

## **Ethnomedicinal uses of different species of *Cinnamomum* Schaeffer (Lauraceae) by ethnic communities in Arunachal Pradesh, India**

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### **Abstract**

The ethnic communities of the Indian state of Arunachal Pradesh have rich traditional knowledge for the uses of various plant species for their health care. The present paper highlights the ethnomedicinal uses of seven species of *Cinnamomum* (Lauraceae) from the state along with other common uses by some local tribes.

**Key words:** Ethnomedicinal uses, *Cinnamomum*, ethnic communities, Arunachal Pradesh

### **INTRODUCTION**

The state of Arunachal Pradesh is known for its rich floristic and cultural diversity with the inhabitation of about 26 major tribes and 110 sub-tribes in the state. The ethnic communities like *Adi*, *Nyshi*, *Monpa*, *Memba*, *Idu-misimi*, *Pasi*, *Padam*, *Apatani* etc. have rich tradition of uses of different plant species for various needs including health care. Different species of *Cinnamomum* Schaeffer [Lauraceae] are notable among the various plants used by these people for health care. It is a large genus, and represents around 250 tropical species of trees and shrubs and is distributed throughout the tropics and sub-tropics of Asia, Australia and Central America (Baruah & Nath 2001). So far, the occurrences of six species have been reported from the state of Arunachal Pradesh (Haridasan 1985; Chauhan *et al* 1996). Since the time immemorial different species of *Cinnamomum* have been used by various indigenous people world wide. The value and uses of various *Cinnamomum* species have been well documented by many workers including Senanayak & Wijesekera (1989), Anonymous (1992), Baruah & Nath (2006), Tun *et al* (2006) and Maridass & Victor (2008). This paper represents the ethnomedicinal uses of 7 species of *Cinnamomum* by the tribes of Arunachal Pradesh.

### **METHODOLOGY**

During the taxonomic survey of tree flora of the region since 2007, the documentation of ethnomedicinal knowledge of different plant species was also made with the help of local people. The ethnomedicinal data have been recorded through discussion of local people, particularly those having knowledge on medicinal uses of plant species. Information regarding local name, parts used, method of drug preparation, dosage etc. was gathered from various sources, including the information provided by the traditional healers and knowledgeable elderly local people. The voucher specimens were collected and processed into mounted herbarium sheets following standard techniques (Jain & Rao 1977). The plants were identified and deposited in Herbarium of Forestry Department, NERIST.

### **ENUMERATION**

Recorded seven species of *Cinnamomum* Schaeffer [Lauraceae] are enumerated below along with their botanical names, local names, parts used and mode of uses. The respective tribal community for each of the local name is given in parenthesis. Besides, medicinal uses and other uses of these plants are also provided.

**Local Name:** *Tarpo* (Nyshi), *Jongkeng asing* (Adi), *Chipsing* (Monpa).

**Plant parts & uses:** *Leaf:* fresh wound & tonsillitis; *Bark:* gastric & dysentery; *Root:* vomiting, leprosy & coughing.

**Mode of use:** Fresh leaves are ground into paste to prepare 'bori' (tablet form) then, one bori is taken in empty stomach in the morning for two days for treatment of the tonsillitis. In wound treatment paste is applied directly on the affected area. The dry or fresh bark is made into powder and then it is taken as medicine with a glass of water in empty stomach once in a day for gastric and dysentery. In the same way the root is prepared for treatment of vomiting and cough. For leprosy it is applied locally.

The species is also used as a leaf-spice and as fire wood.

*Cinnamomum bejolghota* (Hamilton) Sweet [*C. obtusifolium* Nees]

**Local name:** *Barbah change* (Nyshi), *Naga dal chini* (Assamese), *Mein chin* (Aka-Mishi)

**Plant parts & uses:** *Bark:* antigen & indigestion; *Root:* indigestion, liver trouble and stomach pain.

**Mode of use:** Juice extracted from bark is used as medicine after meal once in a day for 2 – 3 days for indigestion. In the same way the juice is extracted from the fresh roots used orally after meal once in a day for 1 – 2 days.

The timber of the species is used for house construction and furniture.

*Neocinnamomum caudatum* (Nees) Merrill [*Cinnamomum caudatum* Nees]

**Local name:** *Tej pat* (Nyshi), *Sasing jola* (Kachari)

**Plant parts & uses:** *Leaf:* blood coagulation; *Bark:* allergies, sinusitis; *Root:* blood purification & allergies.

**Mode of use:** Fresh leaves are crushed and applied on the injured area. The bark and root are dried under the sun or over the flame, grounded into powder, mixed with water and the decoction is used on the body for allergies. And for sinusitis and blood purification the powder is inhaled in empty stomach early in the morning.

The bark of the species is used as spice.

