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Plants used against Intestinal Worms by Ethnic Communities in Paschim Medinipur District, West Bengal, India

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ABSTRACT

The district Paschim Medinipur is situated on the extreme south-western part of West Bengal, India and is located in between 22°57² 10³ N to 21°36² 35³ N latitudes and 88°12² 40³ E to 86°35² 50³ E longitudes. The total area of the district is 9786.28 square kilometres. A number of ethnic communities are inhabited here and the number of scheduled tribe communities in this district is 37. Major ethnic groups are Santals, Bhumijs, Mundas Savars, Koras and Lodhas. These indigenous people of the district have valuable traditional knowledge of their own. Their ethno-medicinal knowledge to cure numerous diseases is invaluable to strengthen present day system of medicine. Now this indigenous knowledge of thousand years old is also under threat of rapid invasion of modern civilized culture and therefore change of traditional way of life style.

Intestinal worms are very common among people of ethnic communities especially of children. They used some common plants found in their surroundings against intestinal worms. A number of ethno-medicinal formulations are found among various ethnic communities for treatment against such problems. *Ananas comosus, Andrographis paniculata* and *Luffa cylindrica* are most frequently used against intestinal worms. *Caesalpinia bonduc and Cuscuta reflexa* are considered most effective antihelmintic plants. The present work deals with 11 such plants used by different ethnic communities of Paschim Medinipur District.

INTRODUCTION

The district Paschim Medinipur is the second largest district of West Bengal, India and situated on its extreme south-western part. It is located in between 22°57² 10³ N to 21°36² 35³ N latitudes and 88°12² 40³ E to 86°35² 50³ E longitudes. It covers an area of 9786.28 square kilometres (Anonymous, 2003).

The district is bounded in east with Purba Medinipur and Howrah districts of West Bengal, on the west with Mayurbhanj district of Orissa and Purba Singbhum district of Jharkhand states, on the north with Hooghly, Bankura and Purulia districts of West Bengal and on the south with Purba Medinipur district of West Bengal and Baleshwar district of Orissa state.

The population of tribal people in Paschim Medinipur district is largest in West Bengal. About 17.55 % population of this district is of

ethnic communities (Hansda, 2004). 37 different scheduled tribes are found in this district is 37 (Mandal *et al.* 2002). Most of them are inhabited in the western forest region. Major Scheduled Tribe groups are Santals, Bhumijs, Mundas, Savars, Koras and Lodhas.

The district is rich in plant diversity also but many wild plant species are under threat due to the increasing human population.

The ethnic communities of the district have valuable traditional knowledge of their own. Their indigenous ethno-medicinal knowledge for curing numerous diseases (of both human and veterinary) is invaluable to strengthen modern science of medicine. But this traditional knowledge of thousand years old is also under threat of rapid invasion of urban culture and change of traditional way of life style.

Ethno-medicinal plants of the region was previously explored by several workers such as Chaudhuri and Pal (1975), Chaudhuri and Pal (1976), Pal (1988), Pal and Jain (1989, 1998), Ghosh (2003), Paria (2005), De and Bhattacharya (2005), De (2013, 2015, 2016); Adjacent areas of the district was also studied in this respect by different workers such as Bodding (1925, 1927, 1940), Maiti and Manna (2000), Chakraborty *et al* (2003), Chakraborty (2006), Chakraborty and Bhattacharjee (2006), Dey and De (2011).

Like the floristic components of the region, valuable traditional knowledge of ethnic communities about medicinal plants of the district is under threat of extinction. So the written documentation of this indigenous knowledge is very much necessary.

MATERIALS AND METHODS

Some plants are believed as useful against intestinal worms and are frequently observed to intake orally for this purpose. This paper deals with 11 such plants used by the different ethnic communities of the district. Field studies in this regard were done by the following way-

i) Interaction with people of different ethnic communities for preliminary information about plants used by them against intestinal worms.

ii) Consultation with traditional medical practitioners (like *ojha*, *gunin* etc.) among ethnic communities who regularly practice their traditional medicine as far as possible.

iii) Consultation with different ethnic groups like Santal, Lodha, Munda etc. in different locations of the experimental area to verify the medicinal utility of these plant.

iv) Medicinal importance of different ethno-medicinal plants was also critically cross checked from literature, if any.

v) Plant specimens were identified with the help of existing literatures (i.e. Haines, 1921-1925; Mooney, 1948; Prain, 1903) and botanical names have been checked and verified from these literatures as well as from available online (i. e. http://www.theplantlist.org/tpl1.1/record/kew).

vi) Ethno-botanical enumeration technique as proposed by Jain (1995) and Jain and Mudgal (1999) are followed in this study with some necessary modifications.

vii) Herbarium specimens are deposited in herbarium of Department of Botany, Government General Degree College, Mohanpur.

Intestinal worms are very common among people of ethnic communities especially of children due to unhygienic environment and life style. They used some common plants found in their surroundings against intestinal worms. 11 such plant species under 10 genera and 10 families are found to be used against intestinal worms by field study. These plants are arranged alphabetically by their botanical name, family, accession number, vernacular name, along with their traditional medicinal formulation/s.

List of abbreviations: B-Bangla; E-English; L-Lodha; M-Mundari; S-Santali; Syn.-Synonym.

RESULTS AND DISCUSSION

During the investigation a number of unique and interesting ethno-medicinal formulations were observed and recorded. The detailed description of the same is enumerated below:

1. *Ananas comosus* (L.) Merr. [Bromeliaceae] RPD-46

Vernacular name: Ânâras, Keyâ (B); Pine apple (E).

