

Inventory of some ethno-medicinal plants in wetlands areas in Maldah district of West Bengal

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Abstract

The Wetlands of Maldah districts are very old and fresh water natural habitat for several herbaceous flora. Present study focused on the wild wetland plants used by the tribal communities like *Santal*, *Malpaharia* and *Oraon* to cure many of the diseases they suffer. The record of 33 species of angiosperms belonging to 22 families includes some common medicinal plants and some other need proper evaluation.

Key words: Wetland plants, Ethnomedicine, Tribes, Maldah.

INTRODUCTION

Wetlands are the areas those remain almost wet or with enough moisture in maximum throughout the year. These areas are habitat of some interesting group of plants and are referred as hydrophytes (aquatic) or wet loving (semi-aquatic helophytes) plants. The Maldah district is situated at the central part of the state of West Bengal. This district is blessed by several fresh water wetlands, which are the part of sub-Himalayan wetland system and provides good habitat for several species of flowering and non-flowering plants. High number of tribal population belonging to *Santal*, *Orao*, *Munda* and *Malpaharia* communities live in Maldah. These tribal communities use several species of local plant as remedy for several diseases. Of these species a good number are growing in the wetlands of Maldah. Though tribal communities inhabit in three major topographic regions, namely *Barind*, *Tal* and *Diara* in the district, but concentration of tribal people is very high in *Barind* region, covering three blocks namely Old Maldah, Habibpur and Bamongola (Sengupta 1969). Almost no record on the ethnobotanical works on the tribal communities from this region is available. But several important plants are growing in wild condition and are used by the tribal and local people in their daily life (Prain 1903; Acharyya 1998). However, some ethnobotanical works in different parts of North Bengal and the Northeastern part of India were published by several authors on different tribal communities (Rai & Bhujel 2002; Jamir *et al* 2008; Ghosh 2006; Ghosh & Das 2007; Chowdhury & Das 2007; Kar & Borthakur 2007; Tag & Das 2007; Kshirsagar & Saklani 2007; Kar *et al* 2008; Nath *et al* 2008).

MATERIALS AND METHODS

Different wetlands areas of *Tal*, *Diara* and *Barind* regions of Maldah district were surveyed for ethnomedicinal information. Elderly and knowledgeable people in nearby villages to different wetlands have been interviewed and the collected data recorded in Field Note Book. Villagers also spotted the plants in the habitat and such specimens were collected as voucher. Data collected in such a manner were verified with different groups of people and, unless an information was matched with the knowledge of at least two other people that has been discarded. Collected specimens were processed into mounted herbarium sheets through conventional techniques (Jain & Rao 1977), identified in the laboratory using different literature and were matched at CAL and NBU herbaria. Finally, specimens were deposited in the NBU Herbarium.

OBSERVATION

Plants of medicinal value are directly collected from the wetland areas by the tribal people, whenever they require. Present study recorded 32 species of flowering plants belongs to the 22 families were used by the local tribal communities for treatment of different diseases. Among these 25 species are dicotyledonous and the remaining 7 species belong to monocotyledons. These plants are used for curing more than 20 diseases including Blood dysentery, cough & cold, skin diseases, anemia etc.

Enumeration:

The recorded 32 species of Medicinal Plants are enumerated below alphabetically along with their families, vernacular names, flowering & fruiting time and ethnomedicinal uses.

[Abbreviation used: VN=vernacular name]

Acorus calamus L. [Acoraceae]: VN: *Boch*

Flowers & Fruits: April – July.

Exsiccatae: Ephemeral water body, Old Malda block, *AP Das & Monoranjan 0673*, dated 17.10.2007.

Ethnomedicinal Use: Aromatic rhizome and leaf ash is given in case of headache and also given orally against cough & cold.

Alternanthera sessilis (L.) R. Brown ex DC. [Amaranthaceae]: VN: *Khenchi Saag*

Flowers & Fruits: March – November.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0125*, dated 21.10.2003. Barbilla beel, *AP Das & Monoranjan 0610*, dated 16.02.2004. Hazar takia beel, *AP Das & Monoranjan 0703*, dated 06.09.2003.