*Cinnamomum glaucescens* (Nees) Drury [*C. cecicodaphne* Meisner]

**Local name:** *Gondroi pang* (Nyshi)

**Plant parts & uses:** *Bark:* intermittent fever and kidney trouble; *Fruit:* boils, eruption.

**Mode of use:** Juicy extract of bark is taken orally in intermittent fever and for kidney treatment, once in the morning in empty stomach for 3-8 days. The fresh fruits are grounded into paste and applied on the boils and eruptions.

The timber is commonly used for making furniture, construction of building and bridge.

***Cinnamomum glanduliferum*** (Wallich) Meisner

**Local name:** *Yakko* (Nyshi) *Gonsoroi* (Assamese), *Agrun asing* (Miri), *Yero asing* (Adi)

**Plant parts & uses:** *Bark:* expulsion of hook worm; *Root:* diabetes and kidney trouble

**Mode of use:** Juice is extracted from grounded bark. Mixed with little water it is taken after meal twice a day for 2 – 3 days to expel the hook worm. And in the same manner the root is used orally for diabetes and kidney trouble once in a day for 5-9 days after meal.

The timber of the species is used in common household purposes.

***Cinnamomum camphora*** (L.) Nees & Ebermaier

**Local name:** *Bambe* (Nyshi), *Camphor* (Assamese), *Bomrang* (Adi)

**Plant parts & uses:** *Fruits:* blood coagulation; *Root:* allergies.

**Mode of use:** Extract of crushed fruits is applied on the injured area. Dried roots are powdered and made into paste and applied locally on allergy infected areas.

***Cinnamomum zeylanicum*** Blume [*C. verum* J.S. Presl]

**Local name:** *Derto asind* (Nyshi), *Tezzia* (Kachari), *Dalchini* (Assamese)

**Plant parts & uses:** *Leaf:* irritation; *Bark:* kidney trouble, diarrhea, intestinal worm and tonsillitis; *Fruits:* scabies and gonorrhea.

**Mode of use:** Two or three drops of leaf juice after extraction is added in 20-30ml of water and taken in early morning in empty stomach. The bark and fruits are ground and then extracted juice is taken orally with a little water for 6-9 days once in a day after meal. In tonsillitis the powder of the bark is inhaled in the morning.

It is also used as fire wood and spices (leaf).

## RESULT AND DISCUSSION

It is evident from the present study that the ethnic groups of the Arunachal Pradesh commonly and its adjacent areas of Assam uses seven species of *Cinnamomum* as medicine. Mostly the bark, fruit, root and leaf of these plants are medicinally. The bark is the most utilized part that is used for all the species except *C. camphora*. On the other hand uses of root of five species (*C. caudatum*, *C. glanduliferum*, *C. camphora*, *C. tamala* and *C. bejalghota*), fruit of three species (*C. glaucescens*, *C. camphora* and *C. zeylanicum*) and the leaves of three species (*C. tamala*, *C. zeylanicum* and *N. caudatum*) have been recorded. It is found that for all the seven species more than one part is used as medicine. These parts are used for the treatment of an wide range of physical ailments like common stomach disorder (diarrhea, dysentery, gastric, pain), kidney trouble, intestinal worms, tonsillitis, allergies, blood coagulation, sinusitis intermittent fever, vomiting, leprosy, cough etc which indicate the potentiality of these plants as medicine.

The present study provides a number of new information on medicinal uses along with the additional uses of already reported species. The medicinal uses of *N. caudatum* (leaf, bark and root), *C. glanduliferum* (bark and root) and *C. glaucescens* (bark and fruit) have been reported for

the first time. Although ethnobotanical uses of *Cinnamomum* species by the indigenous people of North East India are reported by Baruah & Nath (2006), the medicinal uses of only three species namely *C. camphora*, *C. tamala* and *C. zeylanicum* have been recorded with one part used in each. The medicinal uses of *C. bejalghota*, *C. tamala* and *C. zeylanicum* are also documented in Wealth of India (Anonymous 1992), Medicinal Plant of Myanmar (Tun *et al.* 2006) and Spices for health (<http://openmed.nic.in/1468/01/spices>). Apart from the medicinal uses these species are being commonly used by the people as spice, timber, fire wood etc.

At the end of discussion, it is important to note that two of these seven species are introduced for the North-East India, namely *C. camphora* and *C. zeylanicum*. However, local people already recognized the usefulness of these two introduced species.

### CONCLUSION

It is evident from the present study that the species of *Cinnamomum* notably serve as useful resources for the local communities but also have commercial potential. *C. camphora*, *C. tamala* and *C. zeylanica* are already in commercial exploitation. The market potentiality of other species need to be assessed and can be promoted for cultivation in various agro forestry systems for their sustainable uses and conservation.

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