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Plants Used Against Gastro-Intestinal Disorders and As Anti Hemorrhagic by Three Tribes of North Tripura District, Tripura, India: A Report

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Abstract

The tribals of Tripura depend basically on different herbs for their treatment. The field work documented about nineteen plant species used against stomach disorders and as anti- hemorrhagic by three different tribes, the Halams, Tripuris and Chakmas of North Tripura district of Tripura state, India. Some of these have been known for ages for their medicinal properties, while, others have been recorded for the first time amongst these people. Some of the plants are reported to be in their wild state and others are domesticated.

Key words*:* Herbs, Stomachic, Digestive, Tripuri, Chakma, Halam.

Introduction

Natural products have been applied to human healthcare for thousands of years. Many drugs presently prescribed by physicians are either directly isolated from plants or are artificially modified versions of natural products (Wang, *et al.*, 2007). These medicines are safe and environment friendly. According to the WHO about 80% of the world's population relies on traditional medicine for their primary health care (Behera, 2006). Phytotherapy seems to be an alternate system of medicine for the villagers residing in the sub urban/ rural areas (Nandankunjidam, 2006). A large number of plants are being used as medicinal agents all over the world (Chowdhury, *et al*., 2005). Limitations of synthesized compounds in the treatment of chronic diseases and the potential of plant- based medicine as a more effective and cheaper alternative, was probably responsible for the fast growing industry of herbal medicine (Rojas *et al.*, 1992). India is endowed with a rich wealth of medicinal plants. Of the 340 plant medicines mentioned in the Charak Samhita (1000 B.C), The Indian Pharmacopoeia (1966) recognizes only 85 medicinal plants used in various pharmaceutical preparations. Most of these continue to be gathered from the wild to meet the demand. Thus, despite the rich heritage of

knowledge on the use of plant drugs, little attention had been paid to grow them as field crops in the country till the latter part of the nineteenth century (http://www.krishiworld.com/ html/ medi_aro_plants1. html). At present, there is an urge need to have a better knowledge of our medicinal plants to save them from extinction and also for our own health needs.

Plants used against stomach troubles and as anti- hemorrhagic are a common class of phytomedicines used in different traditional health care systems. Artichoke Leaf, Turmeric, Banana Powder, caraway, chamomile, dill, fennel, etc., have been found useful in treatment of dyspepsia and as carminatives (http://www/. jigsawhealth. com/ nat.aspx?&chunkiid). Powdered carom seeds and aniseeds are used by medicine men of Himachal Pradesh against stomach troubles (Bhasin, 2008). *Cirsium japonicum* De Candole is widely used in traditional herbal medicine for the treatment of hemorrhage in Korea (Kim, *et al.*, 2007). Inflorescence of *Typha angustata* Borey and Chaub. is used by medicine men of Ratnagiri, Maharashtra for the same purpose (Mokat and Deokule, 2006). *Ampelocissus divaricata* (Wall. ex Laws.) Planch. leaves are used to stop bleeding and *Begonia thomsonii* A. DC for diarrhoea by the Reang people of Tripura (Shil and Dutta Choudhury, 2009).

The present survey was conducted on tribal villages belonging to the Tripuri, Halam and Chakma communities of North Tripura district of Tripura state. Various traditional phytomedicinal remedies used by these people against gastrointestinal disorders and as anti hemorrhagic have been studied. The remedies for stomach troubles have been found to be used against dysentery, blood- dysentery, diarrhoea, dyspepsia, stomach- ache, jaundice, worms (anthelmintic) and as carminative and stomachic. The same plant has been, in many cases, found to be used for several symptoms while some others are disease specific.

Materials and Methods

Field surveys have been undertaken covering all seasons for gathering information on each and every species useful in the tribal medicine. Plants have been collected in their flowering and fruiting stage as far as possible from the natural habitat and serially tagged with collection numbers. Thorough observation have been made on spot collection of individual plant species and field data recorded as regards location, natural habitat, distribution pattern, nature of roots, tubers, bulbs or rhizomes, etc. The characteristic features which cannot be observed after drying the specimen, such as color and scent in case of flowers and fruits, etc., are recorded on spot. Smaller herbaceous plants have been collected as whole and in case of shrubs, under shrubs, woody herbs and climbers, respective twigs have been collected.

