarium Techniques (Today and Tomorrow Publication, New Delhi), 1977.

16 Pei SJ, Ethnobotanical approaches of traditional medicine studies: some experiences from Asia, *Pharmacol Biol*, 2001, 39, 74-79.