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Ethnobotanical studies of aquatic flora of Jamtara District of Jharkhand, India.

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Abstract : Present study show very remarkable and significant footing in the pond ecosystem. Study on ethnobotanical and medicinal aspects includes the local survey of some of the major aquatic vegetation and their utilization by the native inhabitants. The study shows that in addition to use in the field for food, pollution control, compost and production of bio-energy, aquatic plants have been playing very determining and decisive role in the field of medicine since the ancient period. The present work is the compilation and documentation of the aquatic plants used for medicinal purpose. However it is not so easy to estimate ethnobotanical aspect of aquatic plants but through this research paper I have tried to make people of Jamtara district of Jharkhand state make aware about their economic importance.

Key words: Ethnobotanical studies, Aquatic plants, ancient period, documentation.

INTRODUCTION

Human beings have been using plants as drug to cure various kinds of diseases since ancient period. . Utilization of plants in the field of medicine is as old as human race itself. They are using various plant parts like roots, stem, leaves, flowers, fruits and seeds or whole plant for treatment of different kinds of ailments since Rigvedic period. Aquatic flora are being used for preparing many of the ayurvedic, unani, traditional and homoeopathic medicines. Ethnobotany is really the work of how the people of a specific community and area use flora for various purposes. The research work done on aquatic flora by Bishwas and Sampatkumaram (1949), Jha (1965), Sinha and Verma (1988), Nath (1989) and many more, have not made adequate study on the role of aquatic plants in the field of ethnobotany. Some research scholars like Sahu and Sarkar (2002) have made survey of angiospermic aquatic flora of Jamtara district but their study is mainly confined on floristic and ecological aspects and not on ethnobotanical aspects. No doubt aquatic plants have mostly been treated as weeds and troublesome both for the environment and mankind but they have been proved to be beneficial in various ways and their use in the field of medicine is tremendous and worth mentioning. The area of study is concentrated to mentain a record of native aquatic medicinal plants by enlisting and documention with addition of their therapeutic value. It has been tried to make this work to be milestone for the ethnic community. The present research work is a part of exhaustive ethnobotanical survey conducted in and around Jamtara district of Jharkhand state.

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MATERIALS AND METHODS

Jamtara district lying between 23°102 and 24°052 north latitudes and 86°302 and 87°152 east longitudes is located at a lower altitude of Chhotanagpur Plateau. The present study is a part of regular field tours of some of the major water bodies of this locality for collection of aquatic flora. There are many more water bodies in the district of Jamtara and most of the people of this area are dependent on ponds for their daily need. In present study 8 ponds of study area were taken into consideration(Table-I) and they were visited fortnightly for collection

of plants and preparation of herbaria for further study. Some of the local residents having more experience and knowledge in this field viz. Mahadeo Ghiwar, Mahendra Soren, Sudhir Bawri, Neelamoy, Rita Sarkhel, Shirshashish Das and Priyaranjan Sinha were also consulted for preliminary identification of plants and their frequent utilization. The samples were identified and published as per the guidelines of Botanical Survey of India. Plants were dried and preserved by using standard herbarium techniques. Botanical names, common names, families, parts used and their local and ethnomedicinal uses were also recorded.

Table I : List of the ponds studied

Raja Bandh talab	Sarkar Bandh talab
Kishori talab	Chat talab, sahna
Sunday lake chittaranjan	Mejia talab
Ghosh bandh talab	Gaichhand talab

RESULTS AND DISCUSSION

The result of present research work is presented in Table- II. A total of 18 hydrophytes belonging

to 16 families were found to be used frequently in the area of Jamtara district. Out of which 17 members were found to be angiosperm and one from Pteridophyta. The menber of Pteridophytes viz. *Marsilea quadrifolia* L. commonly known as "European water clover" or "Sushni" being diuretic in nature, is used very frequently both as medicinal and food . Among the other members *E.crassipes, Nelumbo nucifera* and *Hydrilla verticillata* are used very frequently inspite of being pernicious and troublesome both for nature and mankind. They were found to be used to cure various diseases and disorders. As we know ethnobotany is a specific field dealing with association of mankind with plants. In this work much more stress have been given upon local and experimental use of ethnobotanically important plants. Some of the plants were seen having diuretic properties while some having astringent properties. Water hyacinth is reported to be a good antioxidant (Lata et al 2010). The people of ethnic community of Jamtara district have been using such kinds of useless and unwanted plants both for food and in treatment of some of the common diseases like cold, fever, insect bites and earn money too. The earlier studies on aquatic flora have discussed only about the negative role of most of the aquatic flora and so many suggestions have been given for their control but this work has presented very clear picture of their positive sites and it has also been suggested to take necessary steps for their preservation to maintain ecological balance.