Methodologies as suggested by Schultes (1960 and 1962), Jain (1964, 1967, 1987, 1989) have been followed using collection of information on ethnomedicobotanical aspects. Information on medicinal plants have been collected mainly from-the medicine men, village headmen and aged and experienced

people. Queries have been made repeatedly, occasionally taking asking help from interpreters for confirmation of data on each medicinal plant. For identification of the plants collected, several *Floras* and *Monographs* have been consulted, such as *Flora of British India* (Hooker, 1872-1897) *Flora of Assam*, Vol. I-IV (Kanjilal, *et al*., 1934, 1938, 1939 and 1940) and Vol. V (Bor, 1940), *Flora of Tripura* (Deb, 1981, 1983) .

Results

Information regarding the botanical name of the plants, followed by their family, tribe, part used, purpose of utilization, occurrence and usage in ethnomedicine have been recorded. The species have been arranged in alphabetical order.

1. *Aegle marmalos* Corr. [Family – Rutaceae]

Vernacular name: Bael, Tribe: Tripuri
Part used: Fruits
Purpose of utilization: Against stomach disorders (*dysentery*)
Occurrence: Planted in houses and also found to grow in the wild.
Usage in Ethnomedicine: Fruit extract administered in cases of dysentery and also as a preventive of dysentery.

2. *Ageratum conyzoides* L. [Family- Asteraceae]

Vernacular name: Khomorochewk, Tribe: Halam
Part used: Leaves and twigs
Purpose of utilization: Anti- hemorrhagic
Occurrence: Found in the wild.
Usage in Ethnomedicine: Paste of leaves and twigs applied at the site of cut or wound to stop bleeding.

3. *Alpinia nigra* (Gertner) Burtt [Family – Zingiberaceae]

Vernacular name: Peitranga, Tribe: Chakma
Part used: Underground stem
Purpose of utilization: Against stomach disorders (dyspepsia)
Occurrence: Found mainly in the wild, also cultivated in kitchen gardens.
Usage in Ethnomedicine: The juice of the underground stem is used as medicine in dyspepsia.

4. *Ananas comosus* (L.) Merrill [Family – Bromeliaceae]

Vernacular name: Amortui, Tribe: Tripuri
Part used: Leaf base
Purpose of utilization: Against stomach disorders (diarrhoea)
Occurrence: Commercially cultivated along the hill slopes.
Usage in Ethnomedicine: The juice of the underground stem is used as medicine in dyspepsia.

5. *Chromolaena odoratum* (L.) King & Robinson [Family- Asteraceae]

Vernacular name: Cheikhmarimshiekh, Tribe: Halam
Part used: Leaves
Purpose of utilization: Anti- hemorrhagic
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: Fresh leaf paste is applied on the cut to stop bleeding.

6. *Bambusa* sp. [Family- Poaceae]

Vernacular name: Waa Epahang, Tribe: Tripuri
Part used: Shoot epidermis
Purpose of utilization: Anti- hemorrhagic
Occurrence: Found in the wild.
Usage in Ethnomedicine: Powdered shoot epidermis applied on the cut wound to stop bleeding.

7. *Bryophyllum calycinum* Salisbury [Family – Crassulaceae]

Vernacular name: Khurojot, Tribe: Chakma
Part used: Leaves
Purpose of utilization: Against stomach disorders (dysentery &diarrhoea)
Occurrence: Cultivated in kitchen garden and also as an ornamental
Usage in Ethnomedicine: Two to three leaves chewed raw with 1 tablespoon sugar as a cure of dysentery and diarrhoea.

8. *Cajanas cajan* Linn. [Family – Fabaceae]

Vernacular name: Khokhlaing, Tribe: Halam
Part used: Leaves and twigs
Purpose of utilization: Against stomach disorders (dysentery &diarrhoea)
Occurrence: Cultivated in kitchen garden
Usage in Ethnomedicine: Soup is given to the patient the juice is taken as many time as possible.

