

MACROPHYTES OF WETLANDS OF PURULIA DISTRICT (WEST BENGAL) AND THEIR ETHNOBOTANICAL USES.

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Key words : Wetland, Purulia, Ethnobotany, Macrophytes.

Wetlands are highly productive ecosystems and macrophytes present in them are variously utilised by local people. Purulia district of West Bengal has got many wetlands and good diversity of macrophytes.

INTRODUCTION

Wetlands are significantly important ecosystems in the world and are second to tropical rain forests so far as productivity is concerned. They play an important role in environmental management, such as pollution control, eco-restoration, biodiversity conservation, etc. Wetlands have drawn considerable attention of agriculturists, natural and social scientists, urban planners, land managers, landscape designers and many others. As per Convention on Wetlands of International Importance held in Ramsar, Iran (1971), Wetlands are defined as "areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed 6 meters". Wetlands are geologically very young and ecologically very fragile. The present study was aimed at surveying wetlands of Purulia District of West Bengal and studying macrophytes present therein.

Material and Methods

Whole of the Purulia district was surveyed and geographical data of different wetlands were recorded with the help of GPS. Macrophytes present in the wetlands were photographed and studied by available flora. Economic importance of macrophytes was consulted with local people.

The Study area :

Purulia is the westernmost district of West Bengal located between 23°42'N and 22°43'S latitude and 86°54'E and 85°49'W longitude. It is girdled by tropic of cancer. The Bay of Bengal and Hoogly estuary are within 200 km from the centre of the district. Its physiographic location is also distinguished as a zone of transition between the young alluvial plains of West Bengal and ancient plateau of Jharkhand. The geographical area of the district is 6259 km². The district is bordered on the East by Bankura and Paschim Midnapore districts, on the North by Bardhaman district of West Bengal and Dhanbad district of Jharkhand, on the West by Bokaro and Ranchi districts of Jharkhand, and on the South by West Singhbhum and East Singhbhum districts of Jharkhand.

RESULT AND DISCUSSION

Altogether 38 wetlands have been recorded in the Purulia district (Table-1). Maximum seven wetlands were recorded

in Kashipur block whereas Purulia-1 block had four wetlands, three wetlands were recorded from Manbazar-1 block. Eight other blocks are having two wetlands each whereas eight other blocks have one wetland each.

Macrophytes present in the wetlands of Purulia district their local names, distribution and ethnobotanical uses have been presented in Table-2. Altogether 22 macrophytes have been recorded from the wetlands of Purulia. *Nymphaea pubescens* was the most common species and was recorded from seven wetlands. *Nelumbo nucifera* was present in as much as six wetlands. *Nymphaoides indicum*, *Hydrilla sp.*, *Ipomoea aquatica*, *Ludwigia sp.* and *Polygonum glabrum* are other significant species and were recorded from five wetlands. Distribution of other macrophytes was rather specific depending upon hydrological characteristics of ponds. Local people use plants for various purposes, e.g., as vegetables, medicines, decoration items and in small scale industries. Previously, various workers have studied wetlands of different areas of India. Gupta (1980) has surveyed the hydrophytes and marsh plants of Kota. Ghosh, Santra and Mukherjee (1993) have studied the phenology of aquatic macrophytes of lower gangetic Delta of West Bengal. Deb (1976) has surveyed the aquatic vascular plants of India and its floristic diversity. Banerjee and Mukherjee (2005) have studied the aquatic and vascular plant diversity of Koch Bihar district of West Bengal and reported its taxonomic and ecological importance.

References

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TABLE - 1 : Wetlands of Purulia district.