Ethnomedicinal Use: Leaf and root paste is given orally to cure the blood dysentery.

Amaranthus spinosus L. [Amaranthaceae]: VN: *Kanta Khuria, Kanta Notey*.

Flowers & Fruits: May – December

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0704*, dated 22.10.2006.

Ethnomedicinal Use: The leaf paste with *Jatropha gossypifolia* leaves used externally against the body pain. Root and leaf paste is given against Blood dysentery.

Bacopa monnieri (L.) Pennell [Scrophulariaceae]: VN: *Bramhi*

Flowers & Fruits: September – February.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0094*, dated 26.09.2003. Nayagram beel, *AP Das & Monoranjan 1132*, dated 08.02.2008.

Ethnomedicinal Use: Leaf or young twig is given to improve the strength of memory and nervous system.

Centella asiatica (L.) Urban [Apiaceae]; VN: *Dholmamon*.

Flowers & Fruits: July – February.

Exsiccatae: Belatuli wetland, *AP Das & Monoranjan 0379*, dated 16.03.2005; Gabgachi-chatral beel complex, *AP Das & Monoranjan 1025*, dated 29.12.2007; Nayagram beel, *AP Das & Monoranjan 1114*, dated 12.01.2008.

Ethnomedicinal Use: Leaf juice is given in the treatment of gastritis and as liver stimulant.

Clerodendrum viscosum Ventenat [Verbenaceae]; VN: *Bhnat, Dhetu*.

Flowers & Fruits: January – September.

Exsiccatae: Chatral wetland, *AP Das & Monoranjan 0741*, dated 22.06.2005.

Ethnomedicinal Use: Root pest is given in fever.

Crinum asiaticum L. [Amaryllidaceae]; VN: *Birpiaj*.

Flowers & Fruits: January – December.

Exsiccatae: Road side ephemeral water body, English Bazaar block, *AP Das & Monoranjan 0784*, dated 07.09.2007. Road side ephemeral water body of Kaliachak block, *AP Das & Monoranjan 1079*, dated 22.11.2007.

Ethnomedicinal Use: Root pest applies against dermatitis.

Colocasia nymphaefolia Kunth [Araceae]; VN: *Kachu* or *Saru*

Flowers & Fruits: June – October.

Exsiccatae: Nayagram beel, *AP Das & Monoranjan 0795*, dated 19.11.2007; Sagar Dighi, *AP Das & Monoranjan 0719*, dated 19.11.2007.

Ethnomedicinal Use: Rhizome paste with the root paste of *Glinus oppositifolius* is given in case of red discharge.

Costus speciosus (Koenig ex Retzius) Smith [Costaceae].

Flowers & Fruits: July – January.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan, 0782*, dated 11.10.2007.

Ethnomedicinal Use: Paste of rhizome in the treatment of jaundice.

Croton bonplandianus Baillon [Euphorbiaceae]; VN: *Maricha*.

Flowers & Fruits: January – December.

Exsiccatae: Nayagram beel, *AP Das & Monoranjan 1154 & 1157*, dated 01.01.2008.

Ethnomedicinal Use: Latex applies as anti-hemorrhagic.

Cynodon dactylon (L.) Persoon [Poaceae]; VN: *Durbaghas*.

Flowers & Fruits: November – April.

Exsiccatae: Barbilla beel complex, *AP Das & Monoranjan 0466*, dated 16.02.2004.

Ethnomedicinal Use: Leaf decoction applies as anti-hemorrhagic.

Cyperus rotundus L. [Cyperaceae]; VN: *Takudara*.

Flowers & Fruits: July – December.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0064*, dated 24.09.2003. Nayagram beel, *AP Das & Monoranjan 1183*, dated 05.01.2008.

Ethnomedicinal Use: Root pest is given against paralysis.

