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**Cover Photos:** Above: A Jarawa mother carrying her child; Below- Left: A Jarawa hut; Middle: A Jarawa girl with floral headgear; Right: Jarawas eating food **(Credits: Dr. M. Chennakesavulu Naik)**

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# A review on the ethnomedicinal plants used by the tribal communities and settlers in Andaman and Nicobar Islands

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## Abstract

A review about the ethno-medicinal plants used by the tribal communities and the settlers of the Andaman & Nicobar Islands, India has been presented here. Andaman & Nicobar Islands are extremely rich in the indigenous plant wealth as well as the ethnic diversity. It comprises one of the most significant and ideal hotspot for the ethnobotanical studies as well as bio-prospection in Indian subcontinent. The presence of the tribal communities as well as the settlers and the regular inflow of people from all corners of the mainland have also contributed significantly in the further enrichment of the traditional and ethnic knowledge on these islands. Ethno-medicinal uses of 94 plant species in practice by various indigenous communities and the settlers are documented and discussed in this paper.

**Key Words:** Andaman & Nicobar Islands, Tribal communities, Settlers, Ethno-medicine

## Introduction

Andaman & Nicobar Islands form an archipelago located in the Bay of Bengal between the latitudes of 6º45'–13º41' N and longitudes of 92º12'–93º57' E (Fig. 1). The archipelago consists of about 572 islands (33 inhabited) and islets located in north - southeast direction as an arc over a length of about 700 km. There are a few outlying scattered islands on either side of the arc. The land area occupied by all these islands is about 8249 sq. km. Total length of the Andaman Islands is 467 km and maximum width 85 km (average 24 km) while the Nicobars have total length of 259 km with maximum width of 58 km. The Andaman group is separated from the Nicobar group by the Ten degree Channel which is about 150 km wide and about 700 m deep. The former has 20 inhabited islands while the latter has 13 inhabited islands. The Indira Gandhi Point (formerly Pygmalion Point) is the southernmost tip of India and it is about 144 km from Achin head of Sumatra. Of all the island of the Nicobar group, Great Nicobar is the largest having an area of nearly 1045.1 sq. km with a length of 55 km between Murray Point in the north and Indira Gandhi Point in the south.

The islands have undulating surfaces with the mountain ranges enclosing narrow valleys. The highest mountain is Saddle Peak on the North Andaman Island at 732 m above MSL followed by Mount Thulliar on Great Nicobar attaining a height of 642 m above MSL. With an average annual rainfall of 300–380 cm, relative humidity of 66%–85% and temperature varying from 22º–35º C, these islands exhibit warm humid tropical climatic conditions, permitting luxuriant and greatly diverse rich vegetation. The proximity of the sea and the abundant rainfall prevents extremes of heat and these islands experience both the Northeast and the Southwest monsoons. The southwest monsoon commences during April-May, accompanied by high winds with heavy downpours right through July-September. The northeast monsoon usually commences during October and rains continue up to December. Cyclones occur during the monsoons, accompanied by very strong winds, mainly during May and November and in some years during mid-April.

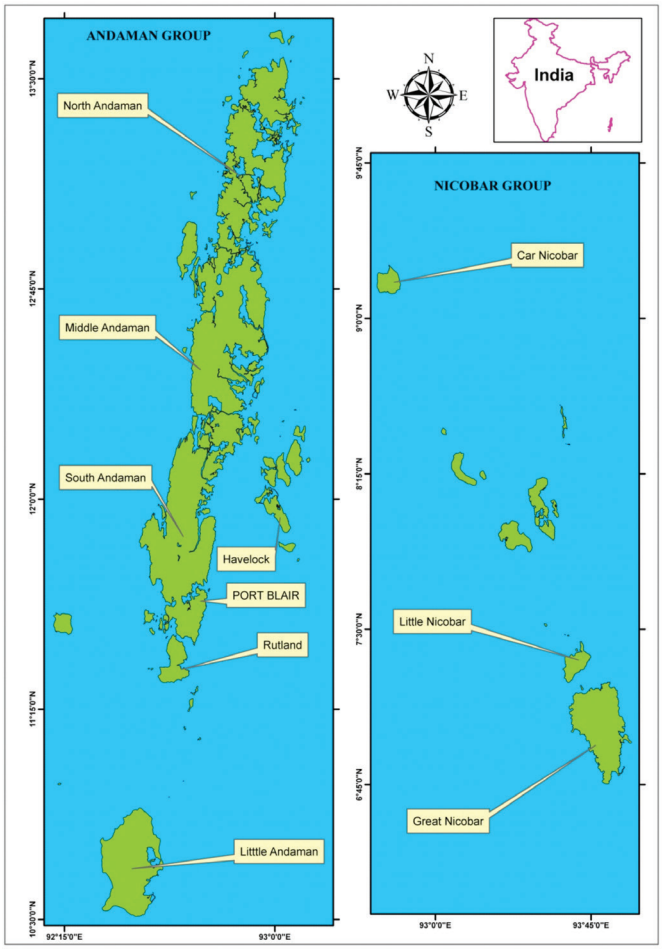


**Fig. 1:** Map of Andaman & Nicobar Islands.

The Andaman-Nicobar Islands are part of a 5600 km long curvilinear belt of accretionary ridges and outer-arc islands that stretches from Sumba in Eastern Indonesia to Western Myanmar in the north associated with the sub-duction of Indo-Australian oceanic lithosphere below an overriding Eurasian (Sunda) Plate (Bandopadhyay & Carter, 2017).

The overall pattern of vegetation is tropical evergreen type, containing mangrove forests, littoral forests, deciduous forests and moist evergreen forests at low and high elevations. The total forest area is about 75% at present. The native flora of these islands is considerably rich, containing about 3000 taxa belonging to angiosperms, gymnosperms, pteridophytes, bryophytes and lichens (Chakrabarty *et al.*, 2020). Among the angiosperms, about 13% species are endemic to these islands. About half of the plant species from these islands do not occur anywhere else in India but extend their distribution mainly towards Southeast Asia and Malesia. Thus, the plants of these islands are important for us not only from economic point of view, but phytogeographical significance as well.

There was no organized government in the Andamans, until 1858, when the British established a penal colony there. An earlier attempt to establish a penal colony at Chatham Island near Port Cornwallis in North Andaman, in the 1790's had failed. The British formally annexed the Nicobars in the 1860's. The islands were used chiefly as a penal settlement. At that time there was extensive trade of coconut from the Nicobar group of islands, which is still continuing. Until independence in 1947, the Andaman Islands retained most of its forest cover. There was very little demand for timber during the colonial period and a saw mill was established in 1883, which supplied timber to the settlers around Port Blair. Later in 1926, WIMCO set up a matchstick factory at Port Blair. There were only small areas during this period that had been cleared, in extreme South, Middle and North Andaman Islands (Khan, 1983). The Japanese occupied the Andaman Islands from 1942 to 1945 for three years. They have left almost no legacy apart from fortified bunkers and large guns all along the coast. Their brief rule was marked by savagery.

### Tribal communities and the settlers

The original inhabitants of the Andaman & Nicobar Islands are among the most primitive human communities found in the world (Fig. 2). Tribal communities of these islands fall under two main ethnic groups. The tribes belonging to the Andaman group of islands called Great Andamanese, Onges, Sentinelese and Jarawas belong to the Negrito stock. The tribes belonging to the Nicobar group of islands called Nicobarese and Shompens belong to the Mongoloid stock from mainland Asia, possibly originating from Myanmar. While the Nicobarese people live in villages along the coastal regions and are in the mainstream now (Figs.: 2B; 3D), the Shompens of the Great Nicobar Island are nomadic living deep inside the forests and represent a dwindling tribe, which as of now represents in hundreds or so (Figs.: 2D; 3E, F).

It has been recorded from the published literature (Kloss, 1903) that the Great Andamanese were originally represented by ten tribes numbering in thousands who dominated over most of the major islands in the Andaman group. However, after the establishment of penal settlement in these islands by the British empire in the mid nineteenth century, and the subsequent contacts and intermixing with the 'outsiders' with 'modern' civilization, they contracted many diseases like malaria, measles, tuberculosis, viral fever, sexually transmitted diseases, etc., which caused very fast depletion of their populations. The overall population of the Andamanese was estimated to be around 10000 in 1779 (Dutta, 1978), to a little over 600 in 1901 to the present meagre 44 individuals (Anonymous, 2011) surviving under Government protection in a settlement in the Strait Island.


**Fig. 2:** A. Jarawas; B. Nicobarese; C. Onges; D. Shompens; E. Ranchi people.

The Onges represent another dwindling tribe occupying the Little Andaman Island, the southernmost island of the Andaman group. They number 101 (Anonymous, 2011) and have been rehabilitated at the Dugong Creek, Jackson Creek and South Bay areas of Little Andaman Island (Figs.: 2, 3). They live under Government protection and have adopted several habits of the outsiders.

The Jarawas are semi-nomadic, food-gatherers and hunters now restricted to the South and Middle Andamans (Figs. 2, 3). Their number is 380 as per Census, 2011 (Anonymous, 2011). They are endogamous people, having closely knit society. They live in small groups in the dense interior forests and along the western coastal areas.

The Sentinelese live in complete seclusion and isolation in the North Sentinel Island located southwest of the South Andaman Island. They number around 100 and are still hostile to the outsiders (number enumerated to be 15 individuals as per Anonymous, 2011). It has not been possible to make any direct contact with them so far. The contact teams coming near their island by boats are usually welcomed by arrows. However, a few could land at some secluded beaches and were able to keep gifts for them on the shore. It has been observed from the ship that they wear an abdomen guard probably made from barks of plants and hunt with bows and arrows.

The Nicobarese living in 12 islands of the Nicobar group is the largest among the tribes with a population of 27,168 (Anonymous, 2011) and are flourishing well in the mainstream of the island communities (Figs.: 2, 3).

The Shompen tribe inhabiting the Great Nicobar Island is now represented by 229 individuals (Anonymous, 2011). They live deep inside the forests and are semi-nomadic, food-gatherers and hunters (Figs. 2, 3). They sometimes visit settlements of mainlanders to collect certain essential items like vessels, food articles, cloth and tobacco.

The settlers are the descendants of the convicts who were jailed in these islands by the British. The prisoners other than the freedom fighters (who returned back to mainland), were allowed to settle down after some time in jail and there had been a free mixing and live-together among them irrespective of caste, creed and religion. Thus, the convicts brought with them a culture remarkably free of communal or castes biases, and remain so till this day. However, they now constitute a very small proportion of the population, being outnumbered by the recent immigrants (especially 1980 onwards). They occupy the areas in and around Port Blair and run businesses, including trade and tourism.

Forty five families of Karen tribes from Myanmar were sent by the American Baptist Mission in Myanmar at the request of the British during 1925, for working in the forests. While some of them opted to return to Myanmar in the 1960's, the others stayed back. The descendants of the Karens, after independence, were settled as agriculturalists in the Middle Andamans. There are around 3000 Karen's in the Islands now, with the main concentration living just south of Mayabunder in the Middle Andamans. The Karens have excellent knowledge of the forests and the seas of the Andamans and their single keel, single log mechanized Karen dugout canoe ('Dungi'), is the most popular in the islands used by all fishermen and settlers, besides the government departments.

The present day 'Ranchi' population in the Islands were also brought by the British as labourers to work in the forests and the construction of roads. These people from 'Chota Nagpur plateau' (now Jharkhand) have settled on Baratang Island and have also spread themselves throughout the islands. A significant proportion of them are now employed in the Government jobs.

**Fig. 3:** A. Jarawa hut; B-C. Onge huts; D. Nicobarese hut; E-F. Shompen huts.

Refugees from the erstwhile East Pakistan were brought in during the 1950's. Settlement was opened up for them in South, Middle and North Andamans, and the majority of settlement in the Diglipur area occurred between 1957–1959. In the 1960's a group of 300 repatriates were brought from Sri Lanka under the Shastri-Sirimavo Pact and settled on Katchal Island in the Nicobars, and this population has increased to over 3000 now. There is controversy going on at the moment about the legality of their settlement there, as the Nicobarese do not want them there and have filed a PIL. These settlers do have an impact on these islands including putting tremendous pressure on the limited natural resources as well as increasing encroachments. The first groups of ex-servicemen were settled on Great Nicobar Island in 1969. A forest area of 1499.65 hectares was cleared for 337 of these settler families, along the east coast, up 35 km, south of Campbell Bay along the North-South Road. Each family was given 11 acres of land and schools, health centers and Government offices were established for these people.

During the three decades from 1980's onwards, there had been a spurt of immigration from mainland India, mainly from West Bengal, Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Bihar and Uttar Pradesh. This immigration is enhanced by availability of jobs on daily wages. The obvious consequence had been encroachment on a large scale leading to fast degradation of the forests and increased pressure on the natural resources in Andaman & Nicobar Islands. Opening up of tourism facilities since the 1990's evidenced random construction of several big hotels at Port Blair, Neil and Havelock Islands resulting in further influx of mainlanders for the contractual jobs leading to the unplanned developmental activities.

## Materials and methods

The present paper is based on the authors' personal experiences with the tribal populations and settlers of the Andaman & Nicobar Islands, since 1979, along with a review of the published literature. The fascinating results of the studies carried out by one of us (TC) during the year 2002 on the Jarawa tribe was an added advantage. Although publications on the ethnobotany of the Andaman & Nicobar Islands as a whole are available, the need for the present paper was felt in order to provide an up to date summary of all the data available on the ethno-medicinal plants of the Andaman & Nicobar Islands because of many inaccuracies observed in some of the earlier publications.

The plants used by the different tribes are enumerated in Table-1 and the names of the tribes using these plants are indicated in parenthesis. A few plants used medicinally are illustrated in Figure 4. There is no data available for the Sentinelese tribe and hence their name is not included in the table. The abbreviations of the tribes and settlers used are: A = Great Andamanese; H= Hindi (language); J = Jarawa; K = Karen; O= Onge; N= Nicobarese; R= Ranchi; Se= Settlers; Sh = Shompen.

## Review of literature

Except for the Sentinelese who are still hostile, significant ethnobotanical studies have been carried out by various workers on the remaining five tribes. In addition, plants used by the settlers to cure various diseases have also been published. Ethnobotanical studies on the Onge tribe were carried out by Bhargava (1983) and on the Shompens by Chakrabarty and Vasudeva Rao (1988) followed by Elanchezhian *et al.* (2007), Sharief and Rao (2007) and Sharief and Panda (2020). Yoganarsimhan *et al.* (1983) and Nair *et al.* (1984, 1986) published medico-botany of the Islands based on comparison with uses of the plants in mainland India as mentioned in Ayurvedic books. Bhargava (1981) presented plants in folk life and folklore in the Islands while Awasthi (1987) published paper on the folklore medico-botany among the aborigines of these islands and further Awasthi in 1991 also studied ethnobotany of the Great Andamanese tribe.

A series of papers on the ethnobotany of the Nicobarese tribe have been published by J.C. Dagar and H.S. Dagar

(1986, 1987), H.S. Dagar (1986, 1988, 1989a, 1989b, 1989c, 1989d), H.S. Dagar and J.C. Dagar (1991, 1996, 2003), Kumar *et al.* (2006) and Sharief (2008). Gupta *et al.* (2004), Verma *et al.* (2010),Chander *et al.* (2014, 2015a, 2015b) and Bharati *et al.* (2015) also dealt with plants used as traditional medicine by the Nicobarese tribe; Mane *et al.* (2020) presented interesting data on potential medicinal plants used by the tribes of Car Nicobar. Reviews of the Ethnobotany of the Andaman and Nicobar Islands were published from time to time by J.C. Dagar and H.S. Dagar (1999), Chakrabarty and Balakrishnan (2003) and Pullaiah *et al.* (2017).

Among the other recent publications, Sharief *et al.* (2005) presented a paper on the traditional phytotherapy of the Karens of Middle Andaman. Chander *et al.* (2015c) recorded the use of 78 medicinal plant species used to treat 38 diseases by the Karens. They (Chander *et al.*, 2016) also studied the efficacy of nine medicinal plants traditionally used by the Karens for treating malaria but the plant parts used were not specified. Das *et al.* (2006) brought to light medicinal uses of 9 species of plants by the tribals, based on their field studies and they tagged all the tribes including the Sentinelese in their report! It is surprising that they recorded the use of *Phyllanthus andamanicus* N.P. Balakr. and N.G. Nair (Phyllanthaceae) as an 'antidiuretic'. This species is restricted to the Saddle Peak Range of North Andaman and it is difficult to believe that the tribes of the North Sentinel Islands are using this plant. Sharief (2007) presented a paper compiling various plants used medicinally by the Negrito tribes of the Andaman Islands. Prasad *et al.* (2008) listed 72 plant species used ethno-medicinally by the local people of the North Andaman Island. They have evidently provided uses of these plants through compilation or uses recorded in books of medicinal plants. For example, their claim of *Phyllanthus amarus* of Phyllanthaceae in jaundice is a well known use. However this species is a recent introduction in the Islands and found occasionally. In such case how the people are using the whole plant in jaundice is a debatable matter! There are many other similar examples of inaccurate records.

Pandey *et al.* (2009) presented ethnomedicinal uses of 289 plant species belonging to 233 genera under 116 families by the aborigines of the Andaman & Nicobar Islands, based on literature and some personal observations during plant explorations. Rasingam *et al.* (2012) enumerated 11 plant species used as tooth sticks by the Chota Nagpuri and Tamil inhabitants of the Islands to treat dental caries.

Ghosh (2014a) enumerated 25 climbing plants used by the tribal people of the islands to cure some gynecological disorders followed by enumeration of 116 climbing plants used in ethno-medicine in the islands (Ghosh 2014b). Further, Ghosh (2014c) enumerated 19 ethno-medicinal climbing plant species belonging to 10 families used by tribal communities of Andaman and Nicobar Islands in treatment of snakebite. These reports need confirmation. Maina *et al.* (2015) listed 50 plant species used to control or treat diabetes by the settlers. Mane *et al.* (2018) recorded 69 folklore claims of compound herbal preparations in which 93 species of medicinal plants used to treat 35 different diseases by the folk healers of the Andaman and Nicobar Islands. Sharma *et al.* (2018) documented the indigenous healthcare knowledge of the tribes inhabiting the Islands and they listed 39 species of plants used by different tribes and discussed measures of conservation of these species. Chander and Vijayachari (2018) documented ethnobotanical uses of 42 plant species by the Onges and Nicobarese inhabiting the Little Andaman Island. Chakrabarty *et al.* (2008) brought to light seven plant species used medicinally by the Jarawa tribe. Jha and Singh (2014) presented a compiled list of 14 plant species used medicinally by the Jarawa tribe. Similarly, Dwivedi (2015) compiled the plant species used by the tribals of Andaman and Nicobar Islands as herbal remedies. Unfortunately, most of these reported uses are incorrect or compiled from secondary sources. Sharief and Panda (2017, 2018) published two papers on the ethnobotany and material culture of the Jarawa tribe based on reports submitted to the Government of India by the members of the research teams specially deputed for the Jarawa studies (see Chakrabarty *et al.*, 2020) .

**Discussion**

A review of literature reveals that a number of the publications on the medicinal plants of the Andaman and Nicobar Islands are evidently exaggerated or based on unconfirmed sources, mis-identifications or compilations. Chakrabarty and Balakrishnan (2003) raised the point that the aborigines of these islands never use any recent adventives for their medicinal purpose. The uses mentioned in some of the above papers are obviously based on the general literature on the medicinal plants of mainland India. The medicinal utilities of plants known to the tribes are based on generations of close contact with the plants and by using trial and error process developed through their own method of medication, which can obviously be only with the indigenous plants. The tribes of these islands having never had any close interaction with the mainland India, before the advent of settlement of main-landers in these islands, could never have acquired any knowledge about the medicinal plants of the mainland India. Further, certain rare species known only from type specimens or only once or twice collected in the recent past have been assigned local names and uses. Some synonyms have been treated separately. Even plants not occurring in the islands have also been included. In the absence of any

voucher specimens in any herbarium for these species, it is impossible now to check the identity of the species and hence most of the data mentioned by the above authors are undependable and need further investigation through field work and close contact with the tribes.

Critical comments on some reports: Chander *et al.* (2014) recorded the use of 150 medicinal plant species used to treat 47 different diseases by the Nicobarese of Car Nicobar island. However, some of the plants recorded by them do not occur in the Islands or are later introduced in these islands. Dagar and Changhtai (1989) brought to light a promising ethnomedicinal plant, *Trichosanthes bracteata* (Lam.) Voigt of Cucurbitaceae, a species, not occurring in the Islands. The publication of Sharief *et al.* (2005) is also marred by inaccuracies due to mis-identifications. For example, *Canavalia ensiformis* (L.) DC. (Fabaceae) is a crop plant, not available round the year; *Phyllanthus niruri* L. is a South American weed, recorded to be used in jaundice but it does not occur in Asia. Similarly, *Acmella paniculata* (Wall. ex DC.) R.K. Jansen (Asteraceae) (= *Spilanthes paniculata* Wall. ex DC.), used in toothache does not occur in the Andamans. In addition, *Kaempferia rotunda* L. (Zingiberaceae), reported to be used in gastric problems (Sharief *et al.*, 2005), unfortunately, does not occur in these Islands. Chakrabarty *et al.* (2020) listed 64 plant species wrongly attributed to the Jarawa tribe.

Among the tribal communities of these islands, the Nicobarese are in the mainstream and they are now resorting to medical aids. The Great Andamanese and the Onge are now surviving fully on Government aid. The Jarawas and the Shompens are the only tribes who are still practicing their traditional culture. The Karens and the Ranchi people who were settled long back have, however, developed deep knowledge of the indigenous plants and they are still using some plants as medicine.

In view of the above, in the present paper, we have listed the medicinal plants which are mostly indigenous and are/were in use by the tribes and settlers. A few non-indigenous species are, however, also listed here which are in use as per knowledge acquired from mainland.

**Ethno-medicinal plants**

The medicinal plants of the Andaman & Nicobar Islands are presented in **Table-1**. Only dependable records have been enumerated in the list. It may be noted that most of the uses are recorded without any fixed doses as divulged by the informants/medicine-men. Altogether, medicinal uses of 94 plant species in practice by the indigenous tribes and settlers in these Islands are documented in this paper. They include: Marine algae: 1 family, 1 genus, 1 species; Pteridophytes: 3 families, 3 genera, 3 species'; Gymnosperms: 2 families, 2 genera, 3 species and Angiosperms: 45 families, 79 genera, 88 species (Monocotyledons: 7 families, 10 genera, 12 species; Dicotyledons: 38 families, 69 genera, 75 species).

**Acknowledgements**

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Table 1: Ethno-medicinal plants of Andaman & Nicobar Islands