Leaf:

1. Warm leaf juice used as anthelmintic against small white worms, once in the morning before meal for continuous use up to cure. Raw leaf juice without warming is also used. Sometimes fresh leaf juice mixed with fresh rhizome paste of *Curcuma longa* is used.

2. Lodhas and other communities use paste of soft leaf base mixed with common salt as anthelmintic, 3-4 spoonfuls, once daily in empty stomach for 3-7 days. It applies mostly for children.

2. *Andrographis paniculata* (Burm.f.) Wallich *ex* Nees. Syn. *Justicia paniculata* Burm.f.; *Andrographis subspathulata* C.B. Clarke. [Acanthaceae] RPD-18

Vernacular name: Kâlmegh, Chiratâ (B); Creat, Kirayat (E).

Leaf:

1. Ethnic communities prepare small pills from leaf paste and prescribe these pills for the treatment of small intestinal worms (*gunrhi krimi*), 1-2 pills once in the morning in empty stomach for 2-4 days.

3. *Asparagus racemosus* Willd. [Asparagaceae] RPD-52

Vernacular name: Satamuli (B); Asparagus, Spiny asparagus (E); Gaisirâ (L);

Lubui kabar (S).

Root:

1. Lodhas prescribe root-juice mixed with molasses twice daily (morning and night) against

intestinal worms in children.

4. *Azadirachta indica* A. juss. Syn. *Melia azadirachta* L. [Meliaceae] RPD-26

Vernacular name: Nim (B); Indian lilac, Margosa tree, Neem (E).

Leaf:

1. Lodhas prepare green leaf juice and prescribe it against intestinal worms as required.

5. *Caesalpinia bonduc* (L.) Roxb. Syn. *Guilandina bonduc* L.; *Caesalpinia crista* L.; *C. bonducella* (L.) Fleming. [Caesalpiniaceae] RPD-47

Vernacular name: Gil, Kântâ karanjâ, Nâtâ (B); Bonduc nut, Physic nut (E).

Seed:

1. Ethnic and other communities fry seeds in hot sands or burn it in fire and then made into powder, which is prescribed as antihelminthic, a single dose of one seed is recommended, chewing or swallowing a single intact seed is allowed but sugar never added.

6. *Carica papaya* Linn. [Caricaceae] RPD-51

Vernacular name: Penpe (B); Papaw, Papaya (E); Piphou, Amrit (S).

Latex:

1. Kurmis prescribe latex as an anthelmintic. Some communities mix latex with milk and apply orally against intestinal worm of children for 3 days.

7. *Curcuma longa* Linn. Syn. *Curcuma domestica* Val. [Zingiberaceae] RPD-48

Vernacular name: Halud (B); Turmeric (E); Sasang (S).

Stem (Rhizome):

1. Bhumijs prescribe 10g fresh rhizome paste mixed with tender leaf juice (10 ml) of *Ananas comosus* and sufficient water as antihelmintic, once in the morning in empty stomach up to cure.

8. *Cuscuta reflexa* Roxb. Syn. *Cuscuta santapaui* Banerji & Das [Cucutaceae] RPD-45

Vernacular name: Alok latâ, Bândâ, Swarnalatâ, (B); Common dodder, Dodder (E); Bândâ, Bândhâ (L); Alâk jârhi (S).

Whole plant:

1. Ethnic and other communities prescribe whole plant paste as antihelmintic, once or twice daily as needed. It is bitter in taste.

9. *Luffa acutangula* (L.) Roxb. Syn. *Cucumis acutangula* L. [Cucurbitaceae] RPD-50

Vernacular name: Jhingâ (B); Ribbed gourd, Ridged gourd (E); Jhinâ (M); Jhingou (S).

Seed:

1. Mundas prescribe seed paste (of 10 seeds) as antihelmintic, once daily for continuous use, up to cure.

10. *Luffa cylindrica* (L.) M. Roem. Syn. *Momordica cylindrical* L.; *Luffa aegyptiaca* Mill. [Cucurbitaceae] RPD-49

Vernacular name: Dhundhul, Palta, Porol (B); Sponge gourd, Towel gourd (E); Pallâ, Dada (S).

Fruit:

1. Ethnic communities soak 25g bitter fruit in a little amount of water (25 ml) for overnight, then the soaked fruit after sieving mixed with 5 ml honey and juice is extracted. The juice is prescribed against all types of intestinal worms, 20ml juice used thrice daily.

11. *Mentha arvensis* L. Syn. *M. canadensis* L., *M. palustris* auct. non Mill., *M. agrestis*

Sole [Lamiaceae] RPD-53

Vernacular name: Pudinâ (B); Corn mint, Field mint, Wild mint (E).

Leaf:

1. Bhumijs prescribe leaf paste with honey and small amount of common salt as anthelmintic.

CONCLUSION

11 plant species under 10 genera and 10 families are used against against intestinal worms. These plants are very common and frequently in and around every village of the area under study. The medicinal formulations are also very simple, people prepare these medicines by themselves and they never depend on their traditional medical practitioners like *ojha*, *gunin*, *jan* etc. Mostly these are single plant medicines, other ingredients if any used are common salt, honey or milk. Amount and doses are not strictly followed. *Ananas comosus* and *Andrographis paniculata* are most frequently used antihelmintic. *Caesalpinia bonduc*, *Cuscuta reflexa* and *Luffa* spp. are used by some communities and these are believed as most effective.

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