

Ethnomedicinal treatment for various diseases using *Pueraria tuberosa* by the tribals of North coastal Andhra Pradesh

Padmavathi. S¹, J. Koteswara Rao*², P. Sujana³, G. Gangaiah⁴

^{1,2,3}Department of Botany, Govt. Degree & PG College, Puttur, Tirupati Dt.

⁴Department of Commerce, Govt. Degree & PG College, Puttur, Tirupati Dt.

Abstract: The paper deals with ethnomedicinal uses of *Pueraria tuberosa* (Roxb. ex Willd.) DC. by the tribals of North coastal Andhra Pradesh. Twenty one practices were reported of which 8 practices are new or less known.

Key words: Ethnomedicine, *Pueraria tuberosa*, Tribals, North Coastal Andhra Pradesh.

INTRODUCTION

Ethnobotanical use of plants has been known since time immemorial and several plants were used to cure diseases and maintain good health (Gupta et al. 2010). *Pueraria tuberosa* has been used as a food source and contraceptive for centuries in India. *Pueraria tuberosa* is likely native to the Himalayan regions, from Pakistan and the western Himalayas to Nepal and Sikkim in India. *Pueraria tuberosa* is also found throughout India, where it has likely become established by escaping cultivation through along history of ethnobotanical use as food or more particularly in ayurvedic medicine (Egan, 2020).

The study area falls in between 81° 51' and 84° 46' of Eastern longitude and 17° 45' and 19° 40' Northern latitude with a total area of 10,860 sq km covering 23 mandals of Srikakulam, Vizianagaram and Visakhapatnam districts of Andhra Pradesh. The total population of the area is 42,88,113 of which the tribals are 6,18,500 (14.42%) and the Primitive Tribal Groups (PTGs) constitutes 1,76,324 (4.11%) as per 2011 census. They are *Gadaba*, *Khond*, *Porja* and *Savara*.

METHODOLOGY

Ethnobotanical survey was conducted in tribal rich habitations of Visakhapatnam district once in every two months from 2008 to 2012 with duration of 5-10 days. About 4-6 days were spent during each trip with

different tribal communities in their dwellings. After establishing good rapport with them, the utility of plants and detailed methods of uses were documented. In 102 pockets of the study area, 102 *vaidhyas* and practitioners were consulted. Data collected were cross checked with the data obtained from same as well as on different settlement on different occasions for authenticity. Voucher specimens were collected in both flowering and fruiting stages, herbarium specimens were prepared and deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam (AUV), after identification.

Vernacular names

Bhuinkumra (Bengali), Indian kudzu (English), Bhoikolu (Gujarati), Vidarikanda (Hindi), Nelagumbala (Kannada), Bhuikohala (Marati) Muthuku (Malayalam), Bhuiankakharu (Oriya), Siali (Punjabi), Bhukushmandi (Sanskrit), Paal Muthukkan Kizhangu (Tamil), Dharigummadi, Nelagummadi (Telugu).

Scientific Classification (Bharti et al. 2021)

Kingdom: Plantae
Subkingdom: Trachebionta
Superdivision: Spermatophyta
Division: Magnoliophyta
Subclass: Rosidae
Order: Fabales
Family: Fabaceae
Genus: *Pueraria* DC.
Species: *Pueraria tuberosa*

Plant discription

Large woody vines, with large tuberous roots occurs in chain like pattern; leaves 3 foliolate; leaflets ovate, entire; flowers pale violet, in axillary panicles; petals clawed; stamens diadelphous; ovary filiform; pods linear; seeds suborbicular.

Flowering & Fruiting: February-August



Fig. *Pueraria tuberosa*

Collected by: Dr. J. Koteswara Rao, Place: Rallaputtu, G. Madugula, Visakhapatnam Dt.

Ethnomedicinal Importance

*Tuber paste is dried with juice for 7 days. Two spoons of it is taken with honey daily once for aphrodisiac.

Two spoonfuls of tuber paste is administered once a day for 5 days for Blood pressure.

*One spoon of tuber powder is taken with water daily twice for blood pressure.

*Tubers are boiled in water and that water is used for taking bath for body pains.

Tuber paste is administered twice a day till cure and the paste is also applied on the effected parts for cuts and wounds.

The tuberous root poultice applied externally till cure common skin disease.