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Abelmoschus esculentus* (L.) Moench (Malvaceae) | 'Bhindi' (H) | Chopped fruits soaked in water overnight, hand mashed and the filtrate taken orally in morning to control diabetes (R, Se) | Maina *et al.* (2015) |
| *Achyranthes aspera* L. (Amaranthaceae) | 'Chirchira' (H) | Root used to clean teeth (Se) | Rasingam *et al.* (2012) |
| *Acrostichum aureum* L. (Pteridaceae) | 'Khari bhaji' (H) | Rhizome paste applied externally on wounds and boils (N, O, R) | Pandey *et al.* (2009) |
| *Ageratum conyzoides* L. (Asteraceae) | 'Aungtel' (J), 'Topinyom'(N) | Young leaves crushed and applied externally for body pain (J); Juice of leaves dropped in eyes in cases of eye infection | Pandey *et al.* (2009), Chakrabarty *et al.* (2020) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Aglaia elaeagnoides* (A. Juss.) Benth. (Meliaceae) | 'Priyangu' (H) | Decoction of bark taken orally in the morning in diabetes (R, Se) | Maina *et al.* (2015) |
| *Ailanthus triphysa* (Dennst.) Alston (Simaroubaceae) | 'Dhup' (H) | Powdered seeds taken once in a day to control diabetes (R, Se) | Maina *et al.* (2015) |
| *Alocasia macrorrhizos* (L.) G.Don (Araceae) | 'Mankanda' (H) | Sap of plant is applied externally on scorpion sting (All except J, O, Sh) | Pandey *et al.* (2009) |
| *Alstonia macrophylla* Wall. ex G. Don (Apocynaceae) | 'Tachorol' (Sh); 'Chuharoi' (N) | Stem bark, root or leaves boiled in water and vapours inhaled for curing fever (Sh); leaf juice in water taken orally in painful menstruation (N); leaf paste applied externally on the vaginal area for relief after the delivery (N); decoction of leaves and stem bark widely used to cure stomach ache, skin diseases and the urinary infections (N) | Chakrabarty and Vasudeva Rao (1988), Dagar and Dagar (1991), Das *et al.* (2006), Pandey *et al.* (2009) |
| *A. scholaris* (L.) R. Br. (Apocynaceae) | 'Chatim' (H), 'Taungmeok' (Sh) | Leaves, Bark or roots boiled in water and vapours inhaled for relief in fevers (Sh); Extracts of root, bark and leaves taken orally in fever (N); decoction of bark taken daily in diabetes (R, Se) | Chakrabarty and Vasudeva Rao (1988), Pandey *et al.* (2009), Maina *et al.* (2015) |
| *Ampelocissus barbata* (Wall.) Planch. (Vitaceae) | 'Pinuh' (N) | Fresh leaf juice dropped in eyes for curing eye infection (N) | Pandey *et al.* (2009) |
| *Anaxagorea luzonensis* A.Gray (Annonaceae) | 'Innetha' (J), 'Tip phal' (H) | Leaves heated and applied externally in body pain (J) | Chakrabarty *et al.* (2020) |
| *Ancistrocladus tectorius* (Lour.) Merr. (Ancistrocladaceae) | 'Tealapathow' (K) | Paste of bark and leaves reported to be mixed with some other plant parts and applied externally on fractured bones (K) | Sharief *et al.* (2005) |
| *Angiopteris lygodiifolia* Roscust (Angiopteridaceae) | Not known/ recorded | Fronds worn around chest for curing cough and cold (J) | Chakrabarty *et al.* (2020) |
| *Ardisia solanacea* Roxb. (Primulaceae) | 'Kanheyo' (Sh), 'Khari phal' (H), 'Minkuon' (N) | Root boiled in water and used for washing female genitals after child birth; decoction of root also taken orally to remove blood clot and internal haemorrhage (Sh); paste of leaves smeared on mumps (N); crushed leaves taken orally in menstrual disorders (N) | Chakrabarty and Vasudeva Rao (1988), Pandey *et al.* (2009) |
| *Areca triandra* Roxb. ex Buch.-Ham. (Arecaceae) | 'Jangli supari' (H) | Nuts and tender stem chewed after food in diabetes (R, Se) | Maina *et al.* (2015) |
| *Aristolochia acuminata* Lam. (Aristolochiaceae) | 'Mincho-koen', 'Punkot' (N) | Decoction of leaves taken orally in the gynecological disorders (N) | Pandey *et al.* (2009) |
| *Artocarpus altilis* (Parkinson) Fosberg (Moraceae) | 'Bilaiti kathal' (H), 'Pompu' (N) | Milky latex applied on wounds for healing (N) | Pandey *et al.* (2009) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| A. *heterophyllus* Lam. (Moraceae) | 'Kathal', 'Karhal' (H) | Milky latex applied for healing the wounds (N) | Pandey *et al.* (2009) |
| *Asplenium falcatum* Lam. (Aspleniaceae) | Not known/ recorded | Decoction of leaves taken orally in jaundice and the malarial fever (N, O) | Pandey *et al.* (2009) |
| *Avicennia officinalis* L. (Acanthaceae) | 'Tivar' (H) | Decoction of half cup of stem bark and juice of flowers given for diabetes (R, Se) | Maina *et al.* (2015) |
| *Azadirachta indica* A.Juss. (Meliaceae) | 'Neem', 'Nimb' (H) | Tender stems used as toothbrush, leaves for getting relief in fever and diabetes (R, Se) | Rasingam *et al.* (2012) |
| *Brachypterum scandens* (Roxb.) Miq. (Fabaceae) | 'Gonj' (H) | Half cup decoction of bark is administered orally in morning to control diabetes (R, Se) | Maina *et al.* (2015) |
| *Breynia vitis-idaea* (Burm.f.) C.E.C.Fisch. (Phyllanthaceae) | Not known | Tender twig used as toothbrush (Se) | Rasingam *et al.* (2012) |
| *Calophyllum inophyllum* L. (Clusiaceae) | 'Lamonk' (N), 'Intanng' (N), | Juice from twigs and leaves applied externally in eye infection, on bone fracture and killing the lice (N) | Pandey *et al.* (2009) |
| *Canarium euphyllum* Kurz (Burseraceae) | 'Peepthale' (J) | Tender leaves eaten raw to control loose motion (J) | Chakrabarty *et al.* (2020) |
| *Canavalia cathartica* Thouars (Fabaceae) | 'Kala-kala' (J) | Whole plant tied on leg for relief in leg pain (J) | Chakrabarty *et al.* (2020) |
| *Caryota mitis* Lour. (Arecaceae) | 'Indau' (J), 'Mari pattti' (H) | Tender shoots eaten raw to cure cough, abdominal pain and vomiting (J) | Chakrabarty *et al.* (2020) |
| *Casearia grewiifolia* Vent. var. *hexagona* (Decne.) Govaerts (Salicaceae) | 'Kul-tuong' (N) | Paste of leaves mixed with tamarind leaves and water and taken orally in dysentery (N) | Pandey *et al.* (2009) |
| *Chromolaena odorata* (L.) R.M.King & H.Rob. (Asteraceae) | 'Chalechechmo' (A), 'Euhben' (N), 'Thu-kunk-kala' (O, J) | Leaf extract applied externally on cuts and wounds and in leech bite (K, N, O); also said to be effective in joint pains (J) | Dagar & Dagar (1991), Chakrabarty & Balakrishnan (2003), Chakrabarty *et al.* (2020) |
| *Codiocarpus andamanicus* (Kurz) R.A. Howard (Stemonuraceae) | Not known | Leaves pounded and warmed in coconut oil and applied externally on the scrotum for curing pain and swelling of scrotum | Pandey *et al.* (2009) |
| *Crotalaria pallida* Aiton (Fabaceae) | 'Uhutesimil' (K) | Leaf paste applied externally in the centipede and snake bite (K) | Sharief *et al.* (2005) |
| *Cycas zeylanica* (J. Schust.) A. Lindstr. & K.D. Hill (Cycadaceae) | 'Arguna' (H), 'Chatale' (A), 'Oomin' (J), 'Turiella' (N) | The sticky gum-like substance on seeds is applied on skin diseases and ulcers (J); seed pulp applied externally in stomach pain (A, N) | Pandey *et al.* (2009), Chakrabarty *et al.* (2020) |
| *Cymbidium aloifolium* (L.) Sw. (Orchidaceae) | 'Titolini' (K) | Plant extracts put into ears for relief in ear pain (K) | Sharief *et al.* (2005) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Diospyros barberi* Ramaswamy (Ebenaceae) | 'Torolullu' (J) | Leaves tied on forehead and around chest to get relief from headache and back-pain (J) | Chakrabarty *et al.* (2020) |
| *Diospyros undulata* Wall. ex G.Don (Ebenaceae) | 'Lintoh' (N) | Leaf extract taken orally in fever (N) | Pandey *et al.* (2009) |
| *Dischidia bengalensis* Colebr. (Apocynaceae) | 'Talima' (Sh) | Twigs pounded and applied externally for healing of fractured bone (Sh) | Chakrabarty and Vasudeva Rao (1988) |
| *Donax canniformis* (G.Forst.) K.Schum. (Marantaceae) | 'Amokyoang' (Sh), 'Kagle' (O), 'Leethir' (A), | Decoction of stem and root taken orally in fever (Sh); decoction of leave taken orally for curing abdominal and spinal pain (O), the same given to pregnant women in pre- and post-natal periods (O) | Bhargava (1983), Chakrabarty and Vasudeva Rao (1988) |
| *Dracaena angustifolia* (Medik.) Roxb. (Asparagaceae) | 'Tidba' (J) | Bark and twig peeled off and the latter used to clean genitals during menstruation period (J) | Chakrabarty *et al.* (2020) |
| *Erythrina variegata* L. (Fabaceae) | 'Laro' (A), 'Dandap' (H), 'Mandar' (H) | Bark boiled and taken orally in fever (A) | Pandey *et al.* (2009) |
| *Ficus andamanica* Corner (Moraceae) | 'Rengo' (A) | Aerial roots tied on the point of fractured bone to give support (A) | Pandey *et al.* (2009) |
| *Garcinia nervosa* (Miq.) Miq. (Clusiaceae) | 'Kintul' (N, Sh) | Decoction of leaves taken orally in fever (N); Leaf paste applied externally to reduce body pain; roots used for washing uterus after child birth (Sh) | Elanchezhian *et al.* (2007), Pandey *et al.* (2009) |
| *Glochidion calocarpum* Kurz (Phyllanthaceae) | 'Kinsan' (Sh) | Seed or bark pounded and applied externally in skin diseases (Sh); paste of leaves applied on wounds (N) | Chakrabarty and Vasudeva Rao (1988), Chakrabarty and Balakrishnan (2003) |
| *Gnetum edule* (Willd.) Blume (Gnetaceae) | 'Tibaechoo' (J) | Thread obtained from bark fibre tied on the umbilical cord of mother after child birth to stop bleeding (J) | Chakrabarty *et al.* (2020) |
| *G. gnemon* L. (Gnetaceae) | Not known/ recorded | Leaf paste mixed in coconut milk is smeared on abdomen during labour pain (N) | Pandey *et al.* (2009) |
| *Goniothalamus macranthus* (Kurz) Boerl. (Annonaceae) | 'Buttam balli' (H), 'Omiya nada' (J) | Leaves burnt on fire and smoke inhaled in fever; In case of body pain, leaves are heated and applied externally (J) | Chakrabarty *et al.* (2020) |
| *Gymnema latifolium* Wall. ex Wight (Apocynaceae) | 'Mera-singhi' (H) | Four to five leaves chewed daily to stimulate insulin secretion (R, Se) | Maina *et al.* (2015) |
| *Heritiera littoralis* Aiton (Malvaceae) | 'Moroo' (J) | Leaves applied on forehead to get relief from the headache (J) | Chakrabarty *et al.* (2020) |
| *Hibiscus tililaceus* L. (Malvaceae) | 'Bole' (A), 'Koibo' (O), 'Touku' (N) | Boiled leaves taken orally as beverage (A, O); Leaf juice taken orally in bleeding urination (N) | Bhargava (1983), Pandey *et al.* (2009) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Horsfieldia glabra* (Blume) Warb. (Myristicaceae) | 'Jungli Adrak' (H), 'Jugane' (O), 'Oro' (J) | Bark of twigs peeled and wrapped around body to reduce abdominal and backbone pain (J); fruits eaten raw in abdominal pain (O) | Chakrabarty and Balakrishnan (2003), Chakrabarty *et al.* (2020) |
| *Ichnocarpus frutescens* (L.) W.T. Aiton (Apocynaceae) | Not known | Crushed leaves in water taken orally in menstrual disorders (N) | Pandey *et al.* (2009) |
| *Ixora grandifolia* Zoll. & Moritzi (Rubiaceae) | Not known | After childbirth, a separate small hut is constructed and the mother with the newborn are housed there on a wooden platform. At this point, a bark strip of the plant is heated and tied on the abdomen of the mother for quick recovery (J) | Chakrabarty *et al.* (2020) |
| *Jatropha curcas* L. (Euphorbiaceae) | 'Jamal Ghota' (H) | Tender branches used as toothbrush and paste of root applied on teeth to cure toothache (R, Se) | Pandey *et al.* (2009), Rasingam *et al.* (2012) |
| *J. gossypiifolia* L. (Euphorbiaceae) | 'Ratanjoti' (H) | Tender branches used as toothbrush (R) | Rasingam *et al.* (2012) |
| *Kandelia candel* (L.) Druce (Rhizophoraceae) | 'Kandelia' (H) | Half cup decoction of bark taken in morning for getting relief in diabetes | Maina *et al.* (2015) |
| *Leea aequata* L. (Vitaceae) | 'Elea' (J) | Just after childbirth "Aalam" (red ochre; a mixture of soil, juice of "Oro", fat of boar and some red phytoplanktons) is applied on the umbilicus of the child and the umbilical cord of the mother and covered with heated leaves of the plant to stop bleeding (J) | Chakrabarty *et al.* (2020) |
| *Maasia glauca* (Hassk.) Mols, Kessler & Rogstad (Annonaceae) | 'Keka' (J), 'Neva' (H) | Leaves burnt in fire and smoke inhaled in fever; leaves heated and applied externally on throat and chest for cough and cold and fever (J) | Chakrabarty *et al.* (2020) |
| *Maesa ramentacea* (Roxb.) A.DC. (Primulaceae) | 'Hing-kwai' (N) | A paste is made with the leaves, coconut oil and sea water collected from poodles after low tide and the mixture is massaged on abdomen during delivery (N) | Pandey *et al.* (2009) |
| *Mallotus peltatus* (Geiseler) Müll. Arg. (Euphorbiaceae) | 'Bada' (J), 'Bathagae' (J), 'Banga' (H) | Leaves eaten raw for relief in abdominal pains (O) | Bhargava (1983), Chakrabarty and Balakrishnan (2003), Chakrabarty *et al.* (2020) |
| *Marsypopetalum modestum* (Pierre) B.Xue & R.M.K. Saunders (Annonaceae) | 'Tigulae' (J) | Juice of leaves are mixed with crushed bark, often mixed with larvae of honeybee and applied on head for stopping hair fall and hair growth (J) | Chakrabarty *et al.* (2020) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Meistera aculeata* (Roxb.) Skornick. & M.F. Newman (Zingiberaceae) | 'Uiyaw' (J) | Leaves and stem tied around chest for cough and fever; leaf juice applied on scar (J); paste of seeds, leaves and rhizome taken orally once in a day in diabetes (R, Se) | Maina *et al.* (2015), Chakrabarty *et al.* (2020) |
| *Melastoma malabathricum* L. (Melastomataceae) | 'Tinrok' (N) | Pounded leaves boiled with coconut oil and applied externally in rheumatic pains (N) | Pandey *et al.* (2009) |
| *Myristica andamanica* Hook. f. (Myristicaceae) | 'Bada pathi' 'Jaiphal' (H), 'Kala Jaiphal' (H), 'Kinhanmo' (O) 'Oro' (J) | Just after childbirth "Aalam" (red ochre; a mixture of soil, juice of "Oro", fat of boar and some red phytoplanktons) is applied on the umbilicus of the child and the umbilical cord of the mother and covered with heated leaves of the plant to stop bleeding; leaf burnt and smoke inhaled in fever; the cut bark yields a red sap which along with the crushed leaves applied on wounds , scars and insect/snake bites. Leaves also tied around chest for cough and fever (J); pounded bark applied externally in skin diseases (O); leaf paste applied externally on wounds (O) | Bharvaga (1983), Pandey *et al.* (2009), Chakrabarty *et al.* (2020) |
| *Nicotiana tabacum* L. (Solanaceae) | 'Sukha' (H) | Dried leaves pounded and applied externally in lime and honey on wounds (Sh - acquired use) | Chakrabarty and Vasudeva Rao (1988) |
| *Orophea hexandra* Blume (Annonaceae) | 'Thangobaaja' (J) | Bark peeled and applied on forehead to cure headache (J) | Chakrabarty *et al.* (2020) |
| *Oroxylum indicum* (L.) Kurz (Bignoniaceae) | 'Sona Patta' (H) | Tender fruits and seeds made into a paste in water and taken orally in early morning as stoma-chic and purgative (A, O) | Pandey *et al.* (2009) |
| *Oxalis corniculata* L. (Oxalidaceae) | 'Amrul Sag' (H), 'Tapopuri' (K) | Whole plants paste mixed with some other plants and applied externally on fractured bone (K) | Sharief *et al.* (2005) |
| *Piper betle* L. (Piperaceae) | 'Intoto' (J), 'Pan' (H) | Leaves wrapped around body for relief in pain(J) | Chakrabarty *et al.* (2020) |
| *Pongamia pinnata* (L.) Pierre (Fabaceae)" | 'Theep' (A) 'Karanj' (H), 'Thinwin' (N), 'Biochune' (O), 'Oochunae' (J) | Bark pounded and taken orally in Malaria (K, O, N); decoction of bark gargled as mouth freshener (K); tender branchlet used as toothbrush (R, Se); half cup decoction of tender bark taken orally in morning in diabetes (R, Se); bark applied externally for controlling abdominal heat (J) | Bhargava (1983), Chakrabarty and Balakrishnan (2003), Sharief *et al.* (2005), Pandey *et al.* (2009), Rasingam *et al.* (2012), Maina *et al.* (2015), Chakrabarty *et al.* (2020) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Premna corymbosa* Rottler (Lamiaceae) | Not known | Leaves pasted with the pig blood and applied externally in body pain (N) | Pandey *et al.* (2009) |
| P. *serratifolia* L. (Lamiaceae) | 'Mathan' (H), 'Tamonja' (O) | Raw fruit or its extract prepared in boiled water and taken orally for curing cough (A, O) | Bhargava (1983), Chakrabarty and Balakrishnan (2003), Pandey *et al.* (2009) |
| *Prunus javanica* (Teijsm. & Binn.) Miq. (Rosaceae) | 'Wate' (J) | At the time of childbirth, several strips of bark are heated and kept on the abdomen of the woman to ease labour-pain (J); Leaves eaten in cold and cough (K) | Sharief *et al.* (2005), Chakrabarty *et al.* (2020) |
| *Pseuduvaria prainii* (King) Merr. (Annonaceae) | 'Hoomal' (J) | Leaves wrapped around body to relieve body pain and cough (J) | Chakrabarty *et al.* (2020) |
| *Rhizophora mucronata* Poir. (Rhizophoraceae) | 'Kandeil' (H) | Bark is astringent and about 10 g is prescribed twice a day in diabetes (H) | Maina *et al.* (2015) |
| *Rinorea bengalensis* (Wall.) Kuntze (Violaceae) | 'Tavo' (A) | Bark pounded and applied externally in body pain, cough and cold and fever (A) | Pandey *et al.* (2009) |
| R. *macrophylla* (Decne.) Kuntze (Violaceae) | Gene (A), 'Takhkno' (A) | Bark and leaves pounded and made into a paste in water and applied externally on breast to promote lactation (A) | Pandey *et al.* (2009) |
| *Salacia chinensis* L. (Celastraceae) | 'Lano-cho' (N) | Leaves pasted in coconut oil with various other plants and applied on abdomen for relieving labour pain (N) | Pandey *et al.* (2009) |
| *Sarcostigma kleinii* Wight & Arn. (Icacinaceae) | 'Montalae' (J) | Young shoots inserted into ears for relief in ear pain (J) | Chakrabarty *et al.* (2020) |
| *Sargassum wightii* R.K. Greville (Sargassaceae) | 'Chawpho' (A) | Plant rubbed on whole body to treat malarial fever (A) | Pandey *et al.* (2009) |
| *Scaevola taccada* (Gaertn.) Roxb. (Goodeniaceae) | 'Koaayae' (O, J) | Leaves heated and put on backbone to get relief from back pain (J); raw fruit eaten in fever, cough and headache (O); paste of leaves applied externally in rheumatic pain and bone fracture (N, O) | Bhargava (1983), Pandey *et al.* (2009), Chakrabarty *et al.* (2020) |
| *Semecarpus kurzii* Engl. (Anacardiaceae) | 'Pep' (Sh) | Fruits crushed and applied externally to cure injuries (N, Sh) | Chakrabarty and Vasudeva Rao (1988), Pandey *et al.* (2009) |
| *Smilax aspericaulis* Wall. ex A.DC. (Smilacaceae) | Not known | Mature stem used as toothbrush (R) | Rasingam *et al.* (2012) |
| *Sterculia rubiginosa* Vent. (Sterculiaceae) | 'Shawni' (N) | Decoction of leaves taken orally for cough, cold and fever (N) | Pandey *et al.* (2009) |

| Name of species and family | Local name/s | Recorded use/s | Reference/s |
|---|---|---|---|
| *Streblus asper* Lour. (Moraceae) | 'Siora' (A) | Milky latex applied externally as antiseptic and astringent (A); tender stem used as toothbrush (Se) | Pandey *et al.* (2009), Rasingam *et al.* (2012) |
| *Syzygium samarangense* (Blume) Merr. & L.M. Perry (Myrtaceae) | 'Baral' (H), 'Khari Jamun' (H), 'Milul' (N) | Leaves wrapped around head in fever (J); leaf juice mixed in coconut oil applied externally in rheumatic pain and lumbago (N); half cup decoction of bark or one teaspoon of powdered seeds taken orally twice a day in diabetes (R, Se) | Pandey *et al.* (2009), Maina et al. (2015), Chakrabarty *et al.* (2020) |
| *Thespesia populnea* (L.) Sol. ex Correa (Malvaceae) | 'Portia' (H) | Leaves eaten raw in constipation (O) | Bhargava (1983), Chakrabarty and Balakrishnan (2003) |
| *Thottea tomentosa* (Blume) Ding Hou (Aristolochiaceae) | 'Udupet' (J) | Whole plant worn around chest, head and waist for remedy of cough and fever (J); Dried leaves and roots pounded and one teaspoon taken daily in morning empty stomach with water in diabetes (R, Se) | Maina et al. (2015), Chakrabarty *et al.* (2020) |
| *Trema tomentosum* Roxb.) H.Hara (Cannabaceae) | 'Bakri Patti' (H), 'Teu' (N), | Extract of leaves applied on forehead to cure headache (N, R, Se) | Pandey *et al.* (2009) |
| *Trichosanthes quinquangulata* A. Gray (Cucurbitaceae) | 'Kula-chaul' (N) 'Urubethe' (J) | Whole plant wrapped around neck to cure throat infection (J); extract of tender leaves applied externally on inflammations (N) | Pandey *et al.* (2009), Chakrabarty *et al.* (2020) |
| *Uvaria concava* Teijsm. & Binn. (Annonaceae) | Not known | Mature stems used as toothbrush (R) | Rasingam *et al.* (2012) |
| *Vachellia nilotica* (L.) P.J.H. Hurter & Mabb. subsp. *indica* (Benth.) Kyal. & Boatwr. (Fabaceae) | 'Babul' (H), 'Kikar' (H) | Tender stem used as toothbrush (Se); Bark boiled in water and decoction taken orally in morning in empty stomach; one teaspoon of driedand powdered tender pods taken with water twice a day in diabetes (R, Se) | Rasingam *et al.* (2012), Maina *et al.* (2015) |
| *Wollastonia biflora* (L.) DC. (Asteraceae) | 'Kotan' (H) | Leaves pounded into a paste and applied to cuts (O) and on forehead for headache (N) | Bhargava (1983), Chakrabarty and Balakrishnan (2003) |
| *Zingiber spectabile* Griff. (Zingiberaceae) | 'Hotineeba' (J) | Stem sap applied externally on wounds and for snake/insect bite (J) | Chakrabarty *et al.* (2020) |
| *Z. squarrosum* Roxb. (Zingiberaceae) | 'Ooyau' (J) | Stem sap applied externally on wounds and for snake/insect bite (J) | Chakrabarty *et al.* (2020) |
| *Z. zerumbet* (L.) Roscoe ex Sm. (Zingiberaceae) | 'Pothako' (K) | Rhizome extract taken orally as cooling agent (K); dried and powdered rhizome inhaled in cough, cold and fever (K) | Sharief *et al.* (2009) |

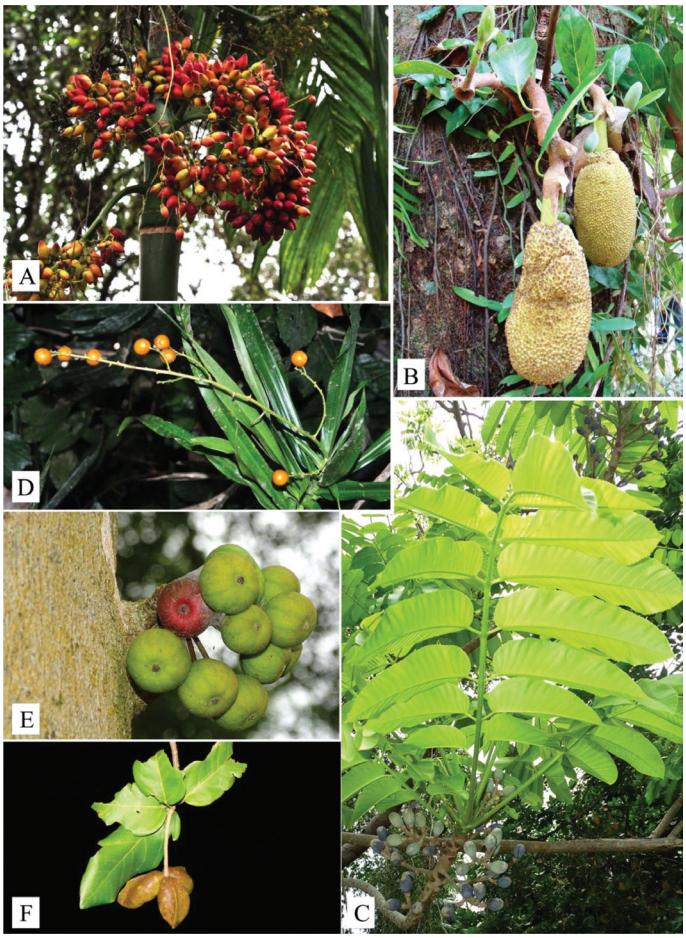


**Fig. 4:** A. *Areca triandra*; B. *Artocarpus heterophyllus;* C. *Canarium euphyllum;* D. *Dracaena angustifolia;* E. *Ficus andamanica;* F. *Heritiera littoralis.*

**Conflict of Interest:** This is a review paper based on the published literature from Andaman & Nicobar Islands hence there is no conflict of interest.

## References

Anonymous. 2011. Census of India.

http://censusindia.gov.in/2011-Common/CensusData2011.html

Awasthi, A.K. 1987. Folklore medico-botany of the aboriginal inhabitants of the Andaman & Nicobar Islands. *J. Andaman Sci. Assoc.* **3:** 80–87.

Awasthi, A.K. 1991. Ethnobotanical studies of the Negrito islanders of Andaman Islands: The Great Andamanese. *Econ. Bot.* **45:** 274–280.

Bandopadhyay, P.C. & Carter, A. 2017. Geological framework of the Andaman–Nicobar Islands. *Mem. Geol. Soc. London* **47:** 75–93. https://doi.org/10.1144/M47.6

Bhargava, N. 1981. Plants in the folk life and folklore in Andaman and Nicobar Islands. p. 329–345.In*:* Jain, S.K. (ed.) *Glimpses of Indian Ethnobotany.* Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

Bhargava, N. 1983. Ethnobotanical studies of the tribes of Andaman & Nicobar Islands, India. 1. Onge. *Econ. Bot.* **37:** 110–119.

Chakrabarty, T. & Balakrishnan, N.P. 2003. Ethnobotany of the Andaman and Nicobar Islands, India - a review. *J. Econ. Taxon. Bot.* **27:** 863–893.

Chakrabarty, T. & Vasudeva Rao, M.K. 1988. Ethnobotanical studies on the Shompens of Great Nicobar Island. *J. Econ. Taxon. Bot.* **12:** 39–54.

Chakrabarty, T., Maina V. & Naik, M.C. 2020. *Ethnobotany of the Jarawa tribe of Andaman Islands, India (with an appendix on typifications and taxonomic notes)*. Tapas Chakrabarty, Howrah, India.

Chakrabarty, T., Maina, V. & Tigga, M. 2008. Some unrecorded medicinal plants of the Jarawa tribe of the Andaman Islands. *Bull. Bot. Surv. India* **49:** 233–234.

Chander, M.P. & Vijayachari, P. 2018. Ethnomedicinal knowledge among the tribes of the Little Andaman Island, Andaman and Nicobar Islands, India. *Phamocogn. Mag.* **14:** S488–S493.

Chander, M.P., Kartick, C., Gangadhar, J. & Vijayachari, P. 2014. Ethnomedicine and healthcare practices among Nicobarese of Car Nicobar – an indigenous tribe of Andaman and Nicobar Islands. *J. Ethnopharmacol.* **158 (Part A):** 18–24.

Chander, M.P., Kartick, C. & Vijayachari, P. 2015a. Herbal medicine and healthcare practice among Nicobarese of Nancowry group of Islands – an indigenous tribe of Andaman & Nicobar Islands. *Indian J. Med. Res.* **141:** 720–740.

Chander, M.P., Kartick, C. & Vijayachari, P. 2015b. Medicinal plants used by the Nicobarese inhabiting Little Nicobar Island of the Andaman and Nicobar Archipelago, India. *J. Altern. Complement. Med.* **21:** 373–379.

Chander, M.P., Kartick, C. & Vijayachari, P. (2015c). Ethnomedicinal knowledge among Karens of Andaman & Nicobar Islands, India. *J. Ethnopharmacol.* **162:** 127–133.

Chander, M.P., Pillai, C.R. & Vijayachari, P. (2016). Antimalarial efficacy of nine medicinal plants traditionally used by the Karens of Andaman and Nicobar Islands, India. *Bangladesh J. Pharmacol.* **11:** 126–129.

Dagar, H.S. 1986. Ethnobotany of the canoe of the Nicobarese tribals. *Indian Forest.* **112:** 174– 179.

Dagar, H.S. 1988. Euphorbiaceae in folk life of the Nicobarese tribals. *Bull. Med. Ethnobot. Res.* **9:** 21–27.

Dagar, H.S. 1989a. Plant in folk medicines among Nicobarese tribals of Car Nicobar Island, India. *Econ. Bot.* **43:** 215–224.

Dagar, H.S. 1989b. Plants in folk medicine of the Nicoba-

rese in Bampoka Island. *J. Andaman Sci. Assoc.* **5:** 69–71.

Dagar, H.S. 1989c. Plants used as abortifacient and contraceptive by Nicobarese. *Bull. Med. Ethnobot. Res.* **5:** 169–170.

Dagar, H.S. 1989d. Some pteridophytes in the ethnology and life of the Nicobarese. *J. Econ. Taxon. Bot.* **13:** 395–397.

Dagar, H.S. & Changhtai, S.A. 1989. *Trichosanthes bracteata* (Lam.) Voigt (Cucurbitaceae) - a promising ethnomedicinal taxon in Andaman & Nicobar Islands. *Indian J. Appl. & Pure Biol.* **4:** 121.

Dagar, H.S. & Dagar, J.C. 1991. Plant folk medicines among the Nicobarese of Katchal Island, India. *Econ. Bot.* **45:** 114–119.

Dagar, H.S. & Dagar, J.C. 1996. Ethnobotanical studies of the Nicobarese of Chowra Island of Nicobar group of Islands. *J. Econ. Taxon. Bot., Addl. Ser.* **12:** 381–388.