9. *Carica papaya* Linn. [Family – Caricaceae]

Vernacular name: Paypay, Tribe: Chakma
Part used: Unripe fruit
Purpose of utilization: Against stomach disorders (stomachic)
Occurrence: Cultivated in the kitchen garden and also on commercial basis.
Usage in Ethnomedicine: Fruits are cooked as a vegetable and administered during complaints of stomach troubles.

10. *Centella asiatica* (L.) Urban [Family – Apiaceae]

Vernacular name: Perup, Tribe: Halam
Part used: Leaves
Purpose of utilization: Against stomach disorders (dysentery &diarrhoea)

Occurrence: Cultivated in the kitchen garden.

Usage in Ethnomedicine: Eaten either as paste or cooked as a vegetable in dysentery and diarrhoea.

11. *Clerodendron viscosum* Vent [Family- Verbenaceae]

Vernacular name: Bhaitphul, Tribe: Tripuri

Part used: Roots

Purpose of utilization: Against jaundice (hepatoprotective)

Occurrence: Found in the wild.

Usage in Ethnomedicine: The root extract is administrated to the patient of jaundice.

12. *Costus speciosus* (Koen) Sm. [Family- Costaceae]

Vernacular name: Mailongma- khotomai, Tribe: Tripuri

Part used: Leaves

Purpose of utilization: Against jaundice (hepatoprotective)

Occurrence: Found in the wild, also cultivated in tribal houses for its beautiful flowers.

Usage in Ethnomedicine: Extract of leaf is taken (as fresh as possible).

13. *Cynodom dactylon* (L.) Persoon [Family- Poaceae]

Vernacular name: Dubba, Tribe: Tripuri

Part used: Leaves and twigs

Purpose of utilization: Anti- hemorrhagic

Occurrence: Cultivated in the kitchen garden, also found in the wild.

Usage in Ethnomedicine: Leaf extract is applied on the cut to stop bleeding.

14. *Ficus hispida* Linn. f. [Family – Moraceae]

Vernacular name: Mayungmai, Tribe: Tripuri

Part used: Raw fruit

Purpose of utilization: Against jaundice (hepatoprotective)

Occurrence: Found to grow in the wild

Usage in Ethnomedicine: The fruit is smashed lightly & dipped in milk for 3-4 days. Then the fruit is taken out and the milk is administered at regular intervals.

15. *Mangifera indica* Linn. [Family – Anacardiaceae]

Vernacular name: Thaihai, Tribe: Halam

Part used: Stem Bark

Purpose of utilization: Against stomach disorders (dysentery)

Occurrence: Grown in houses for its delicious fruits and shade, also found in the wild.

Usage in Ethnomedicine: Bark kept immersed in water for 3-4 days. The water is filtered out and the filtrate is used as medicine for dysentery.

16. *Mentha* sp. [Family-Laminaceae]

Vernacular name: Sabrang, Tribe: Chakma
Part used: Leaves
Purpose of utilization: Against stomach disorders (blood dysentery and dyspepsia)
Occurrence: Found mainly in the wild, also cultivated in kitchen gardens.
Usage in Ethnomedicine: Soup of the leaves is administered in cases of dyspepsia.

17. *Mikania scandens* (Linn.) Willderow [Family- Convolvulaceae]

Vernacular name: Refugie, Tribe: Tripuri
Part used: Entire shoot part
Purpose of utilization: Anti- hemorrhagic
Occurrence: Found to occur in the wild
Usage in Ethnomedicine: Shoot part rubbed against hands and the juice is applied on the cut to stop bleeding.

18. *Momordica charantia* Linn. [Family – Cucurbitaceae]

Vernacular name: Gangrauk, Tribe: Tripuri
Part used: Raw fruits and leaves and twigs
Purpose of utilization: Against stomach disorders (worms and dyspepsia)
Occurrence: Cultivated in the kitchen garden.
Usage in Ethnomedicine: Fruits are considered to be anthelmintic. Juice of leaves and twigs is used in dyspepsia.

19. *Oroxylum indicum* Vent. [Family- Bignoniaceae]

Vernacular name: Kaak-rakung, Tribe: Halam
Part used: Especially stem bark, fruits & leaves also used.
Purpose of utilization: Against jaundice (hepatoprotective)
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: Bark is boiled in water and concentrated till the colour changes to that of tea liquor. The cooled extract is taken with 2 tablespoons of sugar in a glass of extract as many times a day as possible.