Datura stramonium L. [Solanaceae]; VN: *Dutro*.

Flowers & Fruits: August – April.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0804*, dated 14.11.2007.

Ethnomedicinal Use: Fruit juice with hot mustered oil given in Ear pain.

Eclipta prostrata (L.) L. [Asteraceae]; VN: *Keshut*.

Flowers & Fruits: Throughout the year.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0514*, dated 24.09.2003; Laxipur Beel, *AP Das & Monoranjan, 0120*, dated 26.09.2003. Nayagram Beel, *AP Das & Monoranjan, 1142*, dated 07.01.2008.

Ethnomedicinal Use: Cooling agent for head and as black dye for hair.

Enydra fluctuens Loureiro [Asteraceae]; VN: *Helancha*

Flowers & Fruits: January – April.

Exsiccatae: Nyagram wetland, *AP Das & Monoranjan 0091*, dated 24.09.2003. Gabgachi-chatral beel complex, *AP Das & Monoranjan 1189*, dated 08.02.2008.

Ethno medicinal Use: Leaf is given against the anemia.

Fumaria indica (Hasskarl) Pugsley [Fumariaceae]; VN: *Ban Dhania*

Flowers & Fruits: November- March

Exsiccatae: Barbilla wetland, *AP Das & Monoranjan 0378*, dated 16.02.2004; Kalindri river bed, *AP Das & Monoranjan 1038*, dated 06.01.2008.

Ethnomedicinal Use: Leaf decoction applies to purify the blood in skin diseases.

Glinus oppositifolius (L.) A. DC. [Molluginaceae]; VN: *Gima Sask*.

Flowers & Fruits: January – December.

Exsiccatae: Belatuli wetland, *AP Das & Monoranjan 0364*, dated 29.05.2003.

Ethnomedicinal Use: Root paste is given orally against the white discharge and the flower paste mixing with wood paste of *Santalum album* is given in case of dysentery.

Hygrophila auriculata (Schumacher) Heine [Acanthaceae]; VN: *Kulekhara* or *Dangrakanta*.

Flowers & Fruits: March – August.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0153*, dated 12.02.2004; Nayagram beel, *AP Das & Monoranjan 1103*, dated 12.01.2008; Lakshmipur beel, *AP Das & Monoranjan 1112*, dated 12.01.2008.

Ethnomedicinal Use: Leaf paste used to cure anemia.

Lasia spinosa (L.) Thwaites [Araceae]; VN: *Kata Kachu* and *Kantasar*

Flowers & Fruits: November – February.

Exsiccatae: Nayagram beel, *AP Das & Monoranjan 0789*, dated 13.10.2007. Ephemeral water body Gazole, *AP Das & Monoranjan 1026*, dated 11.12.2007.

Ethnomedicinal Use: Leaf paste is given orally in curing asthma.

Leucas indica (L.) R. Brown ex Vatke [Lamiaceae]; VN: *Dorpi*.

Flowers & Fruits: August – February.

Exsiccatae: Maliha wetland, *AP Das & Monoranjan 0665*, dated 18.12.2006. Nayagram beel, *AP Das & Monoranjan 1156*, dated 01.01.2008.

Ethnomedicinal Use: Leaf extract is taken to cure toothache and infection in the mouth.

Mimosa pudica L. [Mimosaceae]; VN: *Jhapi*

Flowers & Fruits: February – July.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0809*, dated 14.11.2007. .

Ethnomedicinal Use: Root paste is given to normalize blood pressure.

Nymphaea pubescens Willdenow [Nymphaeaceae]; VN: *Sapla* and *Saluk*.

Flowers & Fruits: September – January.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0126*, dated 02.10.2003.

Ethnomedicinal Use: A paste of flower is administered against vaginal white discharge.

Nymphaea rubra Roxburgh ex Andrews [Nymphaeaceae]; VN: *Lal Sapla*

Flowers & Fruits: October – February.