Dagar, H.S. & Dagar, J.C. 2003. Plants used in ethnomedicine by Nicobarese in Islands of Bay of Bengal. *J. Econ. Taxon. Bot.* **27:** 73–84.

Dagar, J.C. & Dagar, H.S. 1986. Mangroves and some coastal plants in ethnobotany of the tribals of Andaman and Nicobar Islands. *J. Andaman Sci. Assoc.* **2:** 33–36.

Dagar, J.C. & Dagar, H.S. 1987.Some useful Pteridophytes of Andaman and Nicobar Islands. *J. Econ. Taxon. Bot.* **9:** 317–323.

Dagar, J.C. & Dagar, H.S. 1999. *Ethnobotany of aborigines of Andaman-Nicobar Islands.* Surya Publishers, Dehra Dun.

Das, S., Sreeja, T.E. & Mandal, A. 2006. Ethnomedicinal use of certain plants from Bay Islands. *Indian J. Trad. Knowl.* **5:** 207–211.

Dutta, P.C. 1978. *The Great Andamanese: Past and Present.* Anthropological Survey of India, Calcutta.

Dwivedi, J. 2015. The dependence of the Andaman and Nicobar Island tribal communities on herbal remedies. *ISOR J. Env. Sci. Toxicol. Food Techn.* **9:** 45–53.

Elanchezhian, R., Kumar, R.S., Beena, S.J. & Suryanarayana, M.A. (2007). Ethnobotany of *Shompens* – a primitive tribe of Great Nicobar Island. *Indian J. Trad. Knowl.* **6:** 342–345.

Ghosh, A. 2014a. Climbing plants used to cure for some gynecological disorders by tribal people of Andaman and Nicobar Islands. *Int. J. Pharm. Life Sci.* **5:** 3531–3533.

Ghosh, A. 2014b. Survey of ethno-medicinal climbing plants in Andaman and Nicobar Islands, India. *Int. J. Pharm. Life Sci.* **5:** 3671–3677.

Ghosh, A. 2014c. Traditional phytotherapy treatment for snakebite by tribal people of Andaman and Nicobar Islands, India. *Indian J. Fundamental Appl. Life Sci.* **4:** 130–132.

Gupta, S., Porwal, M.C. & Roy, P.S. 2004. Indigenous knowledge on some medicinal plants among the Nicobari tribe of Car Nicobar Island. *Indian J. Trad. Knowl.* **3:** 287–293.

Jha, S.K. & Singh, U. 2014. Ethnomedicinal uses of flora by different tribes of Andaman and Nicobar Islands. P. 152–160. *In:* Kumar, S. (ed.), *Ethnobotanical studies in India.* Deep Publications, New Delhi,

Khan, I.H. 1983. Wildlife. In: Hundred years of forestry in the Andamans, 1883–1983. P. 53–60. Issued on the occasion of the centenary celebration of the Forest Department, Andaman and Nicobar Islands, Port Blair.

Kloss, C.B. 1903, *In the Andaman and Nicobars* (Reprinted edition, 1971). Vivek Publishing House, New Delhi, 373 pp.

Kumar, K., Kumar B., Selvun, T., Sajibala, B., Jairaj, R.S.C., Mehrotra, S., & Pushpangadan, P. 2006. Ethnobotanical heritage of Nicobarese tribe. *J. Econ. Taxon. Bot.* **30:** 331– 348.

Maina, V., Prasad, R. & Chakrabarty, T. 2015. Antidiabetic plants used by the tribes and settlers of Andaman & Nicobar Islands. *Nelumbo* **57:** 75–81.

Mane, S.S., Peethambaram, S.T., Masram, P.R., Rath, C., Sushmitha, B., Gaur, S.K., Narayanam, S. & Ratna, J.G.V. 2018. Exploration of polyherbal formulations used by folk healers of Andaman and Nicobar Islands, India. *J. Drug Res. Ayurvedic Sci.* **3:** 85–95.

Mane, S.S., Rath, C., Sushmitha, B., Gaur, S.K., Ratna, J.G.V., Srikanth, N., Tripathi, A.K. & Kamble, M.Y. 2020. Ethnomedicinal knowledge among Nicobarese tribes of Car Nicobar Island of Andaman and Nicobar Islands, India. *J. Drug Res. Ayurvedic Sci.* **5:** 13–24.

Nair, K.V., Gopakumar, K., Yoganarasimhan, S.N., Shantha, T.R. & Murthy, K.R.K. 1986. Medico-botany of Andaman and Nicobar Islands – IV (Ayurvedic drugs – 2). *Ancient Sci. Life* **5:** 191–196.

Nair, K.V., Yoganarasimhan, S.N., Murthy, K.R.K. & Shantha, T.R. 1984. Medico-botany of Andaman and Nicobar Islands – III. Ayurvedic drugs – I. *Ancient Sci. Life* **4:** 61–66.

Pandey, R.P., Rasingam, L. & Lakra, G.S. 2009. Ethnomedicinal plants of the aborigines in the Andaman & Nicobar Islands, India. *Nelumbo* **51:** 5–40.

Prasad, P.R.C., Reddy, C.S., Raza, S.H. & Dutt., C.B.S. 2008. Folklore medicinal plants of North Andaman Island, India. *Fitoterapia* **79:** 458–464.

Pullaiah, T., Bahadur, B., Krishnamurthy, K.V., Adams, S.J. & Teron, R. 2017. Ethnobotany of Andaman and Nicobar Islands. p. 207–248. In*:* Pullaiah, T., Krishnamurthy, K.V. & Bahadur, B. (eds.) *Ethnobotany of India: North-*

*East India and Andaman and Nicobar Islands*. CRC PRESS: Apple Academic Press, New York,

Rasingam, L., Jeeva, S. & Kannan, D. 2012. Dental care of Andaman and Nicobars folks: medicinal plants used as toothstick. *Asian Pacific J. Trop. Biomed.* **2(2**, Suppl.**)**: S1013– S1016.

Sharief, M.U., Kumar, S., Diwakar, P.G. & Sharma, T.V.R.S. 2005. Traditional phytotherapy among Karens of Middle Andaman. *Indian J. Tradit. Knowl.* **4:** 429–436.

Sharief, M.U. 2007. Plant folk medicine of *Negrito* tribes of Bay Islands. *Indian J. Tradit. Knowl.* **6:** 468–476.

Sharief, M.U. 2008. Tribal artifact of Nicobari folk of Nicobar Archipelago. *Indian J. Trad. Knowl.* **7:** 42–49.

Sharief, M.U. & Panda, S.P. 2017. Ethnobotanical studies of the dwindling aboriginal Jarawa tribe in Andaman Islands, India. *Genet. Resour. Crop. Evol.* **64:** 1861–1872. https://doi.org/10.1007/s10722-016-0474-0

Sharief, M.U. & Panda, S.P. 2018. Material culture of the ethnic aboriginal Jarawa folk in Andaman Islands, India. *Genet. Resour. Crop. Evol.* **65:** 1369–1384.
https://doi.org/10.1007/s10722-018-0620-y

Sharief, M.U. & Panda, S.P. 2020. Folklore artefacts of aboriginal Shompen tribe in Great Nicobar Island, India. *Genet. Resour. Crop. Evol.* **68:** 835–847.
https://doi.org/10.1007/s10722-020-01027-x

Sharief, M.U. & Rao, R.R. 2007. Ethnobotanical studies of Shompens – A critical endangered and degenerating ethnic community in Great Nicobar Island. *Curr. Sci.* **93:** 1623–1628.

Sharief, M.U., Kumar, S., Diwakar, P.G. & Sharma, T.V.R.S. 2005. Traditional phytotherapy among Karens of Middle Andaman. *Indian J. Tradit. Knowl.* **4:** 429–436.

Sharma, T.V.R.S., Abirami, K. & Chander, M.P. 2018. Medicinal plants used by the tribes of Andaman and Nicobar Islands: a conservational appraisal. *Indian J. Pl. Genet. Resour.* **31:** 125–133.

Verma, C., Bhatia, S. & Srivastava S. 2010. Traditional medicine of the Nicobarese. *Indian J. Trad. Knowl.* **9:** 779–785.

Yoganarsimhan, S.N., Murthy, K.R.K., Chellandurai, V. & Togunashi, V.S. 1983. Medico botany of Andaman and Nicobar Island – I. Physiography, vegetation and enumeration of taxa. *J. Econ. Taxon. Bot.* **4:** 685–697.

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# Ethnobotany and ethnoetymology of indigenous cultivars of food grains of Khandesh region (Maharashtra)

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**Abstract**

The paper deals with ethnobotany and ethnoetymology of indigenous cultivars of some cereals, millets and pulses of Khandesh region in Maharashtra used by Pawara, Bhil, Tadwi and Mawachi inhabiting in Satpura ranges of the state. Local names of cultivars are based on some agricultural attributes such as colour, size, height, utility, locality, habitat, harvesting season and composition of plant parts. It is further desirable to extend studies on this line in other parts of India.

**Key Words**: Agrobiodiversity: Cultivars; Grain; Crops; Ethnobotany; Ethnoetymology

## Introduction

The forested regions are generally occupied by tribal communities. They have always lived in harmony with nature since long period and depend on the small land-holdings. Tribals cultivate plants and rear few domestic animals as well. Their agricultural system belongs to subsistence agriculture, instead of commercial agriculture. The tribal farmers raise local land-races or indigenous cultivars. They have also acquired unique knowledge about the utilities of cultigens.

In the Hindustani (Indian) centre, about 166 species of cultivated plants thought originated and Indian continent is one of the 12 centres of diversity of crops plants (Zeven and de Wet, 1982). Arora and Nayar (1984) and Arora (1992) reported rich diversity of 320 species of wild relatives of crop plants .Variation is the law of nature and the nature's bounty is not yet appreciated. Patil (2003) and Kshirsagar and Patil (2008) investigated biodiversity, while Pawar and Patil (2008) tapped down ethnobotanical wisdom from this region. Although so, agrobiodiversity appeared not completely documented, and at this backdrop, the present authors studied agrobiodiversity of this region. In the present communication, cultivars of some cereals, millets and pulses are being projected for the welfare of mankind at large.

## Methodology

Khandesh region includes three districts *viz*.: Dhule Nandurbar and Jalgaon bordering North-western borders of the state adjacent to Gujarat and Madhya Pradesh **(Map-I)**. This region is inhabited by tribes *viz*., Pawara, Bhil, Mavachi, Tadvi, etc. They have to depend on forests as well as agriculture. They cultivate various crop species on small scale. The plant species were deciphered using flora of Patil (2003) and Kshirsagar and Patil (2008). Different uses of each crop/ cultivar were documented in different seasons during such ethnobotanical outings. In the enumeration below, the botanical name of a plant, its author(s) name, family and the local name(s) is followed by names of its different cultivars and their voucher number (within parenthesis), etymology and uses. All the voucher specimens have been deposited in the herbarium of Department of Botany, B.S.S.P. Mandals A.C.S. College, Songir, district Dhule, Maharashtra.


**Map 1:** Map of State of Maharashtra showing position of Khandesh Region (Dhule, Nandurbar and Jalgaon Districts)

**Systematic Enumeration**

1. ***Sorghum bicolor*** (L.) Moench.( Poaceae) **'**Jwar', 'Juwari',' Jwari'

**Cultivar 1:** *Lal–chikani* (SBK-55)

**Etymology:** Grains reddish denoted in the name of cultivar.

**Uses:** Grains are used for making 'Papad'.

**Cultivar 2 :** *Dhani* (SBK-56)

**Etymology:** Dhan means grains, the main purpose is to be used as grain feeding to cattle instead of fodder. Grains to be fed to cattle are locally called 'Dhan'.

**Uses:** Grains used to prepare 'Lahya' (local name) i.e. popcorns.

**Cultivar 3 :** *Dudh mogara* (SBK-57)

**Etymology:** Grains being white as milk (Dudh) or flowers of Mogra [*Jasminum sambac* (L.) Ait. (Oleaceae)]

**Uses:** Immature ears roasted and grains consumed by tribal people, being nutritious than other cultivars. Grains also used to prepare 'Lahya'( local name) i.e. popcorns and even 'Papad', a food article.

**Cultivar 4:** *Mothi-chikani* (SBK-58)

**Etymology:** Mothi means large or tall plants (as compared to Lal- chikani)

**Uses:** Apart from making 'Bhakari' (local name for bread) and for preparing 'Ladu' (sweet balls), Khichadi (local preparation) and 'Papad'.

**Cultivar 5:** *Phekari* (SBK-59)

**Etymology:** The inflorescence or ears being sparse or spreading, not compact as other varieties, hence so called locally.

**Uses:** Straw mainly employed for making large containers to store fodder, making of earthen walls or partition of huts, also planted as hedge around huts.

**Cultivar 6:** *Motichur* (SBK-60)

**Etymology:** Grains being slightly yellowish as the pearls (Moti) denoted in the name.

**Uses:** Grains mainly used for bread making. Straw constitute good fodder for domestic animals.

**Cultivar 7:** *Dhawal Juwar* (SBK-61)

**Etymology:** Dhawal means white, grains being white.

**Uses:** Grains used for 'Dhan' (cattle feed) after keeping them in water for some time. Immature ears roasted and cherished by tribals.

**Cultivar 8:** *Phatfati* (SBK-62)

**Etymology:** While making of popcorns, it causes noise as 'phat' hence the name.

**Uses:** Grains used for making 'Lahya' (popcorns) and 'Papad', apart from bread making.

**2. *Oryza sativa* L.** (Poaceae) 'Tandul' (exclusively for grains) 'Sal', 'Hal' (Grains covered with husk).

**Cultivar 1:** *Panhal, Pansal* (SBK-63)

**Etymology:** Pan means water, hal or sal means paddy as this variety grows in marshy or swampy soil.

**Uses:** Grains being scented and nutritious consumed with 'Dal' or curry.

**Cultivar 2:** *Lalhal, Lalsal* (SBK-64)

**Etymology:** Lal means red, hal or sal means paddy, red colour of husk denoted in the name.

**Uses:** Grains used for making 'Papad', apart from staple food.

**Cultivar 3:** *Mothihal* (SBK-65)

**Etymology:** Mothi means large or tall, the plants being taller comparatively than other varieties.

**Uses:** Flower mixed with sugar syrup made into 'Laddu' (Sweet balls). Grains are scented and nutritious and hence preferred in daily consumption.

**3. *Zea mays* L.** (Poaceae) 'Maka', 'Makka', 'Makai'

**Cultivar 1:** *Chotti makai* (SBK-66)

**Etymology:** Chotti means small. The corb are relatively smaller than other varieties.

**Uses:** Grains being nutritious it is cherished for regular consumption. It has also good fodder value.

**Cultivar 2 :** *Deshi Maka* (SBK-67)

**Etymology:** Deshi means belonging to country, it is thought indigenous variety, a local perception by the tribal societies.

**Uses:** Having good fodder value, mostly cultivated for cattle fodder.

**Cultivar 3:** *Mothi makki* (SBK-68)

**Etymology:** Mothi large, the corbs being larger than other varieties, it find place in its nomenclature.

**Uses:** Apart from staple food, it is used in popcorn preparation. It is also cultivated for green cattle fodder.

**Cultivar 4:** *Lalmakki* (SBK-69)

**Etymology:** Grains being rather reddish, hence it is called so.

**Uses:** Immature years roasted and consumed locally.

**Cultivar 5:** *Dhaval Mokee* (SBK-70)

**Etymology:** Dhaval means white or pale. Grains being paler in colour denoted in its nomenclature.

**Uses:** Grains used for 'Lahya' (popcorn), apart from staple food.

**Cultivar 6:** *Dudya* (SBK-71)

**Etymology: Dudh-** Mmilk, the grains being whitish.

**Uses:** It is mainly used for cattle fodder.

**4. *Eleusine coracana*** (L.) Gaertn. (Poaceae) 'Nagli', 'Nagali'

**Cultivar 1:** *Godinagali* (SBK-125)

**Etymology:** Nagali is vernacular name for this crop species. However, this cultivar bears ears which are compact and somewhat rounded in shape, hence the name.

**Uses:** Grains are favorite for 'Papad' making. Straw is useful as cattle fodder and hatching the huts.

**Cultivar 2:** *Wadinagali* (SBK-126)

**Etymology:** The ears of this variety are sparse (not compact) and also grow taller than the earlier one, hence it is called differently as Wadinagali

**Uses:** Grains are used for 'Papad' and bread making.Grains also used for popcorn making. Straw is useful as cattle fodder.

**5. *Panicum sumatrense*** Roth ex Roem. & Schult. (Poaceae), 'Sava'

**Cultivar 1:** *Kalimar, Kalimardan* (SBK-155)

**Etymology:** Kali means black or dark. The grains are black or dark in colour in comparison to other cultivar hence the name.

**Uses:** Local perception of its consumption is rather unique in tribal population. Once the cooked grains are consumed there is no need to take any diet throughout a day. Straw is useful as cattle fodder.

**Cultivar 2:** *Mothimardan, Piwalimardan* (SBK-156)

**Etymology:** Mothi means tall and Piwali means yellow. Plants of this cultivar are taller than other one and also have fair grain colour as yellow.

**Uses:** Grains useful for bread making.

6. ***Vigna cylindrica*** (L.) Eseltine (Fabaceae), 'Chawali'

**Cultivar 1:** *Kalichawali* (SBK-175)

**Etymology:** Kali means black or dark, seeds being darker black-brown hence the name.

**Uses:** Seeds are useful as curry or vegetable. Green plants serve as cattle fodder.

**Cultivar 2:** *Safed chawali* (SBK-176)

**Etymology:** Safed means white or pale, seeds being whitish or paler hence the name.

**Uses:** Seeds useful as curry or vegetable. Green plants constitute good cattle fodder.

**Cultivar 3:** *Mungchawali* (SBK-177)

**Etymology:** Crop of this cultivar is ready for harvesting when the crop of Mungbean is also available for harvesting. Similar period of harvesting is denoted in the name of cultivar.

**Uses:** Seeds being nutritious are used in curry preparation.

**Cultivar 4:** *Deshi chawali* (SBK-178)

**Etymology:** Tribal people have perception that these cultivars are Deshi means indigenous to their region.

**Uses**: Green tender pods are used as vegetable. Seeds being nutritious, also used for curry preparation. Plants constitute good cattle fodder.

## Results and Discussion

The tribal farmers have indigenous knowledge regarding utilities of their native varieties, cultivars, landraces or cultigens in their surroundings. These are part of agrobiodiversity, nourished and maintained by them after years of observations, experiences and analyses. They freely exchange their traditional knowledge in their communities. Khandesh region is investigated fairly floristically (Patil, 2003; Kshirsagar and Patil, 2008) and also ethnobotanically (Pawar and Patil, 2008). However, it was felt that agro-biodiversity has not received desired attention. The present authors, therefore, extended inventory on this line in this neglected area of research.

The cultivars of food grains in tribal region of Khandesh have been analysed ethnoetymologically. Only few crops, *viz. Sorghum bicolor, Oryza sativa*, *Zea mays*, *Eleusine coracana*, *Panicum sumatrense*, *Vigna cylindrica* have been projected for the present account. These have been studied from the standpoint of indigenous utilities and even ethnoetymologically. Various aspects about these indigenous cultivars are revealed. Their nomenclature is based on various criteria such as (i) colour of grains, (ii) particular utility, (iii) size of plants, (iv) comparison with pearl, milk, flower colour, (v) habitat (aquatic), (vi) indigenous nature of cultivar, (vii) shape and compactness of ears, (viii) season of harvesting of crops. These criteria employed for nomenclature of indigenous cultivars are obviously emerged from the observations and experiences of tribal farmers. Till date, etymological study of scientific plant names (Patil, 2007, 2008, 2021) or vernacular names (Jain, 1963; Patil, 1998, 2000; Patil and Patil, 2000, 2002, 2017; Pawar and Patil, 2000) have been studied. However, ethnoetymological studies pertaining particularly to cultivars have been overlooked. It is, therefore, appealed to study ethnoetymology of plant names in different primitive societies for better understanding of economic potential of our traditional food basket.

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**Conflict of interest:** There is no conflict of interest.

## References

Arora, R.K. 1992. Biodiversity in crops and their wild relatives. *In: First Agricultural Science Congress (Narain) National Academy of Agricultural Sciences IARI*. New Delhi. pp.166-180

Arora, R.K. & Nayar, E.R. 1984. Wild relatives of crop plants in India. *In: Science Monograph*. NBPGR. New Delhi. pp.90

Jain, S.K. 1963. The origin and utility of some vernacular names. *Proc. Nat.Acad. Sci. B.* **33**(IV): 525-530.

Kshirsagar, S.R. & Patil, D.A. 2008. *Flora of Jalgaon District of Maharashtra*. Bishen Singh Mahendra Pal Singh. Dehra Dun, India.

Patil, D.A. 1998. Vernacular plant names: Their origin and Utility in Dhule district (Maharashtra). *Ethnobotany* **10:** 130-132

Patil, D.A. 2000. Sanskrit plant names in an ethnobotanical perspective. *Ethnobotany* **12:** 60-64.

Patil, D.A. 2003. *Flora of Dhule and Nandurbar Districts of Maharashtra*. Bishen Singh Mahendra Pal Singh, Dehra Dun, India.

Patil, D.A. 2007. *Origins of Plant Names*. Daya Publishing House. Delhi, India.

Patil, D.A. 2008. Scientific plant names in an ethnobotanical Perspective. *Ethnobotany* **20:** 115-12.

Patil, D.A. 2021. *Ethymology of Plant Names Aspect & Prospects* .Lambert Academic Publishing, Beau. Bassin. Mauritius.

Patil, M.V & Patil, D.A. 2000. Bases and utilities of vernacular pant names in Nasik district (Maharashtra) *J.Swamy Bot*. **17**(3-4):83-85.

Patil, D.A. & Patil, M.V. 2002. Sanskrit plant names in an ethnobotanical perspectives.-II. *Ethnobotany* **14:**87-92.

Patil, D.A. &. Patil, A.M. 2017. Origins of naming plant cultivars in Indian context. *International Journal of Advanced Research and Development* **2(5):**514-518.)

Pawar Shubhangi & Patil, D.A. 2000. The origin and utility of vernacular plant names in Khandesh region of Maharashtra. *J.Swamy Bot.* Cl. **17(1-2):**43-47.

Pawar Shubhangi & Patil, D.A. 2008. *Ethnobotany of Jalgaon District (Maharashtra)*. Daya Publishing House. New Delhi, India.

Zeven, AC. & J.M.J de Wet. 1982. *Dictionary of Cultivated Plants And Their Regions of Diversity*. Pudoc: Centre For Agricultural publishing And Documentation Wageningen. Netherlands.

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# Ethnomedicine for headache and migraine by the Bagata tribe of Andhra Pradesh

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**Abstract**

The paper deals with 54 species of plants used by the Bagata tribe of Andhra Pradesh for curing headache and migraine. Lamiaceae is the dominant family with 9 species. Leaf is used in a maximum of 29 practices. *Leucas biflora* and 37 practices were found to be new.

**Key Words:** Headache; Migrane; Sinusitis headache; Bagata; Andhra Pradesh

## Introduction

Headache is continuous pain in the head, whereas migraine is the pain confined to one side of the head. Migraine starts in the morning and goes on increasing till mid-day and thereafter the pain decreases; the patient feels normal by evening. In some cases the pain starts from the back of the head and migrates to the frontal as well as temporal regions. In the latter type of migraine, the time schedule is not observed. As per 2011 census, the total population of Bagata tribe in Andhra Pradesh state is 132,577 (5.04% to total tribal population) constituting the second largest community inhabiting mostly Visakhapatnam district (130,537), and sparsely Vizianagaram (1498) and East Godavari (542) districts. Visakhapatnam district is situated in the north eastern part of Andhra Pradesh. It lies between 17°34' 11" and 18°32' 57" in northern latitude and 81°51' 49" and 83°16' 9" in eastern longitude. Very few publications on headache and migraine are available in India (Sen & Behera 2009; Kala 2019). Though there are publications on ethnomedicine of the Bagata tribe *viz*., asthma, catarrh, cold and cough, cuts and wounds, dental problems, diabetes, galactagogues, kidney stones, piles swellings, rheumatoid arthritis, and urinary complaints (Sandhya Sri & Reddi 2011a,b; 2012a,b; 2013, 2018, 2019, 2020, 2022a,b) exclusive studies on headache and migraine are not available necessitating the present study.

## Material and Methods

The ethnomedicinal data presented here are the outcome of a series of intensive field studies conducted during 2009-2011 in 44 interior tribal pockets with good forest cover and 60 *vaidyas* were consulted. Each field trip was of 5-8 days duration covering all seasons of an year. After establishing good rapport with the tribe, the utility of plants, detailed methods of uses were documented and cross-checked for authenticity. Voucher specimens were prepared and deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam (AUV).

## Enumeration

The plants are arranged in an alphabetical order with botanical name followed by family, vernacular name, locality, collector, voucher specimen number, method, mode and duration of the treatment. Plants and practices marked with an asterisk (*) are considered to be new or less known.

***Abrus precatorius*** L. (Fabaceae) 'Guriginja', Matam, BS 9515
*Migraine: Root paste of white variety plant is applied on the forehead till cure.

***Abutilon indicum*** (L.) Sweet (Malvaceae) 'Duvvena', Gamparai, BS 9520
Headache: Dried leaves are made into powder and applied on the head till cure.

***Ageratum conyzoides*** (L.) L. (Asteraceae) 'Pumpullu', Madagada, BS 9561

Headache**:** Three parts of leaf juice mixed with one part of coconut oil is applied to the head for three days.
*Migraine**:** Two to three drops of leaf juice is instilled into the nostrils and inhaled to reduce the headache for ten days.

***Albizia lebbeck*** (L.) Benth. (Fabaceae) 'Dirisena', Galikonda, BS 9617
*Migraine**:** Two to three drops of root or seed juice is poured into the nostrils and inhaled for 15 days.

***Alpinia galanga*** (L.) Willd. (Zingiberaceae) 'Dumparashtramu', Bokkelu BS 9527
*****Sinusitis headache: Tuber paste mixed with butter milk is plastered on the forehead till cure.

***Argyreia nervosa*** (Burm. f.) Bojer (Convolvulaceae) 'Samudra paala', Munchingputt, BS 9680
*Migraine: One spoonful of root powder is administered orally with water once a day till cure.

***Barleria prionitis*** L. (Acanthaceae) 'Mullagorinta', Dabbalapadu, BS 9776
*Headache**:** Warmed leaves are tied to the affected areas till cure.

***Barringtonia acutangula*** Gaertn. (Lecythidaceae) 'Kumbi', Nakkalaputt, BS 9758
*Headache**:** Leaf paste is applied on forehead for five days.

***Cannabis sativa*** L. (Cannabaceae) 'Ganjayi', Marriputt, BS 9750
*Headache: Leaves are slightly warmed, crushed and two to three drops are instilled into the two ears for five days.

***Cardiospermum halicacabum*** L. (Sapindaceae) 'Budda kakara', Pilliputtu, BS 9749
Headache**:** Leaves are burnt and face is exposed to the fumes for three days.

***Catunaregam spinosa*** (Thunb.) Tirveng. (Rubiaceae) 'Manga chettu', Kujjali, BS 9724
*Headache**:** Unripe fruit powder or unripe fruit pound with water is plastered on the forehead for two days.

***Cinnamomum verum*** J.S. Presl (Lauraceae) 'Dalchina chekka', Gadaparai, BS 9532
*Headache**:** Stem bark paste is applied on the forehead for three days.