20. *Piper betle* Linn. [Family – Piperaceae]

Vernacular name: Phatui bulai, Tribe: Tripuri
Part used: Leaves
Purpose of utilization: Against stomach disorders (carminative)
Occurrence: Cultivated on commercial scale, also found to grow in the wild.
Usage in Ethnomedicine: Raw leaves used as a carminative.

21. *Psidium guyava* Linn. [Family – Myrtaceae]

Vernacular name: Sapri, Tribe: Halam

Part used: Young twigs
Purpose of utilization: Against stomach disorders (dysentery)
Occurrence: Cultivated in almost all houses
Usage in Ethnomedicine: The young twigs are chewed in dysentery.

22. *Scoparia dulcis* Linn. [Family – Scrophulariaceae]

Vernacular name: Naipungchewk, Tribe: Halam
Part used: Shoot part
Purpose of utilization: Against stomach disorders (anthelmintic)
Occurrence: Found in the wild.
Usage in Ethnomedicine: The decoction of the plant is used as an anthelmintic for infants of age 6 months to 1 year.

23. *Sida rhombifolia* Linn. [Family – Malvaceae]

Vernacular name: Laghaniti, Tribe: Chakma
Part used: Bark
Purpose of utilization: Against jaundice (hepatoprotective)
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: The decoction of the bark is taken in case of Jaundice.

24. *Spilanthes paniculata* Wallich ex. DC. [Family – Asteraceae]

Vernacular name: Ansha, Tribe: Tripuri
Part used: Leaves
Purpose of utilization: Against stomach disorders (dyspepsia)
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: Leaf extract is used in dyspepsia.

25. *Stephania* sp. [Family – Menispermaceae]

Vernacular name: Thandamanik, Tribe: Chakma
Part used: Leaves
Purpose of utilization: Against stomach disorders (stomach ache)
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: Leaf paste is applied on the stomach in stomach-ache.

26. *Terminalia chebula* Retzius [Family – Combretaceae]

Vernacular name: Bukhala buthai, Tribe: Tripuri
Part used: Fruits
Purpose of utilization: Against stomach disorders (stomachic)
Occurrence: Found to grow in the wild.
Usage in Ethnomedicine: Fruit used as an astringent and stomachic.

Discussion

The present work has reported, besides the common medicinal plants, several plants for the first time for their medicinal value. A total of twenty- six plants have been reported for their medicinal value. 21 plant species belonging to 21 genera and 21 families are reported against stomach troubles. Amongst these, 5 plants have been reported for dyspepsia, 3 plants for diarrhoea, 5 plants for dysentery, 1 for blood dysentery, 2 as stomachic, 1 as carminative, 2 as anthelmintic, 6 as hepatoprotective and 1 plant against stomach ache. 5 plants belonging to 5 genera and 3 families are reported as anti- hemorrhagic. An earlier study done by Shil (2007) recorded the various ethnomedicinal plants used by the Reang people of Tripura. In comparison to the plants reported by him against stomach troubles only the use of *Mangifera indica* as an anti-dysenteric agent and the use of *Chromolaena odorata and Cynodon dactylon* as anti- hemorrhagics have been found to coincide with the medicinal plants reported in the present work. Other plants like *Centella asiatica, Psidium guajava, Terminalia chebula* and *Alpinia nigra* have also found to be reported by Shil (2007) among the Reangs, but for other medicinal properties.

Conclusion

Although India has a rich treasure of ethnomedicinal plants, only a small fraction of it has yet come to the service of the human kind. Tripura is a small state in the fag end of North- east India. In spite of being one of the richest biodiversity zones, a vast part of North- east India has still remained unexplored. Moreover, much work has not been done on the three tribes under consideration in the present study. Despite the rich heritage of medicinal plants, little attention had been paid towards them as field crops. At present, there is an urge need to pay serious attention towards our medicinal plants for our own health needs and also to save them from the threat of extinction.

During the study, plants used for a variety of physiological complaints have come to light. The plants used by the tribal people have been found to be very much disease specific.

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