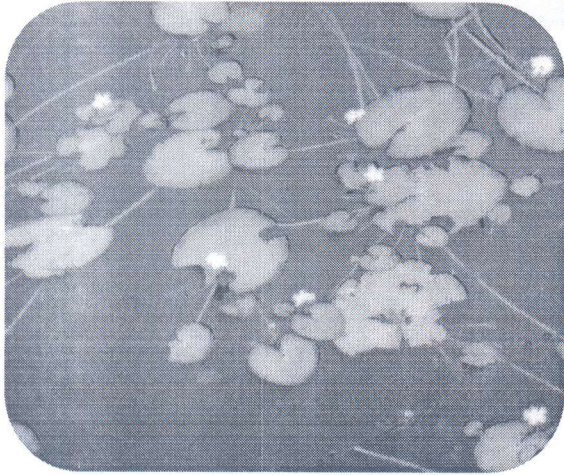
Sl.No.	Name of the wetland	Block	Latitude	Longitude
1.	Adra Saheb Bundh	Kashipur	23° 48' N	86° 70'E
2.	Angarkhuri	Purulia -II	23° 21'N	86° 47'E
3.	Babir Bundh	Kashipur	23° 37'N	86° 75'E
4.	Barik Bundh	Raghunathpur-I	23° 55'N	86° 67'E
5.	Bena Bundh	Manbazar-I	23°27'N	86° 37'E
6.	Bena Gora	Para	23° 50'N	86° 49'E
7.	Buro Sayar	Raghunathpur-II	23° 56'N	86° 68'E
8.	Desh Bundh	Santuri	23° 51'N	86° 85'E
9.	Dewan Bundh	Kashipur	23° 37'N	86° 75'E
10.	Dhanar Bundh	Raghunathpur	23° 55'N	86° 67'E
11.	Ganak Bundh	Purulia- I	23° 34'N	86° 36'E
12.	Gayer Bundh	Santuri	23° 51'N	86° 85'E
13.	Gayal Bundh	Hura	23° 30'N	86° 65'E
14.	Ghoshal Pukur	Puncha	23° 15'N	86° 65'E
15.	Gobinda Sayar	Manbazar- I	23° 27'N	86° 37'E
16.	Gorsai Bundh	Barabazar	23° 30'N	86° 36'E
17.	Guniyara Bara Bundh	N eturia	23° 58'N	86° 71'E
18.	Hanumata Dam	Balarampur	23° 12'N	86° 26'E
19.	Joypur Rani Bundh	Joypur	23° 36'N	86° 32'E
20.	Kalidaha	Kashipur	23° 37'N	86° 75'E
21.	Kamala Bundh	Baghmundi	23° 19'N	86° 06'E
22.	Ketan Kiyari	Kashipur	23° 38'N	86° 76'E
23.	Khager Bundh	Puncha	23° 15'N	86° 65'E
24.	Kumari Dam	Balarampur	23° 16'N	86° 29'E
25.	Lahir Bundh	Jhalda- I	23° 37'N	86° 97'E
26.	Mahato Bundh	Arsha	23° 32'N	86° 36'E
27.	Maidhara	Manbazar-I	23° 27'N	86° 37'E
28.	Nutan Bundh	Purulia-I	23° 34'N	86° 36'E
29.	Poka Bundh	Bandwan	23° 88'N	86° 50'E
30.	Purano Sayar	Purulia-II	23° 21'N	86° 47'E
31.	Raja Bundh	Purulia-I	23° 32'N	86° 37'E
32.	Rampur Bara Bundh	Kashipur	23° 38'N	86° 76'E
33.	Rani Bundh	Baghmundi	23° 19'N	86° 06'E
34.	Rukni Bundh	N eturia	23° 58'N	86° 71'E
35.	Saheb Bundh	Purulia-I	23° 20' N	86° 21'E
36.	Sankra Bundh	Para	23° 50'N	86° 49'E
37.	Sayar Bundh	Manbazar	23° 24'N	86° 39'E
38.	Sindripathar	Kashipur	23° 38'N	86° 76'E

TABLE-2 : Macrophytes present in different wetlands and their economic importance

