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### *Research Article*

# Ethno-medicine used against fever among the tribes of Visakhapatnam district, Andhra Pradesh, India

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### **Abstract**

This paper deals with 32 plant species belonging to 24 families used to treat fever prevalent among different tribal people of Visakhapatnam district, Andhra Pradesh. Plant species enumerated along with scientific name, local name, method of administration and prescribed dose. The present study also documents 2 new plants and 10 new medicinal practices. The present investigation is aimed to create awareness about the ethno medicinal value of the plants and their uses to draw the attention of pharmacologists, phytochemists and pharmaceuticals.

**Keywords:** Ethno-medicine, Fever, Tribal communities, Visakhapatnam district

### **Introduction**

Fever refers to an elevation of body temperature. This rise in body temperature above 99° F is called fever. Fever is just one part of an illness, many times no more important than the presence of other symptoms such as cough, sore throat, fatigue, joint pains or aches, chills, nausea, etc. Fever may occur with almost any type of infection or illness. Fever is part of the body's own disease-fighting arsenal. Rising body temperatures apparently are capable of killing off many disease-producing

organisms. For that reason, low fevers should normally go untreated but high temperatures need treatment. Fever is also called pyrexia. As fevers range to 104 degrees F and above, however, there can be unwanted consequences, particularly for children. These can include delirium and convulsions. A fever of this sort demands immediate home treatment and then medical attention. Home treatment possibilities include cool baths, or sponging to reduce the fever while seeking medical help.

An ethno botanical emphasis was laid on the different tribal communities inhabiting the deep forest areas of Eastern Ghats of Visakhapatnam district, Andhra Pradesh during the period of 2006-2010. Visakhapatnam district is well known for their rich anthropogenic diversity. The total population of the district is about 38,32,336 out of which 5,57,572 is the tribal population comprising 14.55% of the district population (2001 census) and spread over by a number of scheduled tribes such as *Bagata, Konda Dora, Valmiki, Konda Kammarra, Mali, Kotia, Khond, Jatapu, Muka Dora, Gadaba, Porja and Khond* covering 11 mandals of agency area. The study area lies between 17°-34' 11" and 18°-32' 57" N latitude and 81°-51' 49" and 83°-16' 9" E longitude with altitudes varying between 900-1200 m above MSL. The tribal people of this area have a good knowledge regarding medicinal plants and their uses. They also use their traditional knowledge to prepare simple medicines, using available herbs against fever.

Ethno botanical studies in the tribal dominated areas of the district have been carried out by Banerjee, Rao *et al* [1,2, 3]. Medicinal plants used as antipyretic agents by the traditional healers of Darjeeling Himalayas [4]. Native phytotherapy for fever and malaria from Kurnool district [5]. Medicinal plants for the treatment of fever (*Jvaracikitsa*) in the *Madhavacikitsa* tradition of India [6]. A perusal of literature reveals that there is still an ethnobotanical gap in knowledge. Ethnomedicinal plants used as an antipyretic by the tribal people of Srikakulam district [7]. In view of this, the present work was taken up to make an extensive survey of the medicinal plants, which are used for the treatment of fever. The Ethnomedicinal plants of Andhra Pradesh have been studied for their medicinal uses in herbal and folk remedies by many workers [8-11]. The present paper therefore is an attempt to fill this gap.

## Methodology

Standard methodologies of field and herbarium techniques were followed. The information was tapped by interviewing repeatedly the tribal people,

their medicine men, elder men and women. They were cross checked regularly. Each claim was verified at least 3-4 times. Local names of the plants and doses of administration have been documented. Plant specimens collected during different seasons were identified with the help of local floras and prepared herbarium and kept in the Department of Botany, Andhra University.

## Enumeration

### 1. *Acacia torta* (Roxb.) Craib.

#### Family-Fabaceae

VN: Korintha chekka

\*Two spoonful of stem bark extract with 10 g of jaggery is administered twice a day for 3 days.