***Cipadessa baccifera*** (Roth) Miq. (Meliaceae) 'Palladonda', Laseruguda, BS 9533
*Migraine**:** Stem bark paste is applied on the forehead for ten days.

***Cleome gynandra*** L. (Cleomaceae) 'Ventumkura', Lothugedda, BS 9717
Headache**:** Fresh leaf paste is plastered on the forehead for three days.

***Clerodendrum serratum*** (L.) Moon (Lamiaceae) 'Seetha chettu', Tajangi, BS 9716
*****Headache**:** Leaf juice mixed with equal quantities of gingili oil and butter is heated and applied on the forehead for three days.

***Clitoria ternatea*** L. (Fabaceae) 'Sanku pushpamu', Matam, BS 9715
*Migraine: Two drops of root juice is instilled into the nose once a day for ten days.

***Cocculus hirsutus*** (L.) Diels (Menispermaceae) 'Dusara teega', Chinamodhugaputt, BS 9792
Headache: Leaf paste is applied on the forehead for three days.

***Costus speciosus*** (J. Koenig) Sm. (Costaceae) 'Bokacchika', Devarapalli, BS 9543
Headache: Rhizome ground into paste is plastered on the scalp for three days. Rhizome juice is applied on the forehead to reduce pain.

***Curculigo orchioides*** Gaertn. (Hypoxidaceae) 'Nela tadi', Modaputt, BS 9853
*Headache: Root paste mixed with castor oil is massaged on the forehead for two days.

***Curcuma aromatica*** Salisb. (Zingiberaceae) 'Kasthuri dumpa', Mandijamiguda, BS 9852
Headache: Rhizome paste mixed with gum powder of *Boswellia serrata* is applied on the forehead for three days.

***Desmodium gangeticum*** (L.) DC. (Fabaceae) 'Bhumi ippa', Guntaseema, BS 9771
*Migraine: Root juice is inhaled in the morning for 15 days.

***Eclipta prostrata*** (L.) L. (Asteraceae) 'Guntagalagara', Boddumamidi, BS 9566
Headache: Whole plant juice is boiled in oil and applied to the scalp for three days.

***Eucalyptus globulus*** Labill. (Myrtaceae) 'Neelagiri chettu', Kothapalem, BS 9649

Headache: Young leaves are massaged on the forehead for three days.

***Gmelina arborea*** Roxb. ex Sm. (Lamiaceae) 'Konda gummadu', Vantalmamidi, BS 9569
Headache: Leaf paste is applied on the forehead for three days.

***Helianthus annuus*** L. (Asteraceae) 'Suryakanti', Dabbalapadu , BS 9844
*Migraine: Seeds pounded with leaf juice of the same plant is applied on the forehead. This is to be repeated for two to three days.

***Holarrhena pubescens*** Wall. ex G. Don (Apocynaceae) 'Aku paala', Chinamodhugaputt, BS 9711
Headache: Stem bark paste is applied on the forehead for three days for relief.

***Hyptis suaveolens*** (L.) Poit. (Lamiaceae) 'Seema tulasi', Sadeku, BS 9744
Headache: Leaf paste is applied on the forehead for two days.

***Ipomoea nil*** (L.) Roth (Convolvulaceae) 'Katuka ginjalu', Chintalaveedhi, BS 9833
*****Sinusitis headache: Seeds ground with water is applied on the forehead for three days.

***Kaempferia rotunda*** L. (Zingiberaceae) 'Sakunthala', Kujjali, BS 9546
*Migraine: Stem bark paste is massaged on the scalp and forehead for 15 days.

***Lannea coromandelica*** (Houtt.) Merr. (Anacardiaceae) 'Gumpena', Sankada, BS 9534
*Headache: Stem bark with that of *Garuga pinnata* and *Catunaregam spinosa* are taken in equal quantities and ground. Two spoonful of paste with a glass of water is administered thrice a day for two days.

***Lawsonia inermis*** L. (Lythraceae) 'Gorintaku', Munagadaputtu , BS 9623
Headache: Leaf paste or juice is applied on the forehead for three days.

***Leucas aspera*** (Willd.) Link (Lamiaceae) 'Tummi', Kujjali, BS 9595
*Headache**:** Leaves trampled in hands are inhaled with one nostril of nose thrice a day. Leaf paste is applied on the forehead for three days.

*Migraine: Crushed leaf juice is instilled into the ears once a day for ten days.

****Leucas biflora*** (Vahl) Sm. (Lamiaceae) 'Tummi chettu', Chedalapadu, BS 9528
Headache: Root is ground with three pepper grains and the paste is applied on the forehead for two days.
Headache**:** Leaf paste is applied on the forehead for two days.
Migraine**:** Leaf juice is applied on the forehead and two drops of garlic juice is instilled into the nostril before Sunrise for ten days.

***Leucas cephalotes*** (Roth) Spreng. (Lamiaceae) 'Tummi koora', Chettraiput, BS 9577
Headache: Leaf paste is applied on the forehead for three days.

***Luffa acutangula*** (L.) Roxb. (Cucurbitaceae) 'Chedu beera', Boddaputtu , BS 9868
*Sinus headache: Unripe fruits are fried and powdered and a pinch of fine powder is inhaled to sneeze out the phlegm for three days.

***Mimosa pudica*** L. (Fabaceae) 'Atti patthi', Gabbangi, BS 9872
Headache: One spoonful of root juice is administered orally once a day till cure.

***Mimusops elengi*** L. (Sapotaceae) 'Pogada', Thotalagondi, BS 9856
Headache: Shade dried flowers are made into powder and filtered through fine cloth and stored. A pinch of it is inhaled or flowers are smelled quite often for two days.

***Mirabilis jalapa*** L. (Nyctaginaceae) 'Poddhu dumpa', Kujjali, BS 9857
*Headache: Two spoonful of root juice is administered daily once till cure.

***Moringa oleifera*** Lam. (Moringaceae) 'Munaga', Pilliputtu, BS 9860
Headache: Fine seed powder is inhaled for two days.

***Ocimum basilicum*** L. (Lamiaceae) 'Jetti mokka', Kodugula, BS 9589
Headache: Root paste is applied to the forehead for three days.

***Piper longum*** L. (Piperaceae) 'Pippallu', Kujjali, BS 9745

*Migraine: Three gm of fruit powder mixed with rhizome of *Acorus calamus* is administered with hot water or milk daily twice till cure.

***Plectranthus ambonicus*** **(**Lour.) Spreng. (Lamiaceae) 'Vamu aaku', Boddaputtu, BS 9793
*Migraine: Two to three drops of leaf juice is instilled into the nostril of the opposite side of the pain for ten days.

***Pongamia pinnata*** (L.) Pierre (Fabaceae) 'Ganuga', Chinamodhugaputt, BS 9808
*Headache: Seed oil mixed with pepper grains is plastered on the forehead for three days.
*****Migraine: Seeds are boiled and eaten with jaggery for 15 days.

***Rubia cordifolia*** L. (Rubiaceae) 'Mangala katti', Kujjali, BS 9747
*Headache: Root tuber ground with that of *Asparagus racemosus* and rhizome of *Acorus calamus* and paste is made into pills. Two pills are administered daily twice for three days.

***Sapindus emarginatus*** Vahl (Sapindaceae) 'Kunkudu', Pandiraikothagudem, BS 9763
*Migraine: One to two fruits are ground with equal quantity of pepper grains by adding water. Four to five drops of filtered juice is instilled into the nostrils for 15 days.

***Saraca asoca*** (Roxb.) Willd. (Fabaceae) 'Asoka', Mampa, BS 9827
*Headache: Twenty ml of leaf juice is taken orally and leaf paste is applied on the forehead for two days.
*Migraine: Two to three drops of leaf juice is instilled into the nostril opposite to the side of the pain for 15 days.

***Scoparia dulcis*** L. (Plantaginaceae) 'Goddu tulasi', Pujariguda, BS 9826
*Headache: Twenty ml of leaf juice is taken orally and leaf paste is applied on the forehead for two days.
*Migraine: Two to three drops of leaf juice is instilled into the nostril opposite to the side of pain for ten days.

***Senna alexandrina*** Mill. (Fabaceae) 'Sunamukhi', Sapparla, BS 9661
*Headache: Two to five gm of leaf powder mixed with equal quantity of sugar candy is administered orally twice a day for two days.

***Solanum nigrum*** L. (Solanaceae) 'Jaji kura', Chintalveedhi, BS 9608
Headache: Leaf paste is applied on the affected areas once a day till cure.

***Terminalia chebula*** Retz. (Combretaceae) 'Karakkai', Ganjigedda, BS 9734
*Migraine: Seed paste is applied on the forehead for 15 days.

***Thespesia populnea*** (L.) Sol. ex Correa (Malvaceae) 'Gangaraavi', Chettraiput, BS 9511
*Headache: Leaves wetted in castor oil are slightly heated and bandaged on the affected areas for two days.

***Tinospora cordifolia*** (Willd.) Miers (Menispermaceae) 'Thippa theega', Pilliputtu, BS 9548
Headache: One spoonful of stem juice is taken with honey daily twice for three days.

***Trachyspermum copticum*** (L.) Link (Apiaceae) 'Vamu', Pujariguda, BS 9620
*Headache: One or two pinches of fine seed powder is inhaled for two days.

***Vitex negundo*** L. (Lamiaceae) 'Vayila', Choutapadu, BS 9691
Headache: Leaf paste is applied on the forehead for three days.

**Results and Discussion**

The paper deals with 54 species of plants covering 52 genera and 30 families used by the Bagata tribe of Andhra Pradesh for curing headache, sinus headache and migraine.Out of 54 species single species is represented in 21 families whereas in Malvaceae, Menispermaceae, Sapindaceae, Rubiaceae, Convolvulaceae two species each, in Asteraceae, Zingiberaceae three species each, in Fabaceae eight species and in Lamiaceae nine species are being used. Herbs are dominant with 18 species followed by trees (15 spp.), and others. Leaf is used in a maximum of 29 practices. *Leucas biflora* and 37 practices were found to be new or less known (Jain 1991; Kirtikar & Basu 2003). Of the total 54 species 33 were exclusively used in curing headache, 12 for migraine, six for both and three for sinusitis headache Of the total 61 practices 40 were exclusively for headache, 18 for migraine and three for sinusitis headache. Plants used for similar purpose by the tribes in different parts of India, Nepal and Philippines are presented in Table-1.

Most of the time, this knowledge is only verbally passed on from generation to generation and remains consequently in danger of being lost in the goodwill of modern medicine. Though, it signifies for the tribes an opportunity of inexpensive and straightforward treatment. A large segment of the world population still depends on traditional medicinal plants as they are abundantly existing, inexpensive, and have

**Table 1.** Some plants of Andhra Pradesh used for similar purpose in India; Nepal and Philippines.

| S. No. | Plants species | Tribes/Area/Region/Country | Reference(s) |
|---|---|---|---|
| 1. | *Costus speciosus*, *Vitex negundo* | Santhal, Paharia tribes of Dumka district, Bihar<br>Yanadi, Nakkala, Yerukala, Lambadi tribes of Chittoor district, Andhra Pradesh<br>*Bhil* tribe of Ratlam district, Madhya Pradesh<br>Karichya tribe of Kannur district, Kerala<br>Folklore of Khagaria district, Bihar | Chandra *et al.* (1985);<br>Reddy *et al.* (1989);<br>Jadhav (2009);<br>Rajith and Ramachandran (2010);<br>Chandel *et al.* (2018) |
| 2. | *Leucas aspera, Vitex negundo* | Sugali tribe of Anantapur district, Andhra Pradesh | Reddy *et al.* (2000) |
| 3. | *Catunaregam spinosa*, *Ocimum basilicum* | Chenchu, Yerukala, Yanadi, Sugali of Guntur district, Andhra Pradesh | Vedavathy (2002) |
| 4. | *Solanum nigrum*, *Vitex negundo* | People of Arghakhanchi district, Nepal | Panthi and Chaudhary (2003) |
| 5. | *Cardiospermum halicacabum* | Pawara, Bhil, Tadvi, Kokani tribes of Nandurbar district, Maharashtra | Tayade and Patil, (2005);<br>Ahirrao and Patil (2007) |
| 6. | *Leucas aspera* | Irular tribes of Marudhamalai hills, Tamil Nadu | Senthilkumar *et al.* (2006) |
| 7. | *Albizia lebbeck, Cipadessa baccifera, Gmelina arborea, Moringa oleifera, Tinospora cordifolia* | Sahanra, Binjhal, Khond and Gond tribes of Bargarh district, Odisha | Sen and Behera (2009) |
| 8. | *Lawsonia inermis* | Tribals of Lakshadweep Islands<br><br>People in 11 districts of Karnataka | Ansarali and Sivadasan (2009);<br>Shiddamallayya *et al.* (2010) |
| 9. | *Lawsonia inermis, Leucas aspera* | Folklore of Coimbatore, Tamil Nadu | Nisha and Rajeshkumar (2010) |
| 10. | *Cleome gynandra* | Gond, Kol, Baiga, Panica, Khairwar, Manjhi, Mawasi, Agaria tribes of Rewa district, Madhya Pradesh<br>Yanadi tribe of Nellore district, Andhra Pradesh<br>Agaria, Baiga, Basor, Bharia, Bhil, Gond,Halba, Kanjar, Khairwar, Kol, Kondar, Korku, Pao, Madia, Mawasi, Mobasi, Oruooan, Sahariya, Sor tribes of Madhya Pradesh | Shukla *et al.* (2010);<br><br>Savithramma *et al.* (2012);<br>Jadhav (2020) |
| 11. | *Curculigo orchioides* | *Paniyan* tribe of Kozhikode district, Kerala | Ambily *et al.* (2010) |
| 12. | *Ocimum basilicum* | Kalanguya tribe in Tinoc, Ifugao, Luzon, Philippines | Balangcod and Balangcod (2011) |
| 13. | *Leucas aspera*, *Mimosa pudica* | People of Salem district, Tamil Nadu | Parthipan *et al.* (2011) |
| 14. | *Eclipta prostrata, Mimosa pudica, Vitex negundo* | People of Mandi district, Himachal Pradesh | Sen and Samant (2013) |
| 15. | *Moringa oleifera* | Bhil tribe of Ratlam district, Madhya Pradesh<br>Medicine men of Sambalpur district, Odisha | Jadhav (2014);<br>Debta *et al.* (2016) |
| 16. | *Ageratum conyzoides* | Agaria, Baiga, Basor, Bharia, Bhil, Gond, Halba, Kanjar, Khaiwar Kol, Kondar, Korku, Pao, Madia, Mawasi, Mobasi, Oroan, Sahariya, Sor tribes of Madhya Pradesh<br>People of Kullu district, Himachal Pradesh | Jadhav (2015);<br><br>Kumari *et al.* (2016) |
| 17. | *Abutilon indicum* | Lodha tribe of West Bengal | Chaudhury *et al.* (2018) |

| S. No. | Plants species | Tribes/Area/Region/Country | Reference(s) |
|---|---|---|---|
| 18. | *Cannabis sativa, Vitex negundo* | Assur, Ho, Kharwar, Munda, Oraon, Santhal tribes of Sahebganj district, Jharkhand | Kumari and Kumar (2018) |
| 19. | *Abutilon indicum, Vitex negundo* | Bhotiya, Jaunsari, Tharu, Buxa tribes of Uttarakhand | Kala (2019) |
| 20. | *Ageratum conyzoides, Cleome gynandra* | Agaria, Baiga, Basor, Bharia, Bhil, Gond,Halba, Kanjar, Khairwar, Kol, Kondar, Korku, Pao, Madia, Mawasi, Mobasi, Oruooan, Sahariya, Sor tribes of Madhya Pradesh | Jadhav (2020) |
| 21. | *Ageratum conyzoides, Vitex negundo* | Inhabitants of Naina Devi Sacred Shrine of Himachal Pradesh | Marpa *et al.* (2020) |
| 22. | *Eclipta prostrata* | Nyishi tribe of Pakke-Kessang district of Arunachal Pradesh | Balakrishna *et al.* (2021) |

slight or no side-effects, furthermore to their cultural acceptability. Plants are either used as indigenous therapy or as isolated active principles for a common source of medicine. Herbal medicines are a common method of complementary and alternative medicine used for the treatment of headache and migraine around the globe. Research is required to find out the specific molecules responsible for their beneficial actions. Detailed investigation of the promising plants and their constituents for their pharmacological actions will help in the development of new molecules.

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**References**

Ahirrao, Y. A. & Patil, D.A. 2007. Ethnomedicinal investigation in Nandurbar district of Maharashtra. *Ancient Sci. Life* **27**: 50-56.

Ambily, D.V., Rajith, N.P., George, V. & Pushpangadan, P. 2010. Utilization of medicinal plants by the Paniyan tribe of Kozhikode district, Kerala. *Ethnobotany* **22**: 14-24.

Ansarali, K.C. & Sivadasan, M. 2009. Ethnobotanical investigations in Lakshadweep Islands, India. *Ethnobotany* **21**: 18-24.

Balakrishna, A., Joshi, B., Srivastava, A., Shankar, R., Vashistha R.K., Kumar, A., Aqib & Mishra, R.K. 2021. Medicinal plants of Seijosa circle, Pakke-Kessang district, Arunachal Pradesh, India. *Indian J. Natural Products & Resources* **12**: 101-115.

Balangcod, T.D. & Balangcod, A.K.D. 2011. Ethnomedical knowledge of plants and healthcare practices among the *Kalanguya* tribe in Tinoc, Ifugao, Luzon, Philippines. *Indian J. Trad. Knowl.* **10**: 227-238.

Chandra, K., Paney, B.N. & Lal, V.K. 1985. Folk-lore medicinal plants of Dumka (Bihar). *Ancient Sci. Life* **4**: 181-185.

Chandel, S.C.R., Kumar, U. & Upadhaya, R.P. 2018. Ethno-pharmaclogical study of Alouli Block of Khagaria District of Bihar (India). *Ethnobotany* **30**: 72-79.

Chaudhury, S., Singh, H. & Chowdhury, H. R. 2018. Ethnomedicinal uses of plants by the *Lodhas* tribal group of West Bengal, India. *J. Traditional & Folk Practices* **6**: 67-97.

Debta, M.R., Srivastava, S.K. & Patel, M. 2016. Ethnomedicinal notes from Jamankira, Kuchinda block, Sambalpur district, Odisha, Part II. *Ethnobotany* **28**: 40-44.

Jadhav, D. 2009. Ethnomedicinal plants used in leaf therapy in Ratlam district, (Madhya Pradesh). *Ethnobotany* **21**: 84-90.

Jadhav, D. 2014. Ethnomedicinal notes on some poisonous plants used by bhil tribe of Ratlam district (M P). *Ethnobotany* **26**: 84-89.

Jadhav, D. 2015. Ethnomedicinal potential of exotic plants of Madhya Pradesh. *J. Non-Timber Forest Products* **22**: 239-242.

Jadhav, D. 2020. Ethnomedicinal potential of weed plants of Madhya Pradesh: A review. *J. Non-Timber Forest Products* **27**: 147-154.

Jain, S. K. 1991. *Dictionary of Indian Folk Medicine and Ethnobotany*. Deep Publications, New Delhi.

Kala, C.P. 2019. Medicinal plants used for treatment of fever and headache in Uttarakhand state of India. *J. Non-Timber Forest Products* **26**: 39-44.

Kirtikar, K. R. & Basu, B. D. 2003 (Reprinted). *Indian Medicinal Plants*. Oriental Enterprises, Dehra Dun, Uttaranchal.

Kumari, A., Samant, S.S. & Sharma, S. 2016. A study on traditionally used medicinal plants and associated practices in Anni Khad Watershed of District Kullu, Himachal Pradesh, Western Himalaya. *J. Non-Timber Forest Products* **23**: 199-219.

Kumari, S. & Kumar, S. 2018. Ethnomedicinal importance of plants used by the tribals of Sahebganj district of Jharkhand. *Ethnobotany* **30:** 22-34.

Marpa, S., Samant, S.S., Paul, S. & Tewari, A. 2020. Diversity, distribution, indigenous uses and conservation of medicinal plants in Naina Devi Sacred Shrine and surroundings, Bilaspur, Himachal Pradesh, North Western Himalaya. *J. Non-Timber Forest Products* **27**: 125-138.

Nisha, M. & Rajeshkumar, S. 2010. Survey of crude drugs from Coimbatore city. *Indian J. Natural Products & Resources* **1**: 376-383.

Panthi, M.P. & Chaudhary, R.P. 2003. Ethnomedicinal plant resources of Arghakhanchi district, West Nepal. *Ethnobotany* **15**: 71-86.

Parthipan, M., Aravindhan, V. & Rajendran, A. 2011. Medico-Botanical study of Yercaud Hills in the Estern Ghats of Tamil Nadu, India. *Ancient Sci. Life* **30**: 104-109.

Rajith, N.P. & Ramachandran, V.S. 2010. Ethnomedicines of *Karichyas,* Kannur district, Western Ghats, Kerala. *Indian J. Natural Products & Resources* **1**: 249-253.

Reddy, K.H., Reddy, K.E. & Raju, R.R.V. 2000. Medicinal plant-lore of Sugali tribe of Anantapur District, Andhra Pradesh. *Ancient Sci. Life* **19**: 146-154.

Reddy, K.R., Sudarsanam, G. & Gopala Rao, P. 1989. Plant drugs of Chittoor District, Andhra Pradesh, India. *Int. J. Crude Drugs Res.* **27**: 41-54.

Sandhya Sri, B. & Reddi, T.V.V.S. 2011a. New or less known remedies for swellings from the Bagata tribe of Visakhapatnam district, Andhra Pradesh. *J. Econ. Taxon. Bot.* **35**: 418-423.

Sandhya Sri, B. & Reddi, T.V.V.S. 2011b. Native herbal galactagogues used by Bagata tribe of Visakhapatnam district, Andhra Pradesh. *Ethnobotany* **23**: 125-128.

Sandhya Sri, B. & Reddi, T.V.V.S. 2012a. Phytotherapy for cuts and wounds among Bagata tribe of Visakhapatnam district, Andhra Pradesh. *J. Non-Timber Forest Products* **19**: 146-147.

Sandhya Sri, B. & Reddi, T.V.V.S. 2012b.Traditional phytotherapy for urinary complaints among Bagata tribe of Visakhapatnam district, Andhra Pradesh. *J. Non-Timber Forest Products* **19**: 223-228.

Sandhya Sri, B. & Reddi, T.V.V.S. 2013. Ethnomedicinal formulations for the treatment of diabetes among the *Bagatas* of Visakhapatnam district, Andhra Pradesh, India. *J. Trop. Med. Plants* **14**: 43-49.

Sandhya Sri, D. & Reddi, T.V.V.S. 2018. Ethnomedicine for asthma, catarrh, cold and cough by the *Bagata* tribe of Andhra Pradesh. *Ethnobotany* **30**: 64-71.

Sandhya Sri, D. & Reddi, T.V.V.S. 2019. Ethnomedicine for dental problems by the *Bagata* tribe of Andhra Pradesh. *J. Non-Timber Forest Products* **26**: 31-34.

Sandhya Sri, D. & Reddi, T.V.V.S. 2020. Ethnomedicinal plants for piles by the *Bagata* tribe of Andhra Pradesh. *J. Non-Timber Forest Products* **27**: 224-227.

Sandhya Sri, D. & Reddi, T.V.V.S. 2022a. Ethnomedicine for kidney stones by the Bagata tribe of Andhra Pradesh. *J. Non-Timber Forest Products* **29**: 80-82.

Sandhya Sri, D. & Reddi, T.V.V.S. 2022b. Ethnomedicinal plants for curing rheumatoid arthritis by the *Bagata* tribe of Andhra Pradesh. *Ethnobotany* **34**: 30-34.

Savithramma, N., Rao, M.L., Yugandhar, P. & Babu, R.H. 2012. Ethnobotanical study of Penchalakona forest area of Nellore district, Andhra Pradesh, India. *Int. J. Phytomedicine* **4**: 333-339.

Sen, S.K. & Behera, L.M. 2009. Traditional use of herbal medicines against headache and migraine by the tribals of Bargarh district of Orissa. *Ethnobotany* **21**: 127-130.

Sen, T. & Samant, S. S. 2013. Diversity, distribution and indigenous uses of medicinal plants in Rissa Khad, Watershed of district Mandi, Himachal Pradesh. *J. Non-Timber Forest Products* **20**: 199-214.

Senthilkumar, M., Gurumoorthi, P. & Janardhanan, K. 2006. Some medicinal plants used by Irular, the tribal people of Marudhamalai hills, Coimbatore, Tamil Nadu. *Natural Products Radiance* **5**: 382-388.

Shiddamallayya, N., Yasmeen, A. & Gopakumar, K. 2010. Hundred common forest medicinal plants of Karnataka in primary healthcare. *Indian J. Trad. Knowl.* **9**: 90-95.

Shukla, A.N., Srivastava, S. & Rawat, A.K.S. 2010. An ethnobotanical study of medicinal plants of Rewa district, Madhya Pradesh. *Indian J. Trad. Knowl.* **9***:* 191-202

Tayade, S.K. & Patil, D.A. 2005. Hitherto untapped plant-lore from Nandurbar district (Maharashtra). *Natural Products Radiance* **4**: 46-50.

Vedavathy, S. 2002. Tribal medicine - The real alternative. *Indian J. Trad. Knowl.* **1**: 25-31.

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# A hitherto unknown medico-ethnobotanical claim from Morigaon district of Assam, India, to treat Paralysis

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## Abstract

A hitherto unknown medico-ethno-botanical claim for the treatment of Paralysis used by local tribe from Morigaon district of Assam (India) is presented in the communication. The plant parts as reported are subjected for review for its uses and reported pharmacological activities and found their medicinal importance in various ethnobotanical as well as in traditional medicinal uses like Ayurveda. But none of the reports available is corroborative to the present claim which is supported by field observation. Comprehensive review of reported Ethnobotany, classical Ayurveda and ethnopharmacology is done to justify the uniqueness of the present claim.

**Key words:** Assam, hitherto unknown, medico-ethnobotanical claim, Morigaon, Paralysis

## Introduction

Plant-derived drug research has become more promising in recent years and also a better alternative for synthetic medicine and therapeutics in spite of many challenges (Vanwyk and Wink, 2009). Nearly, 21,000 plants have been listed by the World Health Organization (WHO), which are in use for diverse medicinal purposes around the world. Being the largest producer of medicinal herbs, India is known as the botanical garden of the world catering to the needs for herbal medicines (Seth and Sharma 2004). The WHO report revealed that around 80% of world population depends on the traditional medicines, largely on plant-derived drugs towards their healthcare, among which 30% of currently used therapeutics are from natural resources alone. Owing to the increasing cultural acceptability and significantly lower side effects, nearly 75–80% of the whole population in the developing countries mostly prefers the herbal treatment for primary health care (Ghasi *et al.*, 2000).

Ethnobotanical explorations and publications were made time to time covering Morigaon and Tiwa tribe (Deka *et al.*, 2006; Deka and Deka, 2007; Deori, 2015; Kalita and Saikia, 2012; Kalita *et al.*, 2014). In this communication, a hitherto unknown medico-ethnobotanical claim to treat Paralysis from Morigaon district of Assam has been reported.

