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VASCULAR HYDROPHYTIC MEDICINAL PLANTS OF MORIGAON DISTRICT, ASSAM

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ABSTRACT

Plants which grow in wet places or in water either partly or wholly submerged are called hydrophytes. The present study is an attempt to highlight the medicinally important vascular hydrophytic plants used by the people of Morigaon District. For the purpose, a survey has been carried out in different regions of Morigaon District during August 2012 to July 2014 along with the discussions with fishermen, fodder collectors and local communities nearby the wetlands. They utilize different hydrophytic plant species for various diseases. This study recorded 34 species of vascular hydrophytic plants of medicinal value.

KEYWORDS: Vascular, Hydrophytes, Medicinal plants, Morigaon District

INTRODUCTION

The Northeastern region is one of the richest biodiversity areas. The Morigaon District of Assam harbours a good number of medicinal plant species. Although it is the second smallest district of Assam but it has 183 numbers of wetlands covering an area of 11658.00 hectors. It is situated between 2605´N to 2605´N latitude and between 920 - 9505´E longitude . The Brahmaputra marks northern boundary and the killing, kolong and Kapili rivers drain the southern part of the district. It experiences medium to high rainfall. The temperature is moderate ranging from 13o C to 350 C. The pH of soil ranges from 4.5 to 6.8.

From the time immemorial human being have used the plant species for the treatment of different types of diseases. People of the district use different plants traditionally for curing the ailments