### 2. *Achyranthes aspera* Linn.

#### Family-Amaranthaceae

VN: Kukka pallu chettu E: Prickly chaff flower

\*Twenty leaves are ground with seeds of *Piper nigrum* and 2 spoonful of paste is administered with a glass of hot water daily twice for 2 days.

### 3. *Acorus calamus* Linn.

#### Family- Araceae

VN: Vasa E: The Sweet flag

Rhizome paste is applied over the body.

Two spoonful of rhizome or leaf paste is administered with a glass of water only once.

### 4. *Andrographis paniculata* (Burm. f.) Wall. ex Nees . Family -Acanthaceae

VN: Nela vemu E: King of bitters

A spoonful of dry leaf powder mixed in half glass of hot water is administered twice a day for 3 days.

### 5. *Azadirachta indica* A. Juss. Family -Meliaceae

VN: Vepa E: Margosa tree

A spoonful of stem bark decoction is administered daily thrice a day for 2 days.

**6. *Bixa orellana* Linn.  
Family -Bixaceae**

VN: Jaffra E: Annatto plant

A spoonful of root extract is administered daily twice for 2 days.

**7. *Bridelia retusa* (Linn.) Spreng.  
Family -Euphorbiaceae**

VN: Koramanu, E: Spinous kinotree

\*Fifty g of stem bark ground with 5 or 6 seeds of *Piper nigrum* and made into pills of red gram seed size. Two pills are administered once a day for 2 days.

**8. *Caesalpinia pulcherrima* (Linn.) Sw.  
Family -Fabaceae**

VN: Turai chettu E: Peacock flower

A spoonful of leaf juice mixed in half glass of hot milk is administered once a day for 3 days.

**9. *Carissa carandas* Linn.  
Family -Apocynaceae**

VN: Pedda vaka E: Karanda

A spoonful of root powder mixed with half spoon of honey is administered twice a day for 2 days.

**10. *Cassia fistula* Linn.  
Family -Fabaceae**

VN: Rela E: Indian laburnum

A spoonful of root powder with a glass of hot water is administered twice a day for 1 day.

**11. *Citrus aurantifolia* (Chr.) Sw.  
Family -Rutaceae**

VN: Narinja E: Acid Lime

Three spoonful of fruit juice with a spoonful of sugar and a pinch of salt is administered twice a day for 2 days.

**12. *Cleome aspera* Koen. ex DC.  
Family -Cleomaceae**

VN: China ventukura

A spoonful of whole plant juice with half spoon of honey is administered twice a day for 2 days.

**13. *Cleome gynandra* Linn.  
Family -Cleomaceae**

VN: Ventumkura

A spoonful of root juice mixed in half glass of hot water is administered twice a day for 2 days.

**14. *Cleome viscosa* Linn.  
Family -Cleomaceae**

VN: Kukka vaminta, Vaminta E: Wild mustard

A spoonful of leaf juice mixed in a glass of hot water is administered daily twice for 2 days.

**15. *Clerodendrum serratum* (Linn.) Moon.  
Family -Verbenaceae**

VN: Bommala marry E: Beetle Killer

Hundred g of root in a glass of water is boiled until half glass original volume of water remains and this decoction is administered twice for one day only.

**16. *Cyclea peltata* (Lam.) Hook. f. & Thoms.  
Family -Menispermaceae**

VN: Chanti maal E: Pataroof

\*Ten g of root paste mixed with a glass of hot water is administered twice a day for 4 days.

**17. *Ehretia laevis* Roxb.  
Family -Boraginaceae**

VN: Gidigiri chettu E: Ivory wood.

\*Two spoonful of leaf paste is administered with a glass of water twice a day for 2 days.

**18. *Erythrina variegata* Linn.  
Family - Fabaceae**

VN: Baradapu E: Indian coral tree

Stem bark with that of *Oroxylum indicum* and rhizome of *Acorus calamus* are taken in equal

quantities and ground. Paste mixed in water is applied on the body twice a day.

**19. *Eucalyptus globulus* Labill.  
Family - Myrtaceae**

VN: Euklis chettu E: Eucalyptus

\*Stem bark with those of *Pongamia pinnata* and *Jatropha curcas* are taken in equal quantities and ground, paste is applied all over the body only once.