## Study Area

The Morigaon District of Assam is situated between 26.11° N and 26.30° N latitude and between 91.98° E and 92.49° E longitude covering a geographical area of 1704 km$^2$. The Brahmaputra marks northern boundary and the Killing, Kolong and Kapili rivers drain the southern part of the district. It experiences medium to high rainfall. The temperature is moderate ranging from 13° C to 35° C. The pH of soil ranges from 4.5 to 6.8. Morigaon District is not only rich in biodiversity but also rich in its cultural heritage. It is a land of multi-culture with large number of ethnic tribes. Tiwa, Bodo, Karbi, etc. tribes have their own traditional health care systems (Deka *et al.*, 2006; Deori, 2015; Kalita *et al.*, 2014). This region is rich in plant resources which are either utilized by these tribes as edible food, shelter, and fodder or used as medicinal purpose to treat various ailments.

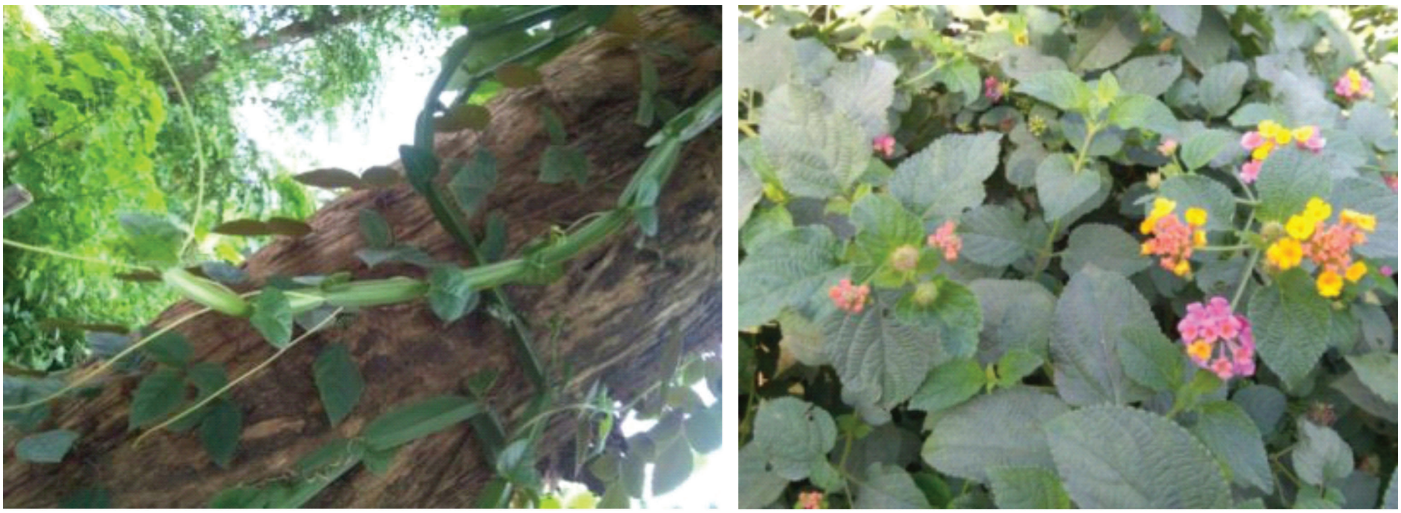

**Fig. 1.** Plants used inthe treatment of paralysis. A. *Cissus quadrangularis* L., B. *Lantana camara* L.

**Field Methodology**

Field trips were carried out in various seasons during 2018-2019 in three Reserve forests namely Sunaikuchi, Khulahat and Hatibagara and nearby tribal locations of Morigaon district by the Survey team of the Institute. These forest areas are moist deciduous and adjacent to foot hills of Meghalaya. Mixed tribal populations inhabit the forest villages in and around the survey area. The survey was conducted by adopting the methodology proposed by Jain and Rao (1977), Jain (1989), Jain and Mudgal (1999) and as per Guideline of Central Council for Research in Ayurvedic Sciences, New Delhi. Characteristic features of the collected plant materials like habit, habitat, flower colour, distribution and occurrence were recorded in field book and their records were maintained. The Medico-ethnobotanical information was also collected by interviewing the local herbal practitioners and elderly persons of the area including 13 present and previous patients who took such treatment by following standard questionnaire and method (Rath *et al.*, 2017). Voucher specimens were collected with the help of local practitioners from the nearby forest area. The specimens were properly dried, mounted and preserved after identification using standard local and regional floras (Hooker, 1875, 1885; Kanjilal *et al.*, 1934, 1939; Prain, 1963) followed by matching the specimens with the standard pre-identified specimens of the North East Herbarium of Ayurveda Research (NEHAR), Central Ayurveda Research Institute, Guwahati where voucher specimens were finally deposited for further reference.

**Result of the study**

A hitherto unknown report on the treatment for paralysis from Southern part of Morigaon district of Assam close to Sunaikuchi, Khulahat and Hatibagara Reserve Forests is presented. This report was verified in the field by interviewing 13 previous and present patients who had already taken the treatment during complaints of paralysis of their own and relatives. A total of 42 respondents also verified the claim of the local herbal practitioner and traditional healer, Mr. Dutna Maslai (49 yrs.), of Gagara village of the district after taking informed consent.

**Table 1:** The medico-ethnobotanical report

| Raw drugs involved | vernacular and Sanskrit name | Parts used | Preparation of the drug | Treatment method and dose |
|---|---|---|---|---|
| *Cissus quadrangularis* L. (Vitaceae) [DB-3577] | 'Harjora' (Assamese), 'Asthisamhaara' (S) | Stem parts | 3 pieces of 5 inch size stem of *C. quadrangularis* is cut into small pieces and mixed with 100 gm leaves of *L. camara*. The mixture is cooked with local Chicken or Crab to make curry in gravy form. | Curry is given orally 3 times a day for minimum 7 to 15 days to treat Paralytic condition. The patient is also given whole body massage with any balm for 15 days for 30 minutes duration in a day. |
| *Lantana camara* L. (Verbenaceae) [DB-3574] | 'Gundhuwa bon' (Assamese), 'Chaturaangi' (Sanskrit) | Leaves | | |

The report is enumerated in the following table (Table -1) with mode of preparation of the drug and method of administration along with dose and procedure of follow up.

## Discussion

Reviews of both the plant species showed their incredible biopharmaceutical potentials as evident from earlier published reports, though it has used any balm for the purpose and are gaining the attention of researchers from different disciplines as the presence of various bioactive substances are responsible for their therapeutic efficiency.

*Cissus quadrangularis* commonly known as 'edible stemmed vine' (English) is an annual or perennial herb, generally climbs as succulent creeper with the help of tendrils, requires warm tropical climate and propagated by stem cuttings in months of June and July (Buddhadev and Buddhadev, 2014). The plant is known as *Asthisamdhani, Asthisamhari, Vajravalli, Asthishrinkhala, Asthisamhara, Kandavalli, Vajrangi, Asthisamyojaka* in Sanskrit; *Kandvel* in Marathi; *Haddjor* in Punjabi; *Hadbhanga* in Oria; *Vedhari* in Gujrati; *Perandai* in Tamil; *Nalleru* in Telugu (Buddhadev and Buddhadev 2014); and *Harjora* in Assamese. Phytochemical studies revealed the presence of triterpenes, β-sitosterol, ketosteroids, phenols, tannins, carotene and vitamin-C (Deka *et al.*, 1994; Demling, 2000; Mallika and Shyamala Devi, 2005). Seven alicyclic lipids constituents have also been reported from the plant (Gupta and Verma, 1991). Along with several other constituents such as flavonoids, quercetin and kaempferol (Bhutani *et al.*, 2001), stem extract shows the presence of a high percentage of calcium ions and phosphorus, both essential for bone growth (Enechi and Odonwodo, 2003).

*Lantana camara* known as Lantana, Wild or Red Sage (English) is native to tropical America; naturalized in due course and occurs throughout India presently and is listed as one of the significant medicinal plants of the world (Ross, 1999). The plant is the most widespread species of the genus *Lantana* and it is a woody straggling evergreen strong smelling shrub with red, pink, white, yellow and violet flowers (Thamotharan *et al.*, 2010). The plant is known as *Chaturaangi* and *Vanachchhedi* in Sanskrit, *Unnichedi* in Tamil, *Ghaaneri* in Marathi (Khare, 2007) and *Gundhuwa bon* in Assamese. It has been claimed that a steroidlancamarone from the leaves, and that lantamine, an alkaloid from the stem, bark and roots showed antipyretic and antispasmodic properties comparable to those of quinine (Sastri, 1962).

## Conclusion

Detailed account of the diverse utility of reported medicinal plants can be addressed, starting with the ethno-medicinal exploration followed byscientific validation. Further, a thorough examination needs to be carried out to see the efficacy and activity of individual component and its contribution towards the synergistic effects of the drug.

## Conflict of interest statement

The authors declare that there are no conflicts of interests and the collection of medico-ethnobotanical claim is a part of Medico-ethnobotanical Survey Programme of CARI, Guwahati under the Intra Mural Research Project of 2018-19.

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## References

Bhutani, K. K., Mehta, M. &Kaur, N. 2001. Determination of marker constituents from *Cissus quadrangularis* L. and their quantitation by HPTLC and HPLC. *Phytochemical Analysis* **12**: 91-95.

Deka, S. J. &Deka, P. 2007. Survey of medicinal plants used against Leprosy disease by the tribal (Lalung) people of Myong area of Morigaon district, Assam, India. *Plant Archives* **7(2)**: 653-655.

Deka, D. K., Lahon, L. C., Saikia, J. & Mukit, A. 1994. Effect of *Cissus quadrangularis* in accelerating healing process of experimentally fractured Radius-Ulna of dog: A preliminary study. *Indian Journal of Pharmacology,* **26**: 44-48.

Deka, S. J., Sarmah, G. C. &Deka, S. P. 2006. Plants species used by Lalung (Tribe) For Hair Care in Morigaon District, Assam, India. *Environment & Ecology* **24S (1)**: 234-235.

Demling, R. H. 2000. Oxandrolone, an anabolic steroid enhances the healing of a cutaneous wound in the rat. *Wound Repair and Regeration* **8**: 97-102.

Deori, M. 2015. Vascular hydrophytic medicinal plants of MorigaonDistric, Assam.*International Journal of Humanities, Arts, Medicine and Science* **3 (April)**: 17-22.

Enechi, O. C. &Odonwodo, I. 2003. An assessment of the phytochemical and nutrient composition of the pulverized root of *Cissus quadrangularis*.*Journal of Biomedical Research* **1**: 63-68.

Gupta, M. M. &Verma, R. K. 1991.Lipid constituents of*Cissus quadrangularis*.*Phytochemistry* **30**: 875-78.

Hooker, J. D. 1875. *The Flora of British India*, **Vols. I**. L Reeve & Co. Ltd, Kent, pp. 695.

Hooker, J. D. 1885. *The Flora of British India*, **Vols. IV**. L Reeve & Co. Ltd, Kent, pp. 562.

Jain, S. K. 1989. *Methods and Approach in Ethnobotany*. National Botanical Research Institute, Lucknow.

Jain, S. K. &Mudgal, V. A. 1999. *Hand Book of Ethnobotany*. Bisen Singh Mahendra Pal Singh, 23- A, New Connaught Place, Dehradun.

Jain, S.K. & Rao, R.R. 1977.*A Handbook of Field and Herbarium Methods*. Today and Tomorrow's Printers and Publishers, New Delhi.

Kalita, D. &Saikia, J. 2012.Ethonomedicinal, Antibacterial and Antifungal Potentiality of *Centella asiatica*, *Nerium indicum* and *Cuscuta reflexa* - Widely used in Tiwa Tribe of Morigaon district of Assam, India. *International Journal of Phytomedicine* **4**: 380-385.

Kalita, D., Saikia, J., Mukherjee, A. K. & Doley, R. 2014. An ethnomedicinal survey of traditional used medicinal plants for the treatment of snake bite in Morigaon district of Assam. *India. Int. J. Med. Arom. Plants*, **4(2)**: 97-106.

Kanjilal, U. N., Kanjilal, P. C. & Das, A. 1934. *Flora of Assam*, **Vols. I,** Govt. of Assam, India, pp. 290.

Kanjilal, U. N., Das, A., Kanjilal, P. C. & De, R. N. 1939. *Flora of Assam*, **Vols. III,** Govt. of Assam, India, pp. 460.

Khare, C.P. 2007 (Eds.).*Indian Medicinal Plants: An Illustrated Dictionary*, Springer Science + Business Media, LLC., pp. 362.

Mallika, J., Shyamala Devi, C.S. 2005.In vitro and In vivo evaluation of free radical scavenging potential of *Cissus quadrangularis*.*African Journal of Biomedical Research* **8**: 95-99.

Prain, D. 1963. *Bengal Plants*, **Vols. 2**. Botanical Survey of India, Calcutta.

Rai, A.K. and Shiddamallayya, N. 2021. Local health traditions (LHTs), oral health traditions (OHTs), and ethno-medicinal practices (EMPs): Methodical approach and critical appraisal to establish novelty and uniqueness. *J Drug Res Ayurvedic Sci* **6**:117-118.

Rath, C., Susmitha, B., Tripathi, A.K., Chincholikar, M.B., Mangal, A.K., Srikanth, N. 2017. Medico-Ethno Botanical Survey: An Overview of CCRAS Contributions. *J Drug Res Ayurvedic Sci* **2**(3):188-240.

Ross, I. A. 1999. *Medicinal plants of the world: Chemical constituents, traditional and modern medical uses*. New Jersey, Humana Press.

Sastri, B. N. 1962. *The Wealth of India*, Vol.5.CSIR, New Delhi.

Seth, S. D. & Sharma, B. 2004. Medicinal plants of India. *Indian J Med Res* **120**: 9–11.

Thamotharan, G., Sekar, G., Ganesh, T., Sen, S., Chakraborty, R. &Senthil Kumar, N. 2010.Antiulcerogenic effect of *Lantana camara* Leaves on in vivo test models in Rats. *Asian. Jour. Pharm. Clinical. Res.* **3**: 57-60.

Vanwyk, B. E. & Wink, M. 2009. *Medicinal plant of the world*, 1st edn. Briz Publication, South Africa.

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# Ethnomedicinal plants used in the treatment of ailing children by Bhil tribe of Ratlam district, Madhya Pradesh, India

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## Abstract

Ethnomedicinal surveys in different tribal inhabited villages of Ratlam district (M. P.) revealed 30 plant species used for the treatment of children diseases by the tribal people of the district. For each species the information relating to the botanical names followed by local names, parts used, methods of administration and prescribed dose has been given.

**Keywords:** Ethnomedicinal plants, children diseases, Bhil tribe, Ratlam

## Introduction

Man has depended on plants from times immemorial. The human life and culture has directly or indirectly been influenced by their surrounding environment. Aboriginals possess profound knowledge about the properties and uses of plants growing in their surroundings. They have inherited rich traditional knowledge of surrounding plants used as food, fodder, fibre, wood, fuel, medicine, beverage, tannin, dye, gum, resin, cosmetic, crafts and religious ceremonies. Some other plants are also used as narcotics, hallucinogens and poison. Such knowledge of economic and other properties of surrounding plants acquired by the tribal community by virtue of their experience and practice has been passed on from generation to generation as a part of their cultural heritage. Ratlam district lying between $23^0$05' – $23^0$55' N latitude and $74^0$30' – $75^0$42' E longitude covers an area of 4861 sq. km. The district is situated on Malwa plateau at 493.62 m. above the sea level. Bhils are the main inhabitants of different villages of the district. According to 2011 census the population of Bhil tribe in the district was 409,865 lakhs constituting about 28.17% of the total population of Ratlam district.

Ethnobotanical studies in India has resulted into documentation of numerous little-known or unknown uses of plants (Jain 1981, 1991, 2002, 2004; Siram *et al.* 2023). The author has been engaged in investigations on different aspects of Ethnobotany in this district (Jadhav 2012, 2013, 2014). In the present investigation, the author has recorded ethno-medicinal uses of plants for curing different illness in tribal children in Ratlam district.

## Methodology

First hand data on the uses and local names of plants were collected through personal contacts established with a large number of tribal informants and the 'Bhopas' (traditional rural medicine men). To give them credit for sharing their knowledge, list of Bhopas is provided with their age (in years) and Village (Table-1):

**Table 1:** List of Bhopas

| SN | Name of Bhopa | Age | Village |
|---|---|---|---|
| 1. | Vijay Dodiyar | 30 | Dabar |
| 2. | Khimaji Dodiyar | 42 | Dabar |
| 3. | Manglaji Hari | 50 | Semaliamaal |
| 4. | Vijay lal ji Rawat | 45 | Khairda |
| 5. | Lal chand Dodiyar | 50 | Devla |
| 6. | Chaitanji Ninama | 40 | Naktipada |
| 7. | Jotiji Ninama | 40 | Ganawa |
| 8. | Premchand ji Bhabhar | 26 | Naktipada |
| 9. | Manjiji Katara | 40 | Chandragad Maal |
| 10. | Punam Chand Bhabhar | 32 | Chandragad Maal |
| 11. | Mangal Singh Bhabhar | 35 | Kangsi |

| SN | Name of Bhopa | Age | Village |
|---|---|---|---|
| 12. | Virji Maida | 34 | Mahapura |
| 13. | Babuji Khadia | 38 | Harthal |
| 14. | Baluji Garwal | 40 | Harthal |
| 15. | Kodarji Garwal | 42 | Harthal |
| 16. | Mohan ji Maida | 45 | Naharpura |
| 17. | Bhagirath ji Katija | 36 | Gayli |
| 18. | Haroba | 55 | Bibdod |
| 19. | Phulji Bhil | 45 | Matrunda |
| 20. | Onkarnath | 60 | Khankhai |
| 21. | Kodar Ba | 55 | Haldupada |
| 22. | Lallu Maida | 35 | Rampuria |
| 23. | Shambhu Singh Gamad | 37 | Khejdipada |
| 24. | Bahadur | 38 | Vatpadi |
| 25. | Bhairosingh Muniya | 40 | Bhamat |
| 26. | Lunja ji Charpota | 55 | Kangsi |
| 27. | Velji Ba | 80 | Ranisingh |
| 28. | Hurji Ba | 45 | Ranisingh |
| 29. | Lal Chand Ba | 70 | Bashindra |
| 30. | Babu | 35 | Naharpura |
| 31. | Lachman Ba | 60 | Dholawad |
| 32. | Premchand Charpota | 28 | Molawa |
| 33. | Bhonji Kodar | 50 | Molawa |
| 34. | Telarama Devda | 79 | Molawa |
| 35. | Ramu Muniya | 60 | Bayedi |
| 36. | Hakra lal ji | 50 | Maliwada |
| 37. | Naru Ninama | 80 | Patakhari |
| 38. | Ramesh Chatra | 35 | Devda |
| 39. | Galia Dharji | 80 | Devda |
| 40. | Raisingh Ninama | 55 | Patakhari |
| 41. | Harchand Katara | 60 | Molawa |
| 42. | Punja Bhuria | 45 | Naharpura |
| 43. | Nandu Avima | 55 | Devda |
| 44. | Babusingh Chouhan | 65 | Rawti |
| 45. | Babu Rangji | 50 | Jaman |
| 46. | Nandu Baria | 55 | Ghatalia |
| 47. | Nandu Khima | 50 | Umar |

During the field survey, information was documented on ethnomedicinal plants, vernacular names, method of preparation of the drug and approximate dosage of administration from each Bhopa interviewed. Voucher specimens were collected for authentication of the species and future reference. With the help of local names and specimens, it was possible to verify the uses with villagers and the data was considered valid if at least two informants provided similar uses about a medicinal plant. Herbarium specimens were prepared following the standard methods (Jain & Rao 1978) and deposited in the Herbarium of Department of Botany, Govt. PG Arts and Science College, Ratlam, Madhya Pradesh. The plant specimens were identified with the help of standard floras (Verma *et al.* 1993; Mudgal *et al.* 1997; Singh *et al.* 2001).

**Enumeration**

The following 30 plant species were found to be used for curing different illness of children in the district. Botanical names are presented in alphabetical order followed by family, local name(s), Voucher specimen number, plant part used and mode of application-

***Anisomeles indica*** (L.) Kuntze (Lamiaceae), 'Gobrio', DJ-116.
Powder of shade dried leaves is given (7-10 gm) in cow milk twice a day before sunrise and after sunset for a period of 2-3 weeks in case of rickets in children.

***Barleria prionitis*** L. (Acanthaceae), 'Vajradanti', DJ-09.
Two spoonful extract of root is taken with a glass of water twice daily for 5-7 days in case of double pneumonia.

***Cassia fistula*** L. (Fabaceae), 'Garmalo', DJ-70.
A spoonful extract of seeds is taken with water twice daily for 6-7 days to cure pneumonia.

***Citrus limon*** (L.) Osbeck (Rutaceae), 'Limbu', DJ-18.
Two spoonful of fruit-juice with half spoonful salt/sugar is administered with a glass of water twice a day for 2-3 days for relief in body-heat and diarrhea.

***Crotalaria hebecarpa*** (DC.) Rudd (Fabaceae), 'Jungli rukhdi', DJ-29.
Two spoonful extract of whole plant along with water is administered twice daily for a period of 2-3 week to cure small pox.

***Curuma longa*** L. (Zingiberaceae), 'Haldi', DJ-23.
One spoonful powder of dried rhizome is mixed with a pinch of salt and heated in iron pan. When it becomes red hot, it is mixed in a cup of water and the mixture is filtered. The filtrate is given twice daily for 3 to 7 days to cure cough.

***Datura metel*** L. (Solanaceae), 'Karo dhaturo', DJ-110.
One gram ash of Sun dried fruit rind is given with honey for 5-7 days to cure cough, cold and pneumonia.

***Dioscorea bulbifera*** L. (Dioscoreaceae), 'Veldi', DJ-168.
Two spoonful extract of tuber is taken along with the water for 5-7 days in cases of dog bite and small pox.

***Enicostema axillare*** subsp. *littorale* (Blume) A. Raynal (Gentianaceae), 'Nau', DJ-26.
Two spoonful extract of leaves is taken along with the water for 5-7 days in cases of malarial fever and typhoid.

***Euphorbia thymifolia*** L. (Euphorbiaceae), 'Dudhi', DJ-169.
Two spoonful extract of whole plant is taken with water for a week to cure small pox.

***Ferula narthex*** Boiss. (Apiaceae), 'Hing'.
One to two pinch of Hing powder is dissolved in warm water. This water is applied as ointment on stomach to cure stomach pain and gastric trouble.

***Ficus benghalensis*** L. (Moraceae), 'Vadlo', DJ-93.
Two drops of latex obtained from leaves are dropped in a *Batasa* (Spherical spongy sugar cake) and eaten for 3-7 days to cure ascariasis.

***Guilandina bonduc*** L. (Fabaceae), 'Ghatar', DJ-14.
Syrup made of seed powder with jaggery is used at the time of stomach pain.

***Helicteres isora*** L. (Malvaceae), 'Atedo', DJ-94.
Two spoonful extract of fruits along with water is administered twice daily for a period of 2-3 weeks in stomach trouble of children.

***Justicia adhatoda*** L. (Acanthaceae), 'Aduso', DJ-196.
Two crushed leaves are boiled with a cup of water for 2 minutes. Add milk, sugar and tea powder at the boiling stage. A cup of Adusa tea is given daily in early morning for 3 to 7 days to cure cough.

***Mucuna pruriens*** (L.) DC. (Fabaceae), 'Kevuch', DJ-188.
One or two roasted seeds are chewed twice daily for a few days by the children to cure pneumonia.

***Myristica fragrans*** Houtt. (Myristicaceae), 'Jaiphal'
Two drops of extract of fruit is given with mother's milk for 1-3 days in cases of cold and loose motions.

***Ocimum tenuiflorum*** L. (Lamiaceae), 'Tulsa', DJ-38.
Some crushed leaves are boiled with a cup of water for 2 minutes. Add milk, jaggery and a pinch of clove powder at the boiling stage. A cup of Tulsi tea is given daily in early morning for 3 to 7 days to cure cold and cough.

***Oroxylum indicum*** (L.) Kurz (Bignoniaceae), 'Faro', DJ-208.
The extract of root is taken along with water for 5-7 days in cases of jaundice, typhoid and small pox.

***Ouret lanata*** (L.) Kuntze (Amaranthaceae), 'Panruvo', DJ-197.
Decoction of whole plant is given twice daily for 1-3 days in case of dysentery.

***Phyllanthus niruri*** L. (Euphorbiaceae) 'Bekhri', DJ-178.
Extract of whole plant is taken with water twice daily for 3-5 days to cure viral fever. The chutney of the plant is eaten with wheat bread to cure jaundice.

***Piper betle*** L. (Piperaceae), 'Nagervelo', DJ-129.
Three leaves are ground with *kattha* (*Acacia catechu*) and a paste is prepared. This paste is applied on the body to treat rickets.

***Piper longum*** L. (Piperaceae), 'Pipramoor', DJ-192.
The root powder is mixed with jaggery and small pills are prepared. One pill is given with tea twice a day for a week to cure fever, cold and cough.

***Plumbago zeylanica*** L. (Plumbaginaceae), 'Sitawal', DJ-42.
Two spoonful extract of root is taken with tea to cure headache, cough, cold, fever, skin itching and pneumonia.

***Ricinus communis*** L. (Euphorbiaceae), 'Arandi', DJ-47.
Seed oil is used for teething troubles and constipation in children.

***Solanum virginianum*** L. (Solanaceae), 'Bhuri-ringdi', DJ-75.
The extract of stamens from four flowers is given with mother's milk for 2-3 days to cure cough and cold.

***Tectona grandis*** L.f. (Lamiaceae), 'Sagad', DJ-100.
Extract of seeds is taken with water twice daily for 5-7 days to cure small pox.

***Trachyspermum ammi*** (L.) Sprague. (Apiaceae), 'Ajwan', DJ-551.
Powder of roasted seeds is mixed with that of turmeric (*Curcuma longa*) and salt is taken with water to cure vomiting.

***Zingiber officinale*** Rosc. (Zingiberaceae), 'Adrak', DJ-53.
One to two spoonful juice of fresh rhizome is taken with tea for 3 days to cure cold.

***Ziziphus nummularia*** (Burm. f.) Wight & Arn. (Rhamnaceae), 'Bor-Jari', DJ-54.
One spoonful powder of roots is given twice along with water for 1-3 days to cure diarrhea and dysentery. It is also useful for curing the pus in the ear.

**Results and discussion**

The paper provides ethno-medicinal uses of 30 plants species under 19 families and 29 genera used in the treatment of children by Bhil tribe of Ratlam district (M.P.). Majority of the plant species are herbaceous (11 species) followed by shrubs (9 species), trees (6 species) and climbers (4 species). Most of the species (4 species) are belongs to family Fabaceae. Rest of the species are followed by Euphorbiaceae, Lamiaceae (3 species each) and Acanthaceae, Apiaceae, Piperaceae, Solanaceae, Zingiberaceae (2 species each). Most of the practices were found to be new or less known. Approximately 83% of ethnomedicinal uses of plants were recorded for the first time used in the treatment of ailing children by Bhil tribe of Ratlam district, Madhya Pradesh, India. In comparison with previous published literature on Indian medicinal plants and ethnobotanical studies, 17% of the ethnomedicinal plants were used for children ailments (Jadhav 2022a, 2022b; Jain 1991; Jain & Jain 2016; Yadav 2000); these plants included *Anisomeles indica, Barleria prionitis, Euphorbia thymifolia, Ferula narthex* and *Trachyspermum ammi*. However, author observed some differences with respect to the preparation of drug and mode of administration. The present paper highlighted some degree of novelty with regards to the different uses of ethnomedicinal plants used in the treatment of ailing children by Bhil tribe of Ratlam district, Madhya Pradesh, India.