Annexure I :
Antioxidant : used to increase immunity and disease resistance capacity.
Astringent : Chemical used to shrink or constrict body tissue.
Anti-inflammatory : chemical used to stop pain.
Anti arthritis : chemicals used to relieve joint pain.
Antiseptic : chemical used to prevent microbial infection.
Anemia : Lack of blood.
Cardiac : Heart related problem.
Dyspepsia : Indigestion
Earache ; Ear pain.
Laxative : purgative
Purgative : purifier.
Tympanis : ear related problem.

Table II :- List of aquatic plants having ethno botanical properties

Sl. No	Family	Botanical Name	Common Name	Parts Used	Medicinal Uses
1.	Apiaceae	*Centella asiatica*	Gota kola	leaves	Used in skin diseases like eczema, psorisis, nervousness, spasmodic pain, amoebic dysentery, improves memory
2.	Araceae	*Pistia stratioles*	Topapana	Leaves, root	Anti-arthritis, anti-inflammatory skin disease
3.	Asteraceae	*Enhydra fluctuans*	Hingcha, harkuch	leaves	laxative
4.	Amaranthaceae	*Alternanthera sessilis*	Garundi garoo	Stem, leaves	Eye problem, skin infection, blood vomiting
5.	Ceratophyllaceae	*Ceratophyllum demursum* L.	Jhanjhi	leaves	Insect bite
6.	Convolvulaceae	*Ipomea aquatica*	Kalmisag	leaves	Purgative, blood purifier
7.	Cyperaceae	*Cyperus rotundus*	Mutha grass	Root, Whole plant	Diarrhea, vomiting, fever, pain, leprosy
8.	Hydrocharitaceae	*Hydrilla verticillata*	Jhangi	leaves	skin infection, boils, healing of wounds
9.	Hydrophyliaceae	*Hydrolea zeylanica*	Kassachara	leaves	Antiseptic, ulcer, constipation
10.	Lamnaceae	*Lemna minor* L.	Pancha	leaves	In treatment of cold, urinary problem, measles and other skin diseases
11.	Marseliaceae	*Marselia quadrifolia*	Susni saag	leaves, petiole, whole plant	relieves hypertension, sleep disorders, headache, migraine pain, cough and other respiratory troubles
12.	Menyanthaceae	*Nymphoides indicum*	Kumudni	leaves	In fever and jaundice
13.	Nymphaceae	*Nymphaea nauchali*	Neela kamal	leaves	Anti-inflammatory, used in Dysentery and menstruations disorders,
14.	Nymphaceae	*Nelumbo nucifera*	Kamal	flowers, root, seed	flowers are used in cardiac problem, liver trouble and fever. Seeds in skin diseases
15.	Oxalidaceae	*Oxalis corniculata*	Amrul Indian sorrel	leaves	Antiseptic, astringent, used in dyspepsia, piles, anemia and tympanis
16	Onagraceae	*Ludwigia perennis*	Labangi	root	used in delivery fever, headache and earache.
17.	Pontederiaceae	*Eichhornia crassipes*	Jalkumbhi	leaves petioles	Antioxidant, astringent, skin diseases
18.	Ranunculaceae	*Ranunculus scleratus*	Jaldhania	leaves	used in diarrhea, dysentery and to cure pain

CONCLUSION

On the basis of above mentioned facts it may be concluded that native people of any area must be acquainted with floral biodiversity and conservation to preserve extinct and rare species. They also should be endowing with the ethno-botanical aspects of the local flora. It is suggested much more research work should be done in the field of ethnobotany for welfare of the mankind.

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