*The tubers are eaten raw from third day of menstrual cycle for 7 d to prevent conception.

Root decoction used as refrigerant to fever.

Three spoonfuls of tuberous root paste is administered daily twice for 3 days. Meanwhile paste is rubbed on the breast daily once for 3 days for galactagogue.

*Two spoons of tuber paste is given with half cup of milk and sugar thrice a day galactagogue.

*Leaf paste is applied on the forehead once a day till cure headache.

Two spoonfuls of tuber paste is administered once a day for 5 days for heart pain.

Two spoonfuls of tuberous root paste mixed with a pinch of asafoetida and cheese is administered daily

twice for 3 months for early stages. If it is severe it will be continued for 6 months to one year for HIV.

*Five spoons of tuber powder mixed with 200 ml of cow milk and 800 ml of water are boiled till it gets reduced to 200 ml. It is administered daily once for menstrual disorders.

Root decoction given in 2 spoonfuls twice a day for 15 days for rheumatic pains.

The tuber paste is applied over for rheumatism and skin diseases.

Two spoonfuls of tuberous root paste mixed with a pinch of sugar and salt is administered twice a day till cure ulcers in stomach.

*Burnt tubers are eaten for tumors in stomach & dysuria.

The tuberous root is burnt to ash and the ash in doses of 2 g with 20 g of pericarp of date palm (*Phoenix dactylifera*) fruits with jaggery is administered twice a day for 10 d to treat *tympanites* and *dyspepsia* and also to treat peptic ulcers.

Fresh tuber juice mixed with sugar is taken daily once for ulcer pain.

DISCUSSION

The paper deals with the ethnomedicinal uses of *Pueraria tuberosa* used by the primitive and vulnerable tribal groups of Coastal Andhra Pradesh. Seven practices were found to be new or less known (Jain, 1991 and Kirtikar and Basu, 2003).

Tuber used to cure a variety of ailments like aphrodisiac, blood pressure, body pains, cuts and

wounds, dyspepsia, fever, galactagogue, headache, heart pain, HIV, menstrual disorders, rheumatism, skin diseases, tumors in stomach, tympanites, ulcer pain. The tubers is rich in starch, proteins and other nutrients, so it is very important food source for tribal communities in some regions.

ACKNOWLEDGEMENTS

The authors are grateful to the primitive tribal informants and practitioners for their cooperation and help during field work by providing information.

REFERENCES

- [1] Bharti R, Chopra BS, Raut S and Khatri N (2021) *Pueraria tuberosa*: A Review on Traditional Uses, Pharmacology, and Phytochemistry. *Front. Pharmacol.* 11:582506.
- [2] Jain, S.K. *Methods and approaches in Ethnobotany*. Society of Ethnobotanists, Lucknow. (Ed.) 1989.
- [3] Jain, S.K. *Dictionary of Indian Folk Medicine and Ethnobotany*, Deep Publications, New Delhi. 1991.
- [4] Kirtikar, K.R. & B.D. Basu (Reprinted). *Indian Medicinal Plants*, Oriental Enterprises, Dehra Dun, Uttaranchal. 2003.
- [5] Rao, GVS, GR Kumari. *Flora of Visakhapatnam district, Andhra Pradesh*. B.S.I., Kolkata. 2002.
- [6] Jadhav, D. Ethnomedicinal potential of exotic plants of Madhya Pradesh. *J. Non-Timber Forest Products*, 2015, 22, 239-242.
- [7] Rao, JK. and Reddy, TVVS. Ethnomedicine for aphrodisiac by the tribes of North Coastal Andhra Pradesh. *Indian Journal of Natural Products and Resources*. 2018, 9 (3): 267-272.
- [8] Rao, JK. and Reddy, TVVS. Ethnomedicine of Primitive tribal groups of Visakhapatnam dt. LAP Lambert publications. 2010.
- [9] Egan AN. Economic and Ethnomedicinal uses of tubers in the genus *Pueraria* DC. *Legume prospective*. 2020, 19:19-24.
- [10] Gupta R, MG. Vairale, RR. Deshmukh, PR Chaudary and SR Wate. Ethnomedicinal use of some plants used by the Gond tribe of Bhandara district, Maharashtra. *Indian Journal of Traditional Knowledge*. 9(4): 713-717.