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**References**


Jain, S.K. 1981. *Glimpses of Indian Ethnobotany*. Oxford and IBH publishing Co., New Delhi.

Jain, S.K. 1991. *Dictionary of Indian folk medicine and ethnobotany*. Deep publications, New Delhi.

Jain, V. & Jain, S.K. 2016. *Compendium of Indian folk medicine and ethnobotany*. Deep publications, New Delhi.

Jain, S.K. 2002. *Bibliography of Indian ethnobotany*. Scientific Publishers, Jodhpur. Jain, S.K. 2004 (ed.). *A Manual of Ethnobotany*. Scientific Publishers, Jodhpur.

Jain, S.K. & Rao, R.R. 1978. *A handbook of field and Herbarium methods*. Today & Tomorrow's Printers and Publishers, New Delhi.

Jadhav, D. 2012. Multipurpose uses of ethnobotanical plants from tribal inhabited localities of Ratlam district (M. P.). *J. Non Timber Forest Products* **19(1)**: 69-76.

Jadhav, D. 2013. Ethno medicinal uses of Fabaceae among the tribals of Ratlam district (M.P.). *J. Econ. Taxon. Bot.* **37**(3): 449-452.

Jadhav, D. 2014. Ethno medicinal notes on some poisonous plants used by bhil tribe of Ratlam district (M.P.). *Ethnobotany* **26**(1 & 2): 84-89.

Jadhav, D. 2022a. Notable plants in ethnomedicine of Madhya Pradesh. *Authors Press*, New Delhi.

Jadhav, D. 2022b. Ethnomedicinal plants of India. *Authors Press*, New Delhi.

Mudgal, V., Khanna, K.K. & Hajra, P.K. 1997. *Flora of Madhya Pradesh*, Vol. II. BSI, Calcutta.

Singh, N.P., Khanna, K.K., Mudgal, V. and Dixit, R.D. 2001. *Flora of Madhya Pradesh,* Vol.III. BSI, Calcutta.

Siram J., Hedge N., Singh R. & Sahoo U. K. 2023. Cross-cultural studies of important ethno-medicinal plants among four ethnic groups of Arunachal Pradesh, Northeast India. *Ethnobotany Research and Applications* **25**:1–23.

Verma, D.M., Balakrishan, N.P. and Dixit, R.D. 1993. *Flora of Madhya Pradesh,* Vol.I. BSI, Calcutta.

Yadav, C. S. 2000. *Indian Medicinal Plants in Children Diseases.* Chaukhambha Orientalia, Varanasi.

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# Study on the cause of decline in population of *Spatholobus parviflorus* (Roxb. ex G. Don) Kuntze and its ethnobotanical uses in Ranchi district of Jharkhand

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## Abstract

*Spatholobus parviflorus* (Roxb. ex G. Don) Kuntze is the accepted name of *Butea parviflora* Roxb. ex G.Don. It is a rare climber generally growing on slopes and along river banks. Unlike the fire red colour flowers of *Butea monosperma* (Lam.)Taub. and *Butea superba* Roxb.,it has pinkish white flowers arranged in panicles. It is a species of least occurrence in Jharkhand. Locally it is called 'Bandu' but Oraon tribes call it 'Murdha'. The aim and objective of this study is to find the cause of decline in the population of this plant species in this area and also to know its various ethnobotanical uses.

**Key words:** *Spatholobus parviflorus*, Bandu; Ranchi district, Jharkhand, Ethno botanical uses

## Introduction

*Spatholobus parviflorus* (Roxb. ex G. Don) Kuntze is a woody climber having three leaflets. Middle leaflet is slightly larger in length, broadly elliptic slightly narrowed at base and rounded at both ends however side leaflets are with blunt apex and rounded base (Fig. 1A). Flowers are in panicles and pinkish white or creamish in color (Fig. 1B). Young pods are initially beautiful light crimson in color which gradually turn into brown (Fig. 1C). Ripe pods are thick, woody, rounded at tip and covered with dense brownish soft short hairs (Fig. 1D). Seeds are kidney-shaped and round in shape (Fig. 2A).

The global distribution of the *Spatholobus parviflorus* is restricted to tropical and sub-tropical regions of south Asia and East Asia (GBIF, accessed on 2023-09-05). In India the plant has broad distribution from the foothills of Himalayas to peninsular India (Kumar & Sane, 2003) and in the moist forests of Jharkhand and Odisha (Haines, 1922).

Several species of genus *Spatholobus* are considered as having medicinal value in the Asian countries for the treatment of menstrual pain, anemia, paralysis, arthralgia, *etc.* (Liu Y. Xiang *et.al.,* 2022). In Kerala the paste of the leaf is used to treat conjunctivitis by applying over the head before bath by Kani tribe (Chadburn, 2012; Vijayan *et.al.,* 2007).In addition it has some other uses also. Manandhar (2002) reported the practice of rope making from bark of the species in Nepal. A red gum from the plant can be extracted from the wood, which is rich in tannins that is used as a tanning agent and as a dye as well (Watt,1889). The bark contains around 1% rotenone which can be used as an insecticide (Chopra *et.al.,* 1986).

## Ethnobotanical uses in Jharkhand

Local people, especially Oraon tribes make ropes from the fiber obtained from it's bark. The bark is also used to tie the fire woods into bundles.

The leaves are boiled with the fern *Lygodium* sp. ('Mahadeo Jata') and this decoction is taken orally to get relief from muscle cramps.

Cooking oil is obtained from the seeds which are used especially in the preparation of local sweets like 'Gulgula'. The oil is also applied on the hairs which is considered as holy to attend an auspicious occasion. Besides, in Patratu area, the powder of bark is used to stupefy fishes in the streams.

**A.** Leaflets

**B.** Flowers

**C.** Young Pods

**D.** Mature Pods

**Fig. 1:** *Spatholobus parviflorus* (Roxb. ex G.Don) Kuntze

## Discussion

Each pod is having only one seed at its distal end. Some of the pods show pore-like wounds at this end. These pores are created by insect larvae which feed on cotyledons of the seed leaving glass like resin over the pores (Fig. 2B, 2C). This damages the seed (Fig. 2D) affecting its germination.

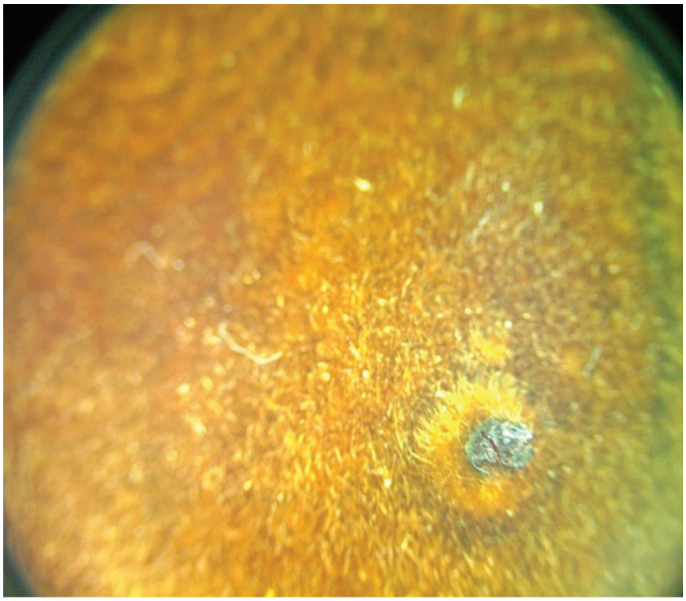
All of these anthropogenic activities like seed oil extraction, and use of bark for making ropes for the purpose of tying the fire- wood in bundles result into the declining of its population in this area.

Therefore, the present study reports the above mentioned cause behind the declining population of this species in the forests of Ranchi district and there is urgent need to conserve this plant species by using various techniques to enhance its population.

Since the population of the plant in Ranchi district is scarce (author found it only at two places that is in Lalkhatanga forest and Patratu ghati) so it needs special ex-situ conservation efforts by collecting healthy seeds and growing them in nurseries. Germination rate of the seeds could be enhanced by inoculating the seeds with specific strain of *Rhizobium* extracted from the root nodules. Insect predation on the seeds could be lowered by spraying bio-pesticides prepared from Neem-oil, cow urine etc.

**A.** Healthy seeds

**B.** Pores caused by insects



**C.** Insect pore under Microscope

**D.** Damaged seed

**Fig. 2:** *Spatholobus parviflorus* (Roxb. ex G.Don) Kuntze

## References


Chopra, R.N.,Nayer, S.L. & Chopra, I.C. 1986. *Glossary of Indian Medicinal Plants(Including the Supplement).* CSIR, New Delhi.

GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2023-09-05. *Spatholobus parviflorus* (Roxb. ex G.Don) Kuntze in GBIF Secretariat.

Haines, H. H. 1921-25. *The Botany of Bihar and Orissa***,** Vol. I-IV. BSI,Calcutta.

Kumar, S. & Sane, P.V. 2003. *Legumes of South Asia.A Checklist.* Royal Botanic Gardens, Kew.

Liu, Y. Xiang, Q., Liang, Q. & He, J. 2022. Genus *Spatholobus*: a comprehensive review on ethnopharmacology, phytochemistry,pharmacology and toxicology. *Food & Function* :*13*(14): 7448-7472.

Manandhar, N. P. 2002. *Plants and People of Nepal***.** Timber Press, Oregon.

Vijayan, A., VB, L., John, J. V., Parthipan, B. & Renuka, C. 2007. Traditional remedies of Kani tribes of Kottoor reserve forest, Agasthyavanam, Thiruvananthapuram, Kerala. *Indian Journal of Traditional Knowledge* Vol. 6(4):589-594

Watt, G.1889. *A Dictionary of Economic Products of India.* Volume 1. Government of India: Calcutta.

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# Ethnomedicine for ophthalmic diseases by the tribes of Adilabad district, Andhra Pradesh

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**Abstract**

The study contains 20 species of plants covering 17 families used by the tribes of Adilabad district for curing eye ailments. Caesalpiniaceae, Fabaceae and Asteraceae are the dominant families with two species each. Herbs are dominant with seven species. Leaf is used in a maximum of 13 practices. *Sesbania procumbens* and 11 practices were found to be new.

**Key Words**: Eye infection; Ophthalmia; Night blindness; Adilabad district; Andhra Pradesh

## Introduction

Adilabad district is situated between 77$^0$ 47$'$ and 80$^0$ 0$'$ of the eastern longitudes and 18$^0$ 40$'$ and 19$^0$ 56$'$ of the northern latitudes. It is bounded on North by Yeotmal and Chanda districts of Maharashtra, on the East by Chanda district, on the South by Karimnagar and Nizamabad districts and on the West by Nanded district of Maharashtra state. It ranks second among all the districts in the state in forest area occupying 7101.30 sq. km. The total tribal population of the district is 495,794 (18.08%) (2011 census) and the main tribes are Gonds, Kolams, Koyas, Lambadas, Mannes, Naikpods, Pradhans, Thoties and Yerukalas. Though there are publications on antidotes, antipyretic, asthma, cold and cough, diarrhea and dysentery, earache, headache, ichthyotoxic plants, jaundice, leucorrhea, rheumatoid arthritis, sexually transmitted diseases, tooth problems, and women problems (Ravishankar & Henry 1992, Imam *et al.* 1997, Swamy & Reddi 2010, 2011; 2014, 2016a,b,c; 2017a,b,c; 2018a,b; 2019, 2020, 2021), exclusive studies on ophthalmic diseases on the tribes of Adilabad district were not observed resulting the present study.

## Materials and Methods

Extensive ethnobotanical explorations were conducted in 42 tribal pockets with good forest cover in Adilabad district during 2006-2009. Knowledgeable informants including the *vaidyas* and elderly persons (42) of the tribal communities were interviewed and obtained information on the plants used for curing eye diseases. The data were verified in different villages among the interviewers showing the same plant sample and even with same informants on different occasions. The knowledgeable informants were taken to the field and along with the collection of plants for the voucher specimens, the use of the plants as given by them were recorded. The voucher specimens were deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam (AUV).

## Enumeration

The plants are enumerated and arranged in an alphabetical order with botanical name followed by family, vernacular name, locality, collector, voucher specimen number, method, mode and duration of treatment. Plants and practices marked with an asterisk (*) are considered to be new or less known.

***Aloe vera*** (L.) Burm.f. Agavaceae 'Kalabanda', Tamsi, NSS 8132
*Eye infection: Succulent leaves are crushed and the extract is administered into eyes.

***Ampelocissus latifolia*** (Roxb.) Planch. Vitaceae 'Pule–teega', Ichoda, NSS 7248
*Ophthalmia: Leaf juice is instilled into eyes in one-two drops twice a day for three days.

***Argemone mexicana*** L. Papaveraceae 'Mundla rakkasi', Lohesra, NSS 7339
Eye sores: One drop of latex is poured into eyes once a day for three days.

***Cassia auriculata*** L. Caesalpiniaceae 'Tangedu', Jainoor, NSS 7214
Eye infection: Leaf juice is poured in two-three drops thrice a day for three days.

***Cassia occidentalis*** L. Caesalpiniaceae 'Kasinta', Kerameri, NSS 7252
*Eye infection: Leaf juice is poured in three-four drops once at night for three-four days.

***Cassytha filiformis*** L. Lauraceae ' Seetamma Savaralu', Jannaram, NSS 8168
*Eye infection: Leaf juice is instilled in two-three drops thrice a day for three-four days.
*Eye inflammation: Leaf juice is poured in two-three drops thrice a day till cure.

***Chloroxylon swietenia*** DC. Rutaceae 'Biludu', Dandepalli, NSS 7762
*Eye infection: Stem bark powder is kept in a thin cloth and soaked in breast milk, then drops are dropped into eyes two-three times a day for four days.

***Dichrostachys cinerea*** (L.) Wight & Arn. Mimosaceae 'Veluturu Chettu', Bejjur, NSS 7366
*Ophthalmia: Tender shoots are crushed and one or two drops of juice is poured into eyes for five days.

***Eclipta prostrata*** (L.) L. Asteraceae 'Gunta galagara', Vemanpalli, NSS 8248
Ophthalmia: Poultice of the whole plant is mixed with coconut oil and applied on head and forehead till cure.

***Emilia sonchifolia*** (L.) DC. Asteraceae 'Pisa pathri', Kothapalli, NSS 8212
Night blindness: Leaf extract is poured in one-two drops thrice a day till cure.
Ophthalmia: Leaf extract is poured in one-two drops thrice a day for five-seven days.

***Hyptis suaveolens*** (L.) Poit. Lamiaceae 'Sima Tulasi', Kasipet, NSS 8104
*Eye infection: An infusion of leaves poured in one-two drops thrice a day for three-four days.

***Manilkara hexandra*** (Roxb.) Dubard Sapotaceae 'Pala', Rebbena, NSS 8032
Eye inflammation: Root paste is applied on forehead once at bed time for seven days.

***Nymphaea nouchali*** Burm.f. Nymphaeaceae 'Tamara', Nennel, NSS 7320
*Eye infection: Petals boiled in water are used to wash eyes to cure infection.

****Sesbania procumbens*** (Roxb.) Wight & Arn. Fabaceae 'Avise', Dilawarpur, NSS 7014
Ophthalmia: Juice of leaves and flowers is poured into eyes in two-three drops once at bed time for 20-30 days.

***Streblus asper*** Lour. Moraceae 'Baranki', Lohesra, NSS 7038
Eye infection: One drop of leaf juice is poured into eyes twice a day for three-four days.

***Syzygium cumini*** (L.) Skeels Myrtaceae 'Alla neredu', Mamda, NSS 7098
Eye sight: Fruits are directly eaten and said to be good for eye sight.

***Tabernaemontana divaricata*** (L.) R. Br. ex Roem. & Schult. Apocynaceae 'Nandi Varadhanam', Peddur, NSS 8652
Eye infection: Milky juice from tender branches is poured into eyes till cure.

***Tectona grandis*** L. f. Verbenaceae 'Teki', Dandepalli, NSS 7054
Eye lid swelling: Ash of the wood mixed in water is applied externally.

***Vigna trilobata*** (L.) Verdc. Fabaceae 'Pillipesara', Talamadugu, NSS 7574
*Eye infection: Two-three drops of leaf juice is poured into eyes thrice a day for three days or till cure.

***Wattakaka volubilis*** (L.f.) Stapf Apocynaceae 'Doodipala', Boath, NSS 8532.
*Eye infection: Two-three drops of leaf juice is poured into eyes two-three times a day for three days.

**Results and Discussion**

The paper deals with 20 species of plants covering 19 genera and 17 families used by the tribes of Adilabad district for curing ophthalmic diseases. Fabaceae, Caesalpiniaceae

and Asteraceae are the dominant families with two species each followed by others with one species each. Habit-wise analysis showed the dominance of herbs with 7 species followed by shrubs and trees (five spp. each), and climbers (three spp.). Morphological analysis showed the maximum utilization of leaf in 13 practices followed by stem, flower (two practices each) and latex, stem bark, whole plant, root, fruit and wood (one practice each). They are administered externally either in the form of powder, paste, juice, infusion, poultice or extract along with either water, coconut oil, or breast milk. *Sesbania procumbens* and 11 practices were found to be new or less known (Jain 1991, Kirtikar & Basu 2003). Plants used for similar purpose in different regions of India are presented in Table 1.

**Table 1.** Some plants of Adilabad district used for similar purpose in different parts of India.

| Sl. No. | Plants species | Tribes/Area/Region/Country | Reference(s) |
|---|---|---|---|
| 1. | *Armone mexicana* | Yanadi, Nakkala, Irula, Yerukala, Sugali tribes of Chittoor district, Andhra Pradesh<br>Rural people of Chittoor district, Andhra Pradesh<br>Kondakapu, Kondadora, Valmiki, Kondakammara, Manyadora tribes of East Godavari district, Andhra Pradesh<br><br>Santhal, Munda, Oraon, Kharwar tribes of Sahebganj district, Jharkhand<br><br>Folklore of Charkhi Dadri district, Haryana | Vedavathy *et al.* (1997);<br>Sudhakar and Chetty (1998);<br>Rudrapal *et al.* (2012);<br><br>Kumari and Kumar (2018);<br><br>Rao *et al.* (2021) |
| 2. | *Emilia sonchifolia* | People in India and some African countries<br>Kani tribes of Thiruvananthapuram district, Kerala<br>Gond, Kol, Baiga, Panica, Khairwar, Manjhi, Mawasi, Agaria tribes of Rewa district, Madhya Pradesh<br>Gujjars of Bharatpur, Rajasthan<br><br>People of Mandi district, Himachal Pradesh<br>Bhil tribe of Ratlam district, Madhya Pradesh | Jain and Sharma (2000);<br>Vijayan *et al.* (2007);<br>Shukla *et al.* (2010);<br><br>Kumar and Chauhan (2012);<br>Sen and Samant (2013);<br>Jadhav (2014) |
| 3. | *Eclipta prostrata* | Valaya tribe of Virudunagar district, Tamil Nadu | Rajendran *et al.* (2002) |
| 4. | *Aloe vera* | Irular tribes of Marudhamalai hills, Tamil Nadu | Senthilkumar *et al.* (2006) |
| 5. | *Argemone mexicana, Dichrostachys cinerea, Emilia sonchifolia* | Chenchu tribe of Nallamala forests, Andhra Pradesh | Ratnam *et al.* (2010) |
| 6. | *Cassia auriculata* | People of 11 districts of Karnataka | Shiddamallayya *et al.* (2010) |
| 7. | *Aloe vera, Cassia auriculata, C. occidentalis, Tabernaemontana divaricata* | Folklore of Guntur district, Andhra Pradesh | Babu and Ammani (2010) |
| 8. | *Cassia occidentalis* | Paniya tribe of Wayanadu district, Kerala | Raji (2010) |
| 9. | *Tabernaemontana divaricata* | People in Thiruvananthapuram district, Kerala<br>Kanyakumari district, Tamil Nadu<br>Nyishi tribe of Pakke-Kessang district, Arunachal Pradesh | Arya *et al.* (2015);<br>Sukumaran *et al.* (2018);<br>Balakrishna *et al.* (2021) |
| 10. | *Argemone mexicana, Emilia sonchifolia* | Agaria, Baiga, Basor, Bharia, Bhil, Gond, Halba, Kanjar, Khairwar, Kol, Kondar, Korku, Pao, Madia, Mawasi, Mobasi, Oruooan, Sahariya, Sor tribes of Madhya Pradesh | Jadhav (2020) |

The identical use of some plants by tribal people in far off places may not be a mere coincidence; it may be a positive indication of some useful properties in those plants. All the new uses must be taken up for further scientific validation and pursued for value addition for the development of new drugs.

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**References**

Arya, S., Adarsh, G., Anand, S.K., Neethu, S. K. & Kumar, R.S. 2015. Selected medicinally and economically important plants growing in Aruvippuram Area of Thiruvananthapuram District, Kerala, India. *J. Trop. Med. Plants* **15**: 19-31.

Babu, K.S. & Ammani, K. 2010. Medicinal plants of Acharya Nagarjuna University Campus and its immediate surrounding environment. *J. Non-Timber Forest Products* **17**: 209-221.

Balakrishna, A., Joshi, B., Srivastava, A., Shankar, R., Vashistha R.K., Kumar, A., Aqib & Mishra, R.K. 2021. Medicinal plants of Seijosa circle, Pakke-Kessang district, Arunachal Pradesh, India. *Indian J. Natural Products & Resources* **12**: 101-115.

Imam, S., Gupta, V.C., & Hussain, S.K. 1997. Folk-herbal medicine from the tribal pockets of Adilabad forests, Andhra Pradesh, India. *Fitoterapia* **68**: 429-433.

Jadhav, D. 2014. Ethnomedicinal notes on some poisonous plants used by bhil tribe of Ratlam district, (MP). *Ethnobotany* **26**: 84-89.

Jadhav, D. 2020. Ethnomedicinal potential of weed plants of Madhya Pradesh: A review. *J. Non-Timber Forest Products* **27**: 147-154.

Jain, S.K. 1991. *Dictionary of Indian Folk Medicine and Ethnobotany*. Deep Publications, New Delhi.

Jain, S.K. & Sharma, P.P. 2000. A review of the parallel or unique indigenous uses of twenty-five plants in India and some African countries. *Ethnobotany* **12**: 51-55.

Kirtikar, K.R. & Basu, B.D. 2003 (Reprinted). *Indian Medicinal Plants.* Oriental Enterprises, Dehra Dun, Uttaranchal.

Kumar, S. & Chauhan, A. K. S. 2012. Ethnomedicinal plants used by Gujjars in Bharatpur, Rajasthan. *Ethnobotany* **24**: 119-122.

Kumari, S. & Kumar, S. 2018. Ethnomedicinal importance of plants used by the tribals of Sahebganj district of Jharkhand. *Ethnobotany* **30**: 22-34.

Rajendran, S.M., Chandra Sekar, K. & Sundaresan, V. 2002. Ethnomedicinal lore of Valaya tribals in Seithur Hills of Virudunagar district, Tamil Nadu, India. *Indian J. Trad. Knowl.* **1**: 59-71.

Raji, R. 2010. Ethno-medicinal studies of some edible weeds used by the Paniyas of Mananthavady, Wayanadu district of Kerala. *J. Non-Timber Forest Products* **17**: 353-356.

Rao, A.S., Yadav, S.S., Sheoran, A., Singh, N., Nandal, A., Bhandoria, M.S., Ganaie, S.A. & Bansal, P. 2021. An ethnomedicinal survey of traditionally used medicinal plants from Charkhi Dadri district, Haryana: an attempt towards documentation and preservation of ethnic knowledge. *Indian J. Trad. Knowl.* **20**: 436-450.

Ratnam, K.V., Reddy, G.T. & Raju, R.R.V. 2010. Herbal remedies for eye infections used by the tribals of Nallamala forests, Andhra Pradesh. *Indian J. Trad. Knowl.* **9**: 765-767.

Ravishankar, T. & Henry, A.N. 1992. Ethnobotany of Adilabad district, Andhra Pradesh, India. *Ethnobotany* **4**: 45-52.

Rudrapal, M., Sridhar, N. & Raghavendra, M. 2012. Ethnomedicinal plants used by traditional healers in East Godavari district of Andhra Pradesh. *Indian J. Natural Products & Resources* **3**: 426-431.

Sen, T. & Samant, S. S. 2013. Diversity, distribution and indigenous uses of medicinal plants in Rissa Khad, Watershed of district Mandi, Himachal Pradesh. *J. Non-Timber Forest Products* **20**: 199-214.

Senthilkumar, M., Gurumoorthi, P. & Janardhanan, K. 2006. Some medicinal plants used by Irular, the tribal people of Marudhamalai hills, Coimbatore, Tamil Nadu. *Natural Products Radiance* **5**: 382-388.

Shiddamallayya, N., Azra,Y. & Gopakumar, K. 2010. Hundred common forest medicinal plants of Karnataka in primary healthcare. *Indian J. Trad. Knowl.* **9**: 90-95.

Shukla A.N., Srivastava, S. & Rawat, A.K.S. 2010. An ethnobotanical study of medicinal plants of Rewa district, Madhya Pradesh. *Indian J. Trad. Knowl.* **9***:* 191-202.

Sudhakar, A. & Chetty, K.M. 1998. Medicinal importance of some angiospermic weeds used by the rural people of Chittoor district of Andhra Pradesh, India. *Fitoterapia* **69**: 390-400.

Sukumaran, S., Pepsi, A. & Jeeva, S. 2018. Diversity of medicinal plants in selected sacred groves and their value in rural life of tribals of Kanyakumari district, Tamil Nadu, India. *J. Non-Timber Forest Products* **25**: 161-170.

Swamy, N.S. and Reddi, T.V.V.S. 2010. Plant antidotes from

the folklore of Adilabad district, Andhra Pradesh**.** *J. Non-Timber Forest Products* 17: 59-62.

Swamy, N.S. and Reddi, T.V.V.S. 2011. Ethnomedicine for leucorrhoea from Adilabad district of Andhra Pradesh, India. *Ethnobotany* 23: 147-149.

Swamy, N.S. and Reddi, T.V.V.S. 2014. Traditional use of some ichthyotoxic plants for fish stupefying practices in Adilabad district (Andhra Pradesh). *Ethnobotany* 26: 71-73.

Swamy, N.S. and Reddi, T.V.V.S. 2016a. Ethnomedicine for sexually transmitted diseases by the tribes of Adilabad district, Andhra Pradesh. *Ethnobotany* 28: 82-85.

Swamy, N.S. and Reddi, T.V.V.S. 2016b. Ethnomedicine for Diarrhea and Dysentery by the Tribes of Adilabad District, Andhra Pradesh**.** *J. Trop. Med. Plants* 16:13-20.

Swamy, N.S. and Reddi, T.V.V.S. 2016c. Ethno-medicine for rheumatoid arthritis by the tribes of Adilabad district, Andhra Pradesh. *J. Traditional and Folk Practices* 02, 03, 04 (1): 68-73.

Swamy, N.S. and Reddi, T.V.V.S. 2017a**.** Ethnomedicine for tooth problems by the tribes of Adilabad district, Andhra Pradesh. *Ethnobotany* 29: 73-76.

Swamy, N.S. and Reddi, T.V.V.S. 2017b. Medicinal plants used as Antipyretic Agents by the Tribes of Adilabad District, Andhra Pradesh. *Medicinal Plant Research* 7(1): 1-6.

Swamy, N.S. and Reddi, T.V.V.S. 2017c. Ethnomedicine for cold and cough by the tribes of Adilabad district, Andhra Pradesh. *J. Non-Timber Forest Products* 24: 235-238.