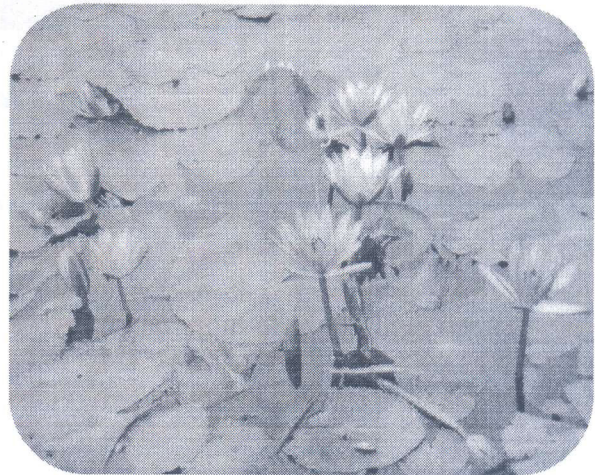
Sl. No.	Name of the Plant	Local name Vernacular Name	Family	Habitat / wetland	Economic importance
1.	<i>Aeschynomene sp.</i>	Sola	Fabaceae	Arda Saheb, Bundh, Ganak, Bundh, Buro sayar, Jpoypur Rani Bundh.	Stem pith is used to obtain sola for decoration purposes.
2.	<i>Alternanthera sessilis</i>	Chanchi	Amaranthaceae	Buro Sayar, Nutan Bundh, Nibaran Sayar, Adra sahib, Bundh	Leaf extract is useful in various types of eye trouble. Decoction of stem and leaf is taken to check vomiting. Poultice of leaf is applied on boils.
3.	<i>Ammannia sp.</i>	Banmarich	Lathyraceae	Gank Bundh, Saheb Bundh, Angarkhuri, Adra saheb Bundh.	Leaves or the ashes of the plant mixed with oil are applied to cure herpetic eruptions. The leaf extract is used externally for remedy of ring worm and parasitic skin infection.
4.	<i>Aponogeton natans</i>	Ghechu	Aponogetonaceae	Nibaran Sayar, Joypur Rani Bundh, Adra Saheb Bundh.	The starchy seed is roasted and taken as food supplement in different areas. The flowering spike and young shoot are used as vegetables. Tribals use flower as flavouring agent. Regular use of the plant is helpful in curing stomach disorder and reviving digestive system.
5.	<i>Astercantha longifolia</i>	Kuila khara	Acanthaceae	Ganak Bundh, Purano Sayar.	The leaf, roots and seeds are used as diuretic and employed in Jaundice, dropsy, rheumatism and diseases of urinogenital tract.
6.	<i>Ceratophyllum demersum</i>	–	Ceratophyllaceae	Adra Saheb Bundh, Nibaran Sayar, Joypur Rani Bundh.	Paste of leaf is externally applied in case of scorpion attack. Decoction of leaf is used for 10-15 days to regulate bile secretion.
7.	<i>Colocasia sp.</i>	Kochu	Araceae	Adra Saheb Bundh, Ganak Bundh, Sayar Bundh, Raja Bundh.	Young leaves are used as vegetables.
8.	<i>Commellina benghalensis</i>	Kanasak, Kansira	Commelinaceae	Nibaran Sayar, Raja Bundh, Nutan Bundh.	Young shoot and leaves are used as vegetables. Its extract is used in prevention of leprosy.
9.	<i>Eichornia crassipes</i>	Kochuri Pana	Pontederiaceae	Saheb Bundh, Raja Bundh, Sayar Bundh, Angarkhuri.	Young leaves and petioles are cooked (virtually tasteless) are said to be used as carotene rich vegetables. The whole plant is a good source of manure.
10.	<i>Hydrilla sp.</i>	Chigri Dal	Hydrocharitaceae	Adra Saheb, Bundh, Nibaran, Sayar, Joypur, Rani Bundh, Ganak Bundh, Angarkhuri.	The leaves have antiseptic property and its decoction is useful in healing ulcer. Young shoots are eaten as vegetables.