Exsiccatus: Pond of Bamongola block, *AP Das & Monoranjan 0729*, dated 16.10.2007.

Ethnomedicinal Use: Flower paste is taken orally in blood dysentery and piles.

Oxalis corniculata L. [Oxalidaceae]; VN: *Amrul*.

Flowers & Fruits: January – December

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0711*, dated 12.02.2004. Nayagram beel, *AP Das & Monoranjan 1110*, dated 08.02.2008; Sagardighi, *AP Das & Monoranjan 1106*, dated 08.02.2008.

Ethnomedicinal Use: Leaf pest is given against dysentery.

Physalis minima L. [Solanaceae]; VN: *Handikundi*

Flowers & Fruits: April – January.

Exsiccatus: Nayagram beel, *AP Das & Monoranjan 0776*, dated 11.10.2007.

Ethnomedicinal Use: Plant ash is useful in treating skin diseases.

Ricinus communis L. [Euphorbiaceae]; VN: *Aradom*

Flowers & Fruits: January – December.

Exsiccatus: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0778*, dated 01.12.2007.

Ethnomedicinal Use: Leaves against pain during child birth.

Scoparia dulcis L. [Scrophulariaceae]; VN: *Jasthimadhu*.

Flowers & Fruits: June – May.

Exsiccatus: Chatral wetland, *AP Das & Monoranjan 0779*, dated 12.11.2007.

Ethnomedicinal Use: Leaf paste is used against fever and red urine.

Sida acuta Burman f. [Malvaceae]; VN: *Chipchirip*.

Flowers & Fruits: July – April.

Exsiccatae: Gabgachi-chatral Beel complex, *AP Das & Monoranjan 0622* dated 12.11.2006; Konar beel, *AP Das & Monoranjan 1122* dated 05.11.2008.

Ethnomedicinal Use: Leaf decoction applies blood dysentery.

Solanum nigrum L. [Solanaceae]; VN: *Handikundi*

Flowers & Fruits: November – March

Exsiccatus: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0767*, dated 24.09.2007.

Ethnomedicinal Use: Leaf decoction is given in eye disease.

Solanum torvum Swartz [Solanaceae]; VN: *Bengarbata*

Flowers & Fruits: November – March

Exsiccatus: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0769*, dated 11.10.2007.

Ethnomedicinal Use: Fruit juice applies for body pain and ear pain.

Solanum surattense Burman [Solanaceae]; VN: *Henje*

Flowers & Fruits: January – December.

Exsiccatus: Gabgachi-chatral beel complex, *AP Das & Monoranjan 1288*, dated 10.02.2007.

Ethnomedicinal Use: Fruit pest is given against cough and cold.

Tonningia axillaris (L.) O. Kuntze [Commelinaceae]; VN: *Kechla*

Flowers & Fruits: July – February.

Exsiccatae: Gabgachi-chatral beel complex, *AP Das & Monoranjan 0077*, dated 24.09.2003; Nayagram beel, *AP Das & Monoranjan 0146*, dated 21.12.2005.

Ethnomedicinal Use: Plant pest is given against pain in nail-corner (paronychia).

DISCUSSION

For the treatment of diseases, tribal people use different plant-parts like rhizome, root, leaf, flower and fruit of different species. While most of the recorded ethnomedicinal plants are aquatic or of moist area, three species namely *Datura stramonium*, *Clerodendrum viscosum*, *Costus speciosus* are small shrubs. Some of these species like *Acorus calamus*, *Alternanthera sessilis*, *Bacopa monnieri*, *Centella asiatica*, *Enydra fluctuens*, *Nymphaea pubescens*, *Glinus oppositifolius*, *Hygrophila auriculata*, *Leucas indica* are sold in village markets.

During the treatment of different diseases tribal people prepared a medicine using different plant parts mixing with the dust of sandalwood, mustard oil, salt etc. and are generally administer

immediately after its preparation. However, the efficacy of their formulations needs verification though the villagers claim those as quite effective.

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