Swamy, N.S. and Reddi, T.V.V.S. 2018a. Ethnomedicine for asthma by the tribes of Adilabad District, Andhra Pradesh. *Ethnobotany* 30: 35-39.

Swamy, N.S. and Reddi, T.V.V.S. 2018b. Ethnomedicine for jaundice by the tribes of Adilabad district, Andhra Pradesh. *Medicinal Plant Research* 8(7): 55-59.

Swamy, N.S. and Reddi, T.V.V.S. 2019. Ethnomedicine for headache by the tribes of Adilabad District, Andhra Pradesh. J. *Non-Timber Forest Products* 26: 113-115.

Swamy, N.S. and Reddi, T.V.V.S. 2020**.** Ethnomedicine for women problems by the tribes of Adilabad District, Andhra Pradesh. *J. Traditional & Folk Practices* 07(1&2)&08(1): 89-96.

Swamy, N.S. and Reddi, T.V.V.S. 2021. Ethnomedicine for earache by the tribes of Adilabad district, Andhra Pradesh. *J. Non-Timber Forest Products* 28: 36-38.

Vedavathy, S., Sudhakar, A. & Mrdula, V. 1997. Tribal medicinal plants of Chittoor. *Ancient Sci. Life* **16**: 307-330.

Vijayan, A., Liju, V.B., Johan, J.V.R., Parthipan, B. & Renuka, C. 2007. Traditional remedies of *Kani* tribes of Kottoor reserve forest, Agasthyavanam, Thiruvananthapuram district, Kerala. *Indian J. Trad. Knowl.* **6**: 589-594.

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# हिंदी के मुहावरों और कहावतों में पौधों के माध्यम से व्यक्त स्वदेशी ज्ञान की झलक

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## सारांश

एक प्रभावी और सार्थक सम्प्रेषण हेतु मुहावरों और कहावतों का उपयोग किया जाता है। सामान्यतया इनकी रचना अनुभवी बुजुर्ग लोगों द्वारा गहन अवलोकन के माध्यम से की गयी है और ये देशज ज्ञान को विभिन्न तरीकों से दर्शाती हैं । पेड़-पौधे सदैव से मनुष्य के साथ भावात्मक सांस्कृतिक संबंधों का एक महत्वपूर्ण अंश रहे हैं। इस लेख में 58 आवृतबीजी पौधों की प्रजातियों के माध्यम से हिंदी भाषा के 109 मुहावरों और कहावतों में व्यक्त देशज ज्ञान को संकलित कर प्रस्तुत किया गया है। इसके अलावा, व्यंजनों के माध्यम से देशज ज्ञान को व्यक्त करने वाले कुछ मुहावरों और कहावतों के उदाहरण भी दिए गए हैं। यह लेख शोधार्थियों को देश के अन्य हिस्सों में बिखरे हुए देशज वानस्पतिक ज्ञान का पता लगाने के लिए प्रेरित कर सकता है जो मानव तथा पौधों के बीच अनूठे भावनात्मक सांस्कृतिक संबंधों को प्रकट करते हुए कई स्थानीय भाषाओं में व्यक्त होते हैं।

## प्रस्तावना

वनस्पति जगत के साथ मानव का सम्बन्ध प्राचीन काल से ही चला आ रहा है। ना केवल अपने दैनिक जीवन की आवश्यकताओं की पूर्ति के लिए यथा भोजन, वस्त्र, औषधि, चारा, काष्ठ इत्यादि परन्तु अपनी सांस्कृतिक जीवन शैली में भी पेड़-पौधों की एक महत्त्वपूर्ण भूमिका रही है। मनुष्य की भावनाओं को उद्वेलित करते हुए पौधों के साथ मानव के भावात्मक सांस्कृतिक सम्बन्ध, गीतों, कथाओं, पहेलियों, मुहावरों, लोकोक्तियों, चित्रों, व्यक्ति/स्थानों के नामों इत्यादि में परिलक्षित होते हैं (Jain & Jain 2017)। इन सभी में मुहावरे और लोकोक्तियाँ देशज ज्ञान को अभिव्यक्त करने का एक सशक्त माध्यम है। कम शब्दों में ही इनके द्वारा सारगर्भित अर्थ प्रदर्शित कर दिए जाते हैं। पौधों के विभिन्न गुणों का प्रयोग करते हुए कुछ मुहावरे और कहावतें महत्त्वपूर्ण सन्देश दे डालती हैं (Agarwal 1981) । राजस्थान राज्य में भी ऐसी कई लोकोक्तियों को शोधार्थियों द्वारा संकलित किया गया है जो जनजातियों और वनस्पतियों के मध्य प्रगाढ़ सम्बन्धों को उजागर करती हैं (Joshi 1995; Pareek & Trivedi 2014) ।

मुहावरों और कहावतों का प्रयोग करके व्यक्ति अपने व्याख्यान को प्रभावी बना सकते हैं। इनके उचित प्रयोग से विषय को भावपूर्ण और सार्थक बनाया जा सकता है। कहावतें, दैनिक जीवन अथवा प्रकति में घटी वास्तविक घटनाओं की और इंगित करती हैं। साथ ही कई बार ये व्यक्ति की किसी विशेष वृत्ति की और भी इंगित करती हैं अथवा व्यक्ति के कृत्यों की तुलना किसी विशेष प्राकतिक घटना से भी की जाती है। कहावतों के रूप में उपयोगी वाक्य परिस्थितिनुकूल उपयुक्त परामर्श भी प्रदान करते हैं। अर्थात कहावतें, जीवन को अच्छी तरह व्यतीत करने के लिए कुछ सलाह भी देती हैं । उदाहरण के लिए, गेहूँ के साथ घुन भी पीस जाता है, अर्थात यदि किसी बुरे व्यक्ति के साथ अत्यधिक जान-पहचान है तो उस पर दोष लगे तो उसके जान-पहचान वाले लोगों को भी दोषी समझा जाता है। अतः ऐसे व्यक्ति की संगत से बचना चाहिए ।

[±] Note: This article was prepared by me under the guidance of late Dr. S.K. Jain, hence I have given his name as co-author to pay my tributes.

मुहावरे; सामान्यतया कुछ निश्चित शब्दों में लिखे जाते हैं जिनका शाब्दिक अर्थ और उसमें निहित भावार्थ (सन्देश) पूर्णतया भिन्न होता है। अर्थात गैर-शाब्दिक अर्थों में जिसके द्वारा किसी निश्चित भाव की अभिव्यक्ति होती है, उन्हें मुहावरों की श्रेणी में रखा जाता है। इनका प्रयोग कथा साहित्य विधा में अधिकतर किया जाता हैं परन्तु शोध और तकनीकी लेखों में नहीं किया जाता । कुछ वक्ता भी अपने वक्तव्य में मुहावरों का प्रयोग करते हैं । उदाहरण के लिए, 'बोये बीज बबूल (*Vachellia nilotica*) का तो आम (*Mangifera indica*) कहाँ से होय' जिसका निहितार्थ है की यदि किसी ने बुरे कार्य किये हैं तो उसे अच्छे परिणामों की आशा नहीं करनी चाहिए, जैसे यदि हम बीज बबूल के पेड़ का बोते हैं तो उससे कंटीला बबूल ही विकसित होगा, मीठा आम नहीं। इसी प्रकार, 'ऊंट के मुंह में जीरा (*Cuminum cyminum*)' जिसका निहितार्थ है, की किसी अत्यधिक भूखे व्यक्ति के सामने एक छोटा सा कण खाने के लिए रख दिया जाना जिससे उसका पेट नहीं भर सकता ।

प्रस्तुत आलेख में हिंदी भाषा में प्रचलित 109 ऐसे मुहावरों और कहावतों को संकलित किया गया है जिसमें पौधों के माध्यम से देशज ज्ञान व्यक्त हुआ है। ये 109 कहावतें और मुहावरे हिंदी वर्णमाला क्रम में व्यवस्थित कर उनके भावार्थ सहित सूची-1 में दी गयी हैं। इनमें व्यक्त, 34 आवृतबीजी कुलों में वर्गीकृत 58 पौधों की प्रजातियों, उनके वानस्पतिक नामों और कुलों को सूची-2 में दिया गया है । इसमें सर्वाधिक छह पौधे फैबेसी कुल से, पांच पौधे प्रत्येक पोएसी तथा कुकुरबिटेसी तथा तीन पौधे प्रत्येक एपीएसी, मोरेसी और ब्रेसिकैसी कुल से सम्बन्ध रखते हैं। इनमें से कुछ मुहावरों और कहावतों का विस्तृत भावार्थ आगामी पंक्तियों में बताया जा रहा है ।

'मूली अपने ही पातों भारी है'- अर्थात जो व्यक्ति स्वयं विपत्ति में फंसा है, वह दूसरों की सहायता कैसे कर सकता है जैसे मूली (*Raphanus sativus*) भी जमीन के नीचे फंसी हुई रहती है।

'भूनी भांग (*Cannabis sativa*) न कड़वा तेल' - अर्थात ऐसा व्यक्ति जिसके पास कुछ भी नहीं हो।

'नारियल (*Cocos nucifera*) में पानी, नहीं जानते खट्टा की मीठा'- हरे नारियल में पानी भरा होता है परन्तु बाहर से देखकर उसके स्वाद का पता नहीं कर सकते कि खट्टा है या मीठा तो किसी भी संदेहजनक परिस्थिति के लिए यह कहा जाता है।

इसी प्रकार 'गंजी पनहारी और गोखरू (*Tribulus terrestris*) का हंडुवा' - हंडुवा अर्थात जिस पर घड़ा रखा जाता है। यहाँ यह कहा गया है की पनिहारिन के सर पर बाल नहीं हैं और उस पर गोखरू (एक कांटेदार फल युक्त छोटा पौधा) रख दिया जाय जिसका तात्पर्य है की एक मुसीबत तो थी ही उस पर दूसरी मुसीबत और आ गयी।

'चन्दन (*Santalum album*) की चुटकी, ना गाड़ी भर काठ'- चन्दन जैसी सुगन्धित वस्तु अत्यल्प मात्रा में भी काफी है, बजाय इसके की पूरी गाड़ी भरकर किसी पेड़ की लकड़ी लायी जाय अर्थात अच्छी वस्तु थोड़ी मात्रा में ही अच्छी है और अनुपयोगी वस्तु अधिक भी हो तो उसका कोई लाभ नहीं होता।

'गुड़ से बैंगन (*Solanum melongena*) हो गए' - जब कोई सस्ती वस्तु भी कीमती होकर महंगी बिकती है तब यह कहा जाता है।

'हल्दी (*Zingiber officinale*) की गांठ हाथ लगी, चूहा पंसारी ही बन बैठा'- अर्थात जब किसी व्यक्ति के हाथ में थोड़ा सा धन या अत्यल्प विद्या भी आ जाय तो वह स्वयं को बहुत बड़ा समझने लगता है ।

कई अभिव्यक्तियाँ पौधों के औषधीय गुणों की ओर भी इंगित करती हैं, जैसे, 'पक्का (*Piper betel*) पान, खांसी न जुकाम' - चूँकि नया पान का पत्ता कफ पैदा करता है, पक्का नहीं, इसलिए यह कहा गया की खांसी-जुकाम से बचना है तो पक्के पान के पत्ते का ही सेवन करना है।

## सूची -1

| क्र. सं. | कहावतें/मुहावरें | भावार्थ |
|---|---|---|
| 1. | अंगूर खट्टे हैं | जब कोई वस्तु ना मिले तो उस वस्तु में ही दोष निकालना। |
| 2. | अंधेर नगरी अबूझ राजा, टेक सेर ककड़ी, टेक सेर खाजा | वह स्थान जहाँ घोर अन्याय और अंधेरगर्दी फैली हो। |
| 3. | अकेला चना भाड़ नहीं फोड़ सकता | एक अकेला व्यक्ति बड़ा कार्य नहीं कर सकता। |

| क्र. सं. | कहावतें/मुहावरें | भावार्थ |
|---|---|---|
| 4. | अजब तेरी कुदरत, अजब तेरा खेल, छछूंदर भी डाले, चमेली का तेल | किसी अयोग्य व्यक्ति को भाग्य से कोई मूल्यवान वस्तु का मिल जाना । |
| 5. | अड़सठ तीरथ कर आयी तूमड़ी, तउ न गयी कडवाई | बुरे स्वभाव का व्यक्ति भले ही अड़सठ तीर्थों की यात्रा कर ले परन्तु उसका बुरा स्वभाव नहीं छूटता। |
| 6. | अढ़ाई हाथ की ककड़ी, नौ हाथ का बीज | अनहोनी बात। |
| 7. | अनकर सिर कद् बराबर | काट भी डालो तो हर्ज नहीं। |
| 8. | आँधर कूटे, बहिर कूटे, चावल से काम | आदमी कैसा भी हो कोई मतलब नहीं, हमें सिर्फ काम होने से मतलब है। |
| 9. | आंधी के आम | अचानक हाथ लगी वस्तु, सस्ती वस्तु । |
| 10. | आम इमली का साथ | दो चालाक व्यक्तियों का एकत्र होना (आम और इमली दोनों में ही खट्टेपन का गुण होता है) । |
| 11. | आम के आम गुठलियों के दाम | ऐसा सौदा होना जिसमें सब तरह से लाभ ही लाभ हो। |
| 12. | आम खाने या पेड़ गिनने | सीधे काम की बात ना करके व्यर्थ के प्रश्नों में उलझना। |
| 13. | आये आम, जाए लबेड़ा | कुछ पाने के लिए कुछ खोना पड़ता है । लबेडा फल (सामान्य वस्तु) चाहे हाथ से चला जाय पर आम (अच्छी वस्तु) तो मिले। |
| 14. | आये थे हरी भजन को, ओटन लगे कपास | जिस कार्य को करने आये थे वह छोड़ कर किसी अन्य कार्य में व्यस्त हो जाना । |
| 15. | आसमान से गिरा, खजूर में अटका | किसी कार्य का पूरा होते होते बीच में ही रह जाना। |
| 16. | इन तिलों में तेल नहीं | कंजूस व्यक्ति के लिए प्रयुक्त अर्थात यहाँ से कुछ पाने की आशा ना रखे। |
| 17. | उल्टे बांस बरेली को | विपरीत कार्य करना। |
| 18. | ऊंट के मुंह में जीरा | जिस व्यक्ति की अत्यधिक खुराक हो उसे अत्यल्प मात्रा में भोजन देना (वस्तुओं के लिए भी समान अर्थ) । |
| 19. | ऊसर खेत में केसर | ऊसर भूमि में यदि केसर जैसी मूल्यवान वस्तु उत्पन्न हो जाय जो की एक आश्चर्यजनक घटना है, जैसे किसी अयोग्य घर में योग्यवान संतान पैदा हो जाय। |
| 20. | एक अनार सौ बीमार | एक ही वस्तु परन्तु उसे मांगने वाले बहुतेरे। |
| 21. | एक आम की दो फाँके | दो एक-सी वस्तुएँ या दो सगे भाई जिनमें अत्यधिक प्रेम हो। |
| 22. | एक चना, बहुतेरी दाल | एक चने से बहुत-सी दाल हो सकती है परन्तु चने की उपयोगिता उससे कम नहीं होती। मुख्य वस्तु ही रक्षणीय होती है । |
| 23. | एक तो करेला कड़वा, दूसरे नीम चढ़ा | बुरा व्यक्ति कुसंग में पड़कर अथवा अचानक मान-सम्मान पाकर और भी बुरा बन जाय। |
| 24. | एक नीम सब घर सितलहा | नीम का पेड़ एक ही है और घर में सभी व्यक्तियों को शीतला निकली है तो सभी के उपचार में नीम की पत्तियाँ कैसे देवे । |
| 25. | एक नीम सो कोढ़ी | एक ही वस्तु परन्तु उसे मांगने वाले बहुतेरे । |

| क्र. सं. | कहावतें/मुहावरें | भावार्थ |
|---|---|---|
| 26. | एक पेड़ हर्रे, सगरे गांव खांसी | पूरे गांव में खांसी फैली हुई है और खांसी के इलाज के लिए सिर्फ एक ही हरड़ का पेड़ है अर्थात एक ही वस्तु परन्तु उसे मांगने वाले बहुत व्यक्ति हैं। |
| 27. | ककड़ी के चोर की गर्दन नहीं मारते | किसी साधारण अपराध के लिए कड़ा दंड नहीं दिया जाता। |
| 28. | कड़ाकड़ बाजे थोथे बांस | खोखले बांसों से आवाज बहुत निकलती है अर्थात निक्कमा आदमी बड़ी-बड़ी बाते करता है। |
| 29. | कभी न कभी टेसू फूला | अप्रत्याशित रूप से जब कभी कोई व्यक्ति भला काम कर दे। |
| 30. | कमल कीचड़ में उगता है | विपरीत परिस्थितयों में भी अनुकूल परिणाम प्राप्त होना। |
| 31. | किस खेत की मूली है | किसी की उपेक्षा करना। |
| 32. | किसी को बैंगन भाये तो किसी को पत्थ | कोई वस्तु किसी के लिए लाभकारी हो सकती है परन्तु दूसरे के लिए हानिकारक हो सकती है। |
| 33. | कुछ तो खरबूजा मीठा और कुछ ऊपर से कंद | अच्छाई में और भी अधिक अच्छाई। |
| 34. | कुसुम का रंग तीन दिन, फिर बदरंग | किसी भी वस्तु का सौंदर्य स्थायी नहीं होता। |
| 35. | कौवों की दुम में अनार की कली | किसी बदसूरत व्यक्ति का अच्छी पोशाक पहन कर निकलना अर्थात किसी निकृष्ट वस्तु के साथ उत्कृष्ट वस्तु का मेल होना । |
| 36. | खरबूजे को देखकर खरबूजा रंग बदलता है | एक आदमी को देख कर दूसरा भी वैसे ही करने लग जाता है। |
| 37. | ख़ाक छानते, बेर बीनते | मारे-मारे फिरना। |
| 38. | खाय चना, रहे बना | चने की प्रशंसा। |
| 39. | खावे मोंठ, तोड़े कोट | मोंठ दाल की पौष्टिकता की ओर संकेत। |
| 40. | खीरे ककड़ी की तरह काटना | तेजी से अंधाधुंध काटना । |
| 41. | गंजी पनहारी और गोखरू का हंडुवा | मुसीबत में मुसीबत। |
| 42. | गधे को अंगूरी बाग़ | किसी मनुष्य को ऐसी वस्तु देना जिसके वह योग्य नहीं है। |
| 43. | गाछ में कटहल, होंठ में तेल | समय के पहले ही किसी कार्य की तैयारी में लग जाना। |
| 44. | गाजर-मूली समझना | किसी व्यक्ति को तुच्छ समझना। |
| 45. | गुड़ से बैंगन हो गए | जब कोई सस्ती चीज़ महँगी हो जाती है। |
| 46. | गूलर का पेट फड़वाना | छिपी हुई बात क्यों प्रकट करना। |
| 47. | गूलर का फूल होना | विरले ही दिखने वाला। |
| 48. | गेहूँ के साथ घुन भी पीस जाता है | अपराधियों के साथ निर्दोष व्यक्ति को भी दंड मिलता है अर्थात बुरे व्यक्ति की संगत में भला आदमी भी बदनाम हो जाता है । |
| 49. | घर की मुर्गी दाल बराबर | आसानी से उपलब्ध किसी वस्तु या व्यक्ति के गुणों की अनदेखी करना। |
| 50. | चने के झाड़ पर चढ़ाना | झूठी प्रशंसा करना। |

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| 51. | चन्दन की चुटकी, ना गाड़ी भर काठ | अच्छी चीज़ कम मात्रा में भी अच्छी ही होती है । घटिया चीज अधिक मात्रा में भी हो तो क्या लाभ। |
| 52. | छाती पर मूंग दलना | समीप रहकर परेशान करना। |
| 53. | छुरी पर कद्, कद् पर छुरी | हर हाल में वही बात, कटना कद् को ही है। |
| 54. | जब दांत थे, तब चने नहीं, जब चने हैं तब दांत नहीं | जब सुविधा थी तब उपयोग नहीं कर पाए और जब उपयोग करने लायक हुए तब वे सुविधाएं नहीं मिली। |
| 55. | जब नटनी बांस पर चढ़ी, तो घूँघट क्यों | जब किसी कार्य को करने की ठान ही ली तो फिर संकोच करने का कोई फायदा नहीं। |
| 56. | जौ के खेत कंडुआ उपजे | जब किसी घर में कोई संतान अत्यधिक अयोग्य निकले। |
| 57. | झड़बेरी का कांटा | ऐसा व्यक्ति जिससे पीछा छुड़ाना बड़ा मुश्किल हो। |
| 58. | ढाई चावल की खिचड़ी पकाना | बहुमत से अलग रहना। |
| 59. | ढाक के तीन पात | हमेशा एक-सी स्थिति रखना। |
| 60. | ढाक तले की फूहड़, महुवे तले की सुघड़ | सही संगत में रहने वाला समझदार होता है अन्यथा जैसे ढाक वृक्ष के नीचे जाने पर न तो छाया मिलती है ना ही कोई खाने योग्य पदार्थ जबकि महुआ वृक्ष के नीचे ये दोनों ही मिलते है तो महुए तले जाने वाला व्यक्ति सुघड़ है। |
| 61. | तिल का ताड़ बनाना | छोटी-छोटी बातों को बहुत बड़ा कर बहस करना। |
| 62. | तिल रखने की जगह न होना | एक ही स्थान पर बहुत भीड़ का एकत्रित होना। |
| 63. | तीखी मिर्ची | ऐसा व्यक्ति जो सदैव लाल मिर्च के तीखे स्वाद जैसी तीखी बातें कहता हो। |
| 64. | तुलसी का पत्ता कौन छोटा, कौन बड़ा | जैसे तुलसी के सभी पत्ते पूजनीय माने जाते है वैसे ही जिस सभा में कई पूज्यजन उपस्थित हो वहाँ ये कहा जाता है। |
| 65. | थाली का बैंगन | सिद्धांत विहीन व्यक्ति जो अपने लाभ के लिए किसी भी तरफ पलट सकता है। |
| 66. | थोथा चना बाजे घना | अकर्मण्य व्यक्ति जो बहुत बाते करता है। |
| 67. | दही भात का मुसल | हर कार्य में बेमतलब हस्तक्षेप करने वाला व्यक्ति। |
| 68. | न रहेगा बांस न बजेगी बांसुरी | जिस वस्तु से कष्ट हो उसे समूल नष्ट कर देना। |
| 69. | नाक तले चने दबाना | अत्यधिक परेशान करना। |
| 70. | नारियल में पानी, नहीं जानते खट्टा की मीठा | संदेहजनक परिस्थिति। |
| 71. | नीच न छोड़े नीचता, नीम न छोड़े कडवाई | जिस तरह से नीम अपने कड़वेपन का गुण नहीं छोड़ सकता, वैसे ही नीच व्यक्ति अपनी निकृष्टता नहीं छोड़ सकता। |
| 72. | नौकरी अरंड की जड़ | जैसे अरंडी की जड़ें कमजोर होती है, वैसे ही नौकरी का क्या भरोसा, कभी भी छूट जाय। |
| 73. | पके आम के टपकने का डर रहता है | वृद्ध व्यक्ति की मृत्यु कभी भी हो सकती है। |

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| 74. | पक्का पान, खांसी न जुकाम | नए पान के पत्ते से कफ़ बनता है परन्तु पक्के पत्ते से नहीं। |
| 75. | पांड़े जी पछतायेंगे, तब चने की रोटी खाएंगे | जब काफी समझाने पर भी कोई व्यक्ति किसी सही बात को ना माने और बाद में स्वतः ही वही करे जो पहले उन्हें करने को कहा गया था। |
| 76. | पाप छिपाये न छिपे, जैसे लहसुन की बास | पाप प्रकट हो कर ही रहता है जैसे लहसुन खाने पर उसकी गंध नहीं छिपती। |
| 77. | पावँ में मेहंदी लगना | कहीं जाने में अनावश्यक असमर्थता दिखना। |
| 78. | पीले चावल भेजना | शुभ कार्य हेतु आमंत्रण देना। |
| 79. | फिर मुड़ली बेल तले | पुनः जोखिम में पड़ना। |
| 80. | बड़ों के कहे का और आंवलों के खाये का पीछे स्वाद आता है | पहले तो कड़वे लगते है परन्तु उनकी अच्छाई बाद में दिखाई देती है। |
| 81. | बन्दर के हाथ नारियल | किसी अयोग्य व्यक्ति के हाथों बड़ी मूल्यवान वस्तु लग जाना जिसका उपयोग वह किसी भी तरीके से कर सकता है जो हानिकारक भी हो सकता है |
| 82. | बन्दर क्या जाने अदरक का स्वाद | अज्ञानी व्यक्ति जिसे गुणवान वस्तु का मूल्य नहीं पता |
| 83. | बांस बढे झुक जाय, अरंड बड़े टूट जाय | सज्जन व्यक्ति जैसे ऊचांई पर पहुंचते हैं, उनकी विनम्रता बढ़ती जाती है । इसके विपरीत छोटे लोग दम्भ का प्रदर्शन करने लगते हैं। |
| 84. | बाप के गले में मोंगरे, पूत के गले में रुद्राक्ष | अय्याश पिता का साधू पुत्र। |
| 85. | बेटी और ककड़ी की बेल बराबर होती है | दोनों ही जल्दी बढ़ती हैं। |
| 86. | बेर खांसी का घर है | बेर खाने से खांसी होने का डर। |
| 87. | बेल के मारे बबूल तले, बबूल के मारे बेल तले | एक दुर्भाग्यशाली मनुष्य जिसे कहीं भी आश्रय नहीं मिलता जैसे बेल वृक्ष के नीचे गए तो उसका फल सर पर गिरा और बबूल के नीचे गए तो उसके कांटे चुभे। |
| 88. | बेल पक्का तो कौवों के बाप का क्या ? | यदि कोई वस्तु बहुत अच्छी है परन्तु सुलभ नहीं है तो उससे क्या लाभ? |
| 89. | बेल पक्का या कच्चा, कौवे को क्या मतलब | यदि कोई वस्तु बहुत अच्छी है परन्तु सुलभ नहीं है तो उससे क्या लाभ? जैसे बेल का फल पक्का हो या कच्चा, कौवा उसे अपनी चोंच से तोड़कर नहीं खा सकता। |
| 90. | बेल फूटा राई-राई हो गया | आपस की फूट से बहुत नुकसान होता है। |
| 91. | बेल, बबूल, खाक और धूल, इनके पास जाना है भूल | बेल हो या बबूल दोनों ही एक से हानिकारी, बेल के नीचे जाने से सर फूटता तो बबूल के पास जाने से कांटे चुभते। |
| 92. | बोये बीज बबूल का तो आम कहाँ से होय | जैसा कर्म करेंगे वैसा ही फल मिलेगा। |
| 93. | भड़भूजन की लड़की, केसर का टीका | अपनी मर्यादा के भीतर ना रहना। |
| 94. | भूख में गूलर भी पकवान | भूख लगने पर जो भी चीज मिले वह भी पकवान के समान होती है। |
| 95. | भूनी भांग न कड़वा तेल | ऐसा व्यक्ति जिसके पास कुछ ना हो। |
| 96. | मंगाई हींग, लाया अदरक | सुनी-अनसुनी करना। |

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| 97. | माघ का जाड़ा, जेठ की धूप, बड़े कष्ट से उपजे ईख | गन्ने की खेती में बहुत मेहनत करनी पड़ती है, माघ महीने का जाड़ा भी सहना पड़ता है और ज्येष्ठ महीने की गर्मी भी अर्थात मेहनत करने से ही सफलता मिलती है। |
| 98. | माये का मुडौना, बेल का खिसकना | किसी कार्य को आरम्भ करते ही बाधाओं का आ जाना। |
| 99. | मुफ्त का चन्दन, घिसे जा बिल्ली | दूसरे की वस्तु का दुरूपयोग करना जैसे मुफ्त में चन्दन जैसी मूल्यवान वस्तु मिलने पर उसका बेहिसाब इस्तेमाल करना। |
| 100. | मूली अपने ही पातों भारी है | जो स्वयं मुसीबत में फंसा हो वह दूसरों की सहायता कैसे कर सकता है। |
| 101. | ये मुँह और मसूर की दाल | योग्यता से अधिक प्राप्त करने की चाह करना। |
| 102. | राई का पहाड़ | छोटे से मतभेद को बहुत बड़ा बनाकर बहस करना। |
| 103. | रुई जैसा उड़ जाना | हल्का होकर आसमान में ऊँचा उठना। |
| 104. | सात पांच पकुआ न, एक गूलर | एक लड़का अगर सपूत निकले तो वही बहुत है। |
| 105. | सिर का मुन्डौना, बेल का गिरना | काम की शुरुआत में ही मुसीबतों का आ जाना। |
| 106. | हथेली पर सरसों उगाना | किसी कठिन कार्य को भी शीघ्रता से संपन्न कर लेना। |
| 107. | हल्दी चढ़ाना | हिन्द विवाह की एक रस्म जिसमें वर-वधु को स्वस्थ और बाधाओं से मुक्त रखने के लिए हल्दी का लेप लगाया जाता है। |
| 108. | हल्दी की गांठ हाथ लगी, चूहा पंसारी ही बन बैठा | थोड़ा धन या थोड़ी विद्या पाकर ही यदि कोई स्वयं को बड़ा समझ बैठे। |
| 109. | हींग लगे ना फिटकरी, रंग भी चोखा आए | बिना अधिक मेहनत किये ही अच्छा परिणाम मिलना। |

**सूची-2 (हिंदी वर्णमाला के अनुसार)**

'अंगूर' *Vitis vinifera* L. (Vitaceae)

'अदरक' *Zingiber officinale* Roscoe. (Zingiberaceae)

'अनार' *Punica granatum* L. (Punicaceae)

'अरंड' *Ricinus communis* L. (Euphorbiaceae)

'आँवला' *Phyllanthus emblica* L. (Phyllanthaceae)

'आम' *Mangifera indica* L. (Anacardiaceae)

'इमली' *Tamarindus indica* L. (Fabaceae)

'ईख', 'गुड़' *Saccharum officinarum* L. (Poaceae)

'कटहल' *Artocarpus heterophyllus* Lamk. (Moraceae)

'कद्' *Cucurbita maxima* Duchesne (Cucurbitaceae)

'कपास', 'रुई' *Gossypium* spp. (Malvaceae)

'कमल' *Nelumbo nucifera* Gaertn. (Nelumbonaceae)

'करेला' *Momordica charantia* L. (Cucurbitaceae)

'कुसुम' *Schleichera oleosa* (Lour.) Oken (Sapindaceae)

'केसर' *Crocus sativus* L. (Iridaceae)

'खजूर' *Phoenix sylvestris* (L.) Roxb. (Arecaceae)

'खरबूजा' *Cucumis melo* L. (Cucurbitaceae)

'खीरे', 'ककड़ी' *Cucumis sativus* L. (Cucurbitaceae)

'गाजर' *Daucus carota* L. (Apiaceae)

'गूलर' *Ficus racemosa* L. (Moraceae)

'गेंहू' *Triticum aestivum* L. (Poaceae)

'गोखरू' *Tribulus terrestris* L. (Zygophyllaceae)

'चना' *Cicer arietinum* L. (Fabaceae)

'चन्दन' *Santalum album* L. (Santalaceae)

'चमेली' *Jasminum arborescens* Roxb. (Oleaceae)

'चावल', 'भात' *Oryza sativa* L. (Poaceae)

'जीरा' *Cuminum cyminum* L. (Apiaceae)

'जौ' *Hordeum vulgare* L. (Poaceae)

'झड़बेरी' *Ziziphus nummularia* (Burm.f) Wight. & Arn. (Rhamnaceae)

'टेसू', 'ढाक' *Butea monosperma* (Lamk.) Taub. (Fabaceae)

'तिल' *Sesamum indicum* L. (Pedaliaceae)

'तुलसी' *Ocimum tenuiflorum* L. (Lamiaceae)

'तूमड़ी' *Lagenaria siceraria* (Molina) Standl. (Cucurbitaceae)

'नारियल' *Cocos nucifera* L. (Arecaceae)

'नीम' *Azadirachta indica* A. Juss. (Meliaceae)

'पकुआ' *Ficus virens* Aiton (Moraceae)

'पान' *Piper betel* L. (Piperaceae)

'बबूल' *Vachellia nilotica* (L.) P.J.H. Hurter & Mabb. (Fabaceae)

'बांस' *Bambusa bambos* (L.) Voss (Poaceae)

'बेर' *Ziziphus jujuba* Mill. (Rhamnaceae)

'बेल' *Aegle marmelos* (L.) Correa (Rutaceae)

'बैंगन' *Solanum melongena* L. (Solanaceae)

'भांग' *Cannabis sativa* L. (Cannabaceae)

'मसूर' *Lens culinaris* Medik. (Fabaceae)

'महुवे' *Madhuca longifolia* var. *latifolia* (Roxb.) A. Chev. (Sapotaceae)

'मिर्ची' *Capsicum annum* L. (Solanaceae)

'मूली' *Raphanus sativus* L. (Brassicaceae)

'मेहंदी' *Lawsonia inermis* L. (Lythraceae)

'मोंगरे' *Jasminum sambac* (L.) Aiton. (Oleaceae)

'मोंठ' *Vigna aconitifolia* (Jacq.) Marechal (Fabaceae)

'राई' *Brassica juncea* (L.) Czern (Brassicaceae)

'रुद्राक्ष' *Elaeocarpus angustifolius* Blume (Elaeocarpaceae)

'लबेड़ा' *Cordia dichotoma* G.Forst. (Boraginaceae)

'लहसुन' *Allium sativum* L. (Amaryllidaceae)

'सरसों' *Brassica rapa* L. syn. *Brassica campestris* L. (Brassicaceae)

'हर्रे' *Terminalia chebula* Retz. (Combretaceae)

'हल्दी' *Curcuma longa* L. (Zingiberaceae)

'हींग' *Ferula narthex* Boiss. (Apiaceae)

'एक नीम (*Azadirachta indica*) सब घर सितलहा' - शीतला माता (चिकन पॉक्स) से ग्रसित रोगी के सिरहाने नीम की पत्तियाँ रखी जाती थी जिसमें कीटनाशक गुण पाया जाता है। तो घर में एक ही नीम के पेड़ होने और सभी सदस्यों को शीतला रोग हो जाने से सबके लिए नीम की पत्तियों की व्यवस्था कैसे की जाय। इसी प्रकार 'एक नीम सो कोढ़ी' का निहितार्थ भी यही है की नीम का पेड़ एक ही है और कोढ़ रोग से ग्रसित अनेक रोगी है जिन्हें नीम के पत्ते तथा निम्बोली का तेल लगाया जाय तो चर्म रोग में अत्यंत लाभकारी होता।

'बड़ों के कहे का और आंवलों (*Phyllanthus emblica*) के खाये का पीछे स्वाद आता है' - जिस तरह से बड़े-बुजुर्गों की सलाह प्रारम्भ में अस्वीकार्य लगती है परन्तु बाद में स्वीकार करते हैं कि वास्तव में वे सर्वाधिक उपयोगी होती हैं। उसी प्रकार आंवला फल भी प्रारम्भ में खाने पर कड़वा लगता है परन्तु उसका औषधीय प्रभाव शरीर पर बाद में पता चलता है।

कई स्थानों पर पौधों के आकारिकी लक्षणों को भी इन अभिव्यक्तियों में दर्शाया गया है, जैसे, 'बेल (*Aegle marmelos*) पक्का तो कौवों के बाप का क्या?' चूँकि बेल की फलभित्ति अत्यंत कठोर होती है जिसे कौआ अपनी चोंच से तोड़कर बेल का गूदा नहीं खा सकता तो यह दर्शाती है कि चाहे कोई वस्तु अत्यंत अच्छी है, परन्तु उसे पाना आसान नहीं है तो उससे क्या लाभ?

उसी प्रकार, 'बेटी और ककड़ी (*Cucumis sativus*) की बेल बराबर होती है' - यहाँ ककड़ी की बेल के तीव्रता से वृद्धि करने के गुण कि उपमा लड़कियों के बढ़ने को दी गयी है जो भी माना जाता है कि शीघ्रता से वृद्धि करती हैं ।

'नौकरी अरंड (*Ricinus communis*) की जड़' - जिस प्रकार अरंडी की जड़ें बहुत कमजोर होती है, इसलिए वह आसानी से नष्ट हो सकता है उसी प्रकार नौकरी का भी कोई स्थायित्व नहीं रहता, कभी भी छूट सकती है ।

इसी तरह पौधों की खेती के लिए आवश्यक ज्ञान को भी इन अभिव्यक्तियों में बताया जाता है जैसे, 'माघ का जाड़ा, जेठ की धूप, बड़े कष्ट से उपजे ईख (*Saccharum officinarum*)', अर्थात अत्यधिक सर्दी और अत्यधिक गर्मी सहन करने के बाद ही गन्ने की अच्छी फसल होती

है जिसका भावार्थ यूँ कह सकते हैं की अत्यधिक मेहनत करने के बाद ही सफलता प्राप्त होती है।

प्रस्तुत आलेख में दी गयी कहावतें और मुहावरे केवल सांकेतिक हैं। निश्चय ही ऐसी सैंकड़ों और मुहावरें तथा कहावतें होंगी, जिन सभी का संकलन लेखकों के लिए संभव नहीं है। शोधकर्ताओं के लिए इस क्षेत्र में विस्तृत शोध की अपार सम्भावनायें हैं। इस प्रकार से भारत के विभिन्न राज्यों में बोली जाने वाली स्थानीय भाषाओँ में कई ऐसे मुहावरे और कहावतें होंगी जिनमें पौधों के माध्यम से देशज ज्ञान का सम्प्रेषण किया जाता होगा। लेखकद्वय आशा करते हैं, की इस लेख से प्रेरित होकर वनस्पतिज्ञ अपने-अपने क्षेत्रों में बिखरे ऐसे देशज ज्ञान के संकलन का प्रयास करेंगे।

## आभार

इन कहावतों और मुहावरों के संकलन हेतु लेखकद्वय अपने सम्बन्धियों, सहकर्मियों, मित्रों के आभारी हैं। विशेषकर डॉ. एस. के. जैन के सहायक तारा कुमारी और अमर कुमार राजभर से मिले सहयोग के लिए भी अत्यंत आभारी हैं। इसके साथ ही डॉ. ऐ. के. गोयल (लखनऊ) से मिले उपयोगी सुझावों के लिए भी उनको हार्दिक धन्यवाद देते हैं।

## सन्दर्भ सूची

Agarwal, S.R. 1981. Trees, flowers and fruits in Indian folk songs, folk proverbs and folk tales. P. 3-12. *In*: Jain, S.K. (ed.) *Glimpses of Indian Ethnobotany*. Oxford & IBH, New Delhi.

Jain, S.K. & Jain, V. 2017. *Methods and Approaches in Ethnobotany (Concepts, Practices and Prospects)*. Deep Publications, New Delhi.

Joshi, P. 1995. *Ethnobotany of the primitive tribes in Rajasthan*. Printwell Publ., Jaipur.

Pareek, A. & Trivedi, P.C. 2014. Common folk proverbs in relation to environment and plants in Rajasthan, India. *J. Indian Bot. Soc.* **93**: 100-104.

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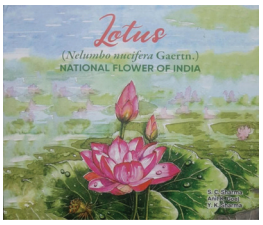


## BOOK REVIEW

**Lotus (*Nelumbo nucifera* Gaertn. ) National Flower of India**; Dr. S.C. Sharma, Dr. Anil K. Goel & Y.K. Sharma; M/S Bishen Singh Mahendra Pal Singh, Dehradun; 2022; Pages: 108; ISBN: 978-81-211-0733-4; Price: ₹ 2250/-(Inland)

The authors Drs. S.C. Sharma, Former Chief Scientist, CSIR-National Botanical Research Institute, Lucknow, Anil K Goel, Former Chief Scientist, CSIR-NBRI, Lucknow and Prof. Y.K. Sharma, Former Head, Botany Department, University of Lucknow have recently brought out a comprehensive coffee table book on the most sacred flower "Lotus" (*Nelumbo nucifera* Gaertn.), the National Flower of India occupying a unique status in art and mythology since the time immemorial.

It was an outcome of project work on introduction, conservation, documentation, multiplication and dissemination of Lotus sponsored by the Ministry of Environment, Forests & Climate Change, Government of India, New Delhi and undertaken at CSIR-NBRI, Lucknow as mentioned by Dr. P.V. Sane, Former Director, CSIR-NBRI in his foreword of this book. Dr. Sane has also suggested the Agriculture Universities to take up an organized R&D work on Lotus for working out the techno-economics of the Lotus cultivation for the progressive farmers so that they take an advantage of its mass cultivation in the ponds for their social and economic empowerment. The coffee table book also contains messages by Dr. S.K. Barik, Former Director, CSIR-NBRI, Dr. Girish Sahni, Former Director General, CSIR and Former Secretary, Government of India, New Delhi, Padma Shri Dr. Mansoor Hasan, Founder, LARI Cardiology and Former Head, Cardiology, KGMU, Lucknow and Dr. Amrita Dass, Founder Director, Institute for Career Studies, Lucknow who had praised the efforts of the authors in writing this book.

This book incorporates the detailed information on Lotus in twenty nine chapters viz.: The Lotus in Hindu mythology, Buddhism, other religions, philosophy, architecture, literature, Egyptian blue Lotus, distribution of lotus, habitat and ecological environment, morphological and anatomical characters of Lotus, taxonomy and nomenclature, horto-taxonomic studies of Lotus varieties, floral biology, Lotus effect, thermo-regulation, Lotus seed longevity, genetic and molecular improvement, conservation of Lotus, propagation, pests and diseases, cultivation, medicinal importance, Lotus perfume, economic importance of Lotus, list of Lotus varieties, Lotus for bioremediation, Lotus in landscaping, Lotus as the crop of future and the Lotus immortalized on stamps and coins.

All the chapters of the book are illustrated with beautiful color photographs which make the reading more interesting and enjoyable. The references have been quoted at the relevant places in the text and listed in the last pages of the book. This makes the book as an excellent reference material to the readers including students, research scholars, entrepreneurs and scientists who may be interested in seeking further information on the various aspects of Lotus during their studies as well as research.

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# NEWS OF THE SOCIETY (2023)

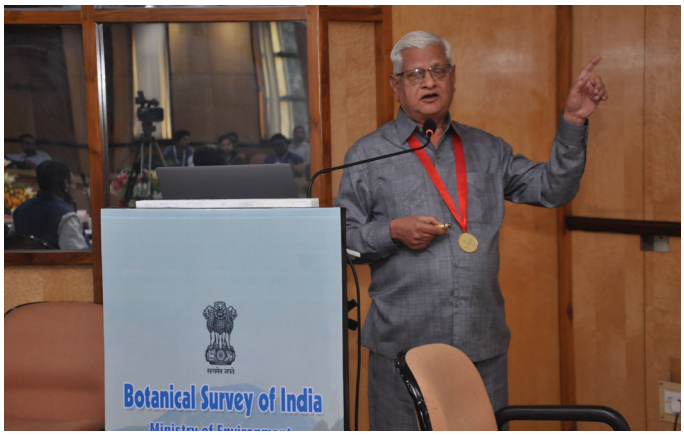
1. **Meetings**

(a) **Executive Council and Editorial Board: -** A meeting of the Executive Council and Editorial Board of the Society of Ethnobotanists was held on February 14th, 2023. The confirmation of the minutes from the last meeting, the E-publication status of the journal, the SEB website, updates on local chapters, the status of the SEB accounts, and a discussion on various ways to raise funds were discussed. For the smooth functioning of the Society, Dr. A.A. Mao, President, SEB, provided valuable suggestions from time to time.

(b) **General Body meeting**: - Annual General body Meeting (AGM) chaired by the President was also held on 14th February, 2023, evening at the International Conference on Ethnobotany, Kolkata. More than 35 life members attended the meeting along with EC/EB members.

2. **SEB Medal awards: -** The SEB Medal award function was organized on February 14th, 2023, at the International Conference on Ethnobotany, Kolkata. A session was conducted by SEB, chaired by the President, in which following medal award lectures were delivered by SEB Medal Awardees-2022-

| S. No. | Medal Awards | Digniteries conferred |
|---|---|---|
| 1. | E.K. Janaki Ammal Medal | Dr. D.A. Patil |
| 2. | J.W. Hershberger Medal | Dr. Nabin Kumar Dhal |
| 3. | Dr. S.K. Jain Medal | Dr. Veena Satya |
| 4. | Dr. B.N. Mehrotra Medal | Dr. Sanjeev Kumar Ojha |
| 5. | Dr. D.C. Pal Medal | Dr. Pankaj A. Dole and Dr. Vijay Vishnu Wagh |
| 6. | Dr. S.K. Jain Award' for best Ph.D. thesis | Dr. Sagari Chaudhary |
| 7. | Best Paper Award | Dr. Kumar Avinash Bharti |









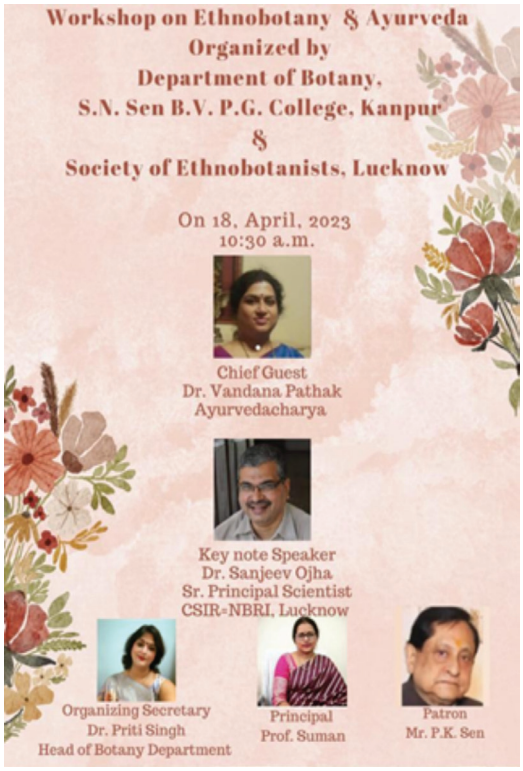

**Glimpses of the special session on Ethnobotany as well as the SEB Medal Awards- 2020**

3. **Conferences and workshops**

(a) **Conference:** A two-day international Conference on "Ethnobotany, Environmental Sustainability and Multidisciplinary "was jointly organized by the Internal Quality Assurance Cell of K.O. College, Gumla, and the Society of Ethnobotanists, Lucknow, supported by the Centre for Social and Environmental Research (CSER), Ranchi at the Multipurpose hall of K.O. College, Gumla on 29-30 November, 2023. The occasion was graced by the Chief Guest, Professor. E. Balagurusami , the Academic advisor to the Chancellor of the University of Jharkhand, including guests and dignitaries, viz.: Vice Chancellor, Ranchi University, Ranchi, Dr. Ajit kumar Sinha, OSD Universities, Governor's Secretariat, Mr. Sanjeev Kumar, Mrs Geetashri Oraon. Ex. Education Minister, GOJ. Dr. Amit Pandey, Director ICFRE-IFP, Ranchi; Secretary, Society of Ethnobotanists and Senior Principal Scientist, Phytochemistry Division, NBRI, Lucknow, Dr. Manjoosha Srivastava, and Vice President, Society of Ethnobotanists, Dr. Anil K. Goel. A total of 301 abstracts were contributed by the researchers, which were compiled in the form of a Souvenir and released during the inaugural function. More than two hundred papers and posters were presented during the occasion. A book on the Ethnobotany of Santhal Pargana was also released on the occasion.


(b) **Workshop**

एस एन सेन बालिका विद्यालय पी जी कॉलेज के वनस्पति विज्ञान विभाग व सोसाइटी ऑफ़ ईथनोबॉटनिस्ट के संयुक्त तत्वावधान में एक कार्यशाला ईथनोबॉटनी तथा आयुर्वेद का आयोजन दिनांक 18 अप्रैल 2023 को एस एन सेन बालिका विद्यालय पी जी कॉलेज के वनस्पति विज्ञान विभाग व सोसाइटी ऑफ़ ईथनोबॉटनिस्ट के संयुक्त तत्वावधान में एक कार्यशाला ईथनोबॉटनी तथा आयुर्वेद




का आयोजन किया गया। कार्यशाला का शुभारंभ प्राचार्या प्रो सुमन , मुख्य अतिथि डॉ वंदना पाठक, मुख्यवक्ता डॉ संजीव कुमार ओझा तथा वनस्पति विज्ञान की विभागाध्यक्ष डॉ प्रीति सिंह ने दीप प्रज्वलित करके किया। डॉ संजीव ओझा ने यूजीसी नयी शिक्षा नीति द्वारा सम्मिलित नये पाठ्यक्रम ईथनोबॉटनी तथा आयुर्वेद पर आधारित अपने साथ लाए औषधीय पौधों एवं जड़ी बूटियों से छात्राओ को परिचित करवाते हुए किया। आज महाविद्यालय में उपस्थित छात्राओ को उन्होंने पुरानी जनजातियों द्वारा उपयोग में लाए जाने वाले पौधों की जानकारी दी और उपयोग के बारे में बताया।

4. **SEB Local Chapters and updates regarding the status of work/activities:**

A. **Kerala chapter**

(a) SEB meeting was conducted along with the formal inauguration of the Kerala chapter organized at the Centre for Biodiversity Conservation, Uni-

versity of Kerala, on 22nd May 2023, on the occasion of International Day for Biological Diversity. Dr. A.A. Mao, Director, Botanical Survey of India (BSI), Kolkata, and National President of SEB, inaugurated the SEB Kerala Chapter.

(b) The Centre for Biodiversity Conservation at the University of Kerala, in collaboration with the Society for Ethnobotanists (SEB) Kerala Chapter, organized an invited lecture entitled "Millets: The Future Smart Food." The lecture was delivered by Dr. Smitha K.P., Assistant Professor, Department of Agricultural Extension Education at the College of Agriculture, Vellayani, Thiruvananthapuram. Dr. Smitha K.P., an expert in agricultural extension education, delivered a lecture on sustainable agricultural practices and the cultivation of underutilized crops

B. **Goa chapter**

Department of Botany under the aegis of Society of Ethnobotanists (SEB), Goa Chapter, organized 'Millet Food Festival' on 10th April, 2023. The festival was inaugurated by the hands of the officiating Principal, Prof. Joydeep Bhattacherjee. Staff members from the Botany Department and from other departments of the college cooked and contributed different Millet recipes, which were displayed and tasted by staff and students of the college. This festival aimed to showcase unique yet healthy dishes that can be prepared by using different types of Millets. This activity was coordinated by Prof. Mehtab Bukhari, Dr. Sankrita Gaonkar, and Dr. Sheelpa Hindlekar.

C. **Jammu, Kashmir, and Ladakh Chapter**

**(a)** in collaboration with botanical club, Department of Botany, University of Jammu & Kashmir Biodiversity Council and J&K forest Research Institute Organised 'Capacity Building cum Awareness Programme 'on "Updation and Verification of People's Biodiversity Register (PBR) on May 24, 2023. Mr. Rakesh Abrol (DFO) and his team delivered a lecture on the 'Methods of preparation of PBR and its significance'. Students of M.Sc. 2nd and 4th Semesters were allotted different panchayats to revalidate the data regarding the vegetation and their local uses.

**(b)** On 31st August, the Chapter in collaboration with the Department of Botany, University of Jammu, celebrated the Green Rakhi event in the Botanic Garden of the Botany Department, Jammu University.

**(c)** On 10th October Jammu Kashmir and Ladakh chapter organised a lecture on the need of organised research in ecology and Ethnobotany at Kargil campus of the university. Dr Harish Chander Dutt, Coordinator of the chapter, highlighted the methodology adopted by the researchers and also focused on the collaboration with the field of ethnobotany with other Universities, Institutes and other science societies.

5. **Membership**

**(a) Co-opted member:** Miss. Aparna Shukla, Research Scholar, CSIR-NBRI, has been co-opted as the Joint Treasurer in SEB.

**(b) Life members:** Following new members has joined the society

**1.** Mr. Tushar Anilrao Lohit
**2.** Prof. Suresh Kumar
**3.** Asst. Prof. Suman Karmakar
**4.** Prof. Chowdhury
**5.** Prof. Chowdhury Habibur Rahaman
**6.** Dr. C. Murgan
**7.** Dr. Nutan Rajput
**8.** Mr. Suwalal Dhwar
**9.** Ass. Prof. Suchandra Dutta
**10.** Dr. Yugandhara M. Rajgure
**11.** Dr. Anil Sharma
**12.** Dr. Richa Rai
**13.** Dr. Dara Singh Gupta

6. **Demise & Condolence:** SEB condoles the untimely demise of the SEB life and honorary member Prof. M.S. Swaminathan (7 August, 1925 – 28 September, 2023), known as the **father of the green revolution in India** expired on 28th September 2023 in Chennai. He was the Honorary Member of the Society of Ethnobotanists, Lucknow. The Society of Ethnobotanists deeply condoles his demise, which has been a great loss for the agricultural sciences in our country and worldwide. SEB offered its heartfelt condolences for the departed soul on 28.09.2023 during a SEB EC/EB meeting held at CSIR-NBRI, Lucknow.

**Manjoosha Srivastava**
**Secretary**

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# INSTRUCTIONS FOR CONTRIBUTORS

The ***Ethnobotany*** is a half-yearly international journal which publishes research and review papers on all aspects of ethnobotany and related fields. All authors should be members of the Society. Annual members will be entitled to submit one paper in joint authorship of a life member only with year of their membership.

Manuscript in English, not exceeding 3000 words (including tables and references), typed in double space in 'Times New Roman' font (size 12 pt.) on one side of paper (21×28 cm) leaving 2.5 cms margin on all sides, should be submitted through mail (Larger manuscripts may be considered on payment). One page of tables or figures will be treated as 500 words. For extra matter Rs. 400/- will be payable for every 500 words or part thereof.

Manuscripts for publication should be sent to Dr. Anil Kumar Goel; Email: editor.ethnobotanyindia@gmail.com. Authors should also provide Hindi translation of the title of paper, author's address and abstract in brief.

In the title of the article only those words will have first letter as Capital which will ordinarily start with Capital letter in the text also, like names of ethnic groups, plant genera, names of authors, and other proper nouns, *for example*: *Traditional herbal remedies among Tharus of Bahraich district*.

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*Book:*
Dhawan, B.N. (ed.) 1986. *Current Research on Medicinal Plants in India*. I.N.S.A., New Delhi.
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Authors must submit a certificate of the prior consent obtained from the medicine men/ traditional healer etc. alongwith the manuscript.

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