11.	<i>Ipomea aquatica</i>	Kalmi Sak	Convolvulaceae	Ganak Bundh, Sayar Bundh, Purano, Sayar Joypur, Rani Bundh, Angarkhuri.	Two teaspoon of young leaf juice is taken in the night as purgative. Decoction of leaf is also used as blood purifier.
12.	<i>Jussiaea sp.</i>	Water allamonda	Oenotheraceae	Raja Bundh, Ganak Bundh.	Powder of dried leaves are applied on ulcer and skin disease.
13.	<i>Limnophylla sp.</i>	Ambuja	Scrophulariaceae	Adra Saheb Bundh, Sayar Bundh, Joypur Rani Bundh.	Juice of the plant is rubbed over the body in pestilent fever. The juice combined with cumin is given for dysentery.
14.	<i>Ludwigia sp.</i>	Banlanga	Onagraceae	Ganak Bundh, Nibaran Sayar, Buro Sayar, Raja Bundh, Adra saheb Bundh.	Whole plant is boiled in water, the water after cooling is administered one cup twice a day for 4-6 days in fever, cold and cough. Decoction of plant is also used in dysentery.
15.	<i>Marsilea quardifolia</i>	Sushni sak	Marsileaceae	Ganak Bundh, Adra Saheb Bundh, Nibaran Sayar, Buro sayar.	Juice of leaf is administered one teaspoon four times a day in diarrhoea. Paste of leaf is also applied in snake bite.
16.	<i>Nelumbo nucifera</i>	Padma	Nymphaeaceae	Adra Saheb Bundh, Nibaran Sayar, Joypur Rani Bundh, Nutan Bundh, Angarkhuri.	One teaspoon of decoction of flower mixed with a glass of water is regularly used as cardiac tonic and liver tonic. Paste of seed is applied to cure skin disease. Powdered rhizome is used externally to cure piles.
17.	<i>Nymphaea pubescens</i>	Saluk	Nymphaeaceae	Ganak Bundh, Purano Sayar, Buro Sayar, Joypur Rani Bundh, Nibarn sayar, Angarkhuri, Sayar Bundh.	Leaves are soaked over night and one glass of this preparation is taken in the morning for 4-6 days in dysentery and other intestinal disorder. The decoction of leaf is also used in irregular menstruation.
18.	<i>Nymphoides indicum</i>	Panhar	Menyanthaceae	Adra Saheb Bundh, Nibaran Sayar, Joypur, Rani Bundh, Sayar Bundh, Ganak Bundh.	One table spoon of paste of leaves is mixed with one glass of water and is used once a day in jaundice and fever.
19.	<i>Potamogeton nodosus</i>	Kalay Pata	Potamogetonaceae	Adra Saheb Bundh, Angarkhuri, Ganak Bundh.	Leaves are used as vegetables.
20.	<i>Polygonum glabarum</i>	Pukur Mul	Polygonaceae	Ganak Bundh, Purano Sayar, Buro Sayar, Angarkhuri, Raja Bundh.	Half cup of decoction of whole plant is used twice daily in fever, infusion of leaf relieves patient from colic pain.
21.	<i>Trapa bispinosa</i>	Paniphal	Trapaceae	Ganak Bundh, Sayar bundh.	Fruit is non-endospermic, edible and sweet in taste. Its most notable nutritive component is iron.
22.	<i>Typha sp.</i>	Hoogla, Kam	Typhaceae	Ganak Bundh, Buro Sayar, Angarkhuri.	Leaves are used in making mats, as fuel, for thatching hut and for fencing.

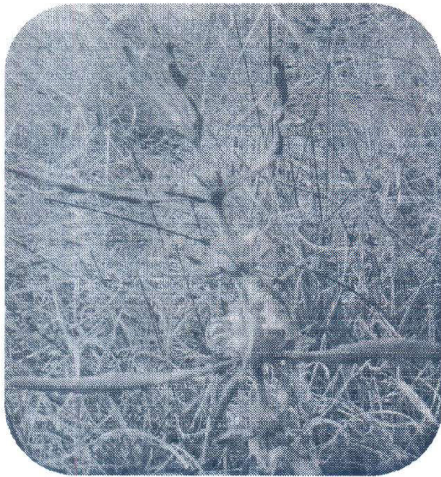
Plate-1



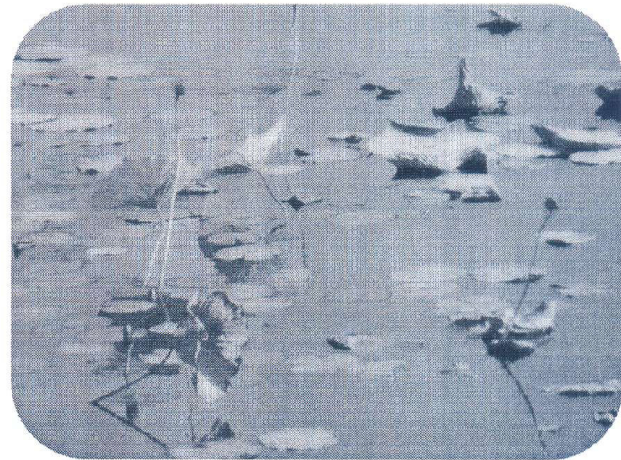
Nymphoides indicum



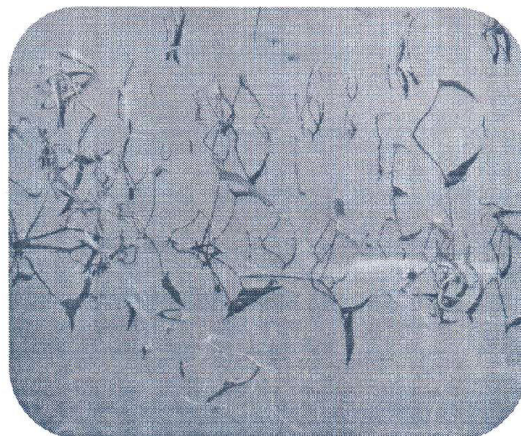
Nymphaea pubescens



Astercantha longifolia



Nelumbo nucifera



Ipomoea aquatica