**20. *Evolvulus alsinoides* Linn.  
Family - Convolvulaceae**

VN: Neelam puvvu

Leaf paste is applied on the head for 12 h only once.

**21. *Hemidesmus indicus* (Linn.) R. Br.  
Family -Periplocaceae**

VN: Aavu sugandhi paala E: Indian sarsaparilla

A spoonful of root paste mixed in a glass of hot water is administered twice a day for 2 days.

**22. *Hibiscus micranthus* Linn. f.  
Family - Malvaceae**

VN. Nithya malle

\*A spoonful of root paste is administered twice a day till cure.

**23. *Hyptis suaveolens* (Linn.) Poit.  
Family - Lamiaceae**

VN: Semma tulasi E: Hyptis

Root paste is applied on the forehead and bandaged only once.

**24. *Millettia racemosa* (Wight & Arn.) Benth.  
Family -Fabaceae**

VN: Nela tangedu

\*Two spoonful of stem bark paste with a spoonful of honey is administered daily twice for 3 days.

**25. *Mollugo pentaphylla* Linn.  
Family -Aizoceae**

VN: Yerrichetharasi

Two or three spoonful of whole plant decoction is administered daily twice for 4 days.

**26. *Neolamarckia cadamba* (Roxb.) Bosser.  
Family -Rubiaceae**

VN: Cadamba E: Kadam

Two spoonful of stem bark decoction is administered twice a day for 2 days.

**27. *Ocimum basilicum* Linn.  
Family -Lamiaceae**

VN: Sabja E: Sweet basil

Five tender leaves with 5 tender leaves each of *Punica granatum*, *Psidium guajava* and *Eucalyptus globulus* are ground along with a spoonful of castor oil and applied on the forehead early in the morning only once.

**28. *Ocimum tenuiflorum* Linn.  
Family - Lamiaceae**

VN: Krishna tulasi E: Holy basil

Twenty leaves are ground along with 20 g of dried ginger and a spoonful of honey mixed in a half glass of hot water is administered daily twice for 3 days.

**29. *Phyllanthus emblica* Linn.  
Family -Euphorbiaceae**

VN: Pedha usiri E: Emblica myrobalan

Five hundred g of leaves are ground and paste is applied on the head and bandaged for one hour only once.

**30. *Pseudarthria viscida* (Linn.) Wight & Arn.  
Family -Fabaceae**

VN: Batantu aaku

Roots crushed with that of *Gmelina arborea* (1:1) and a spoonful of extract is administered daily twice for 2 days.

**31. *Sesbania grandiflora* (Linn.) Poir.  
Family - Fabaceae**

VN: Avisia E: Swamp pea

A spoonful of leaf juice is administered twice a day for 2 days.

**32. *Xanthium indicum* Koen.  
Family -Asteraceae**

VN: Marulamatangi

Two or three spoonful of root decoction is administered twice a day for 3 days.

### Results and Discussion

In the present study 32 species falling under 29 genera and 24 families are used for curing fever either single or in combination. Two plant species (*Cleome aspera* and *Neolamarckia cadamba*) and 10 practices were found to be new (Jain, 1991 and Kirtikar and Basu, 2003). Of the 24 families Fabaceae is the dominant family represented with 5 plants followed by Cleomaceae with 3 and Euphorbiaceae and Lamiaceae with 2 each and other 20 families are with one species. In the present study area tribes have a deep traditional knowledge that warrants a detailed documentation.

### Conclusion

The data about plant use in this ecosystem gives a complete picture of the natural wealth this district is bestowed with. The knowledge gathered from the study can thus be exploited in arousing the general masses to conserve the natural wealth of bio-resources in the region before they fall prey to deforestation. Thus there is an immediate need for documentation of the same for the greater benefit of the future generation. These studies of ethnomedicinal aspects will be useful for further researches in the field of pharmacology, phytochemistry and pharmaceutical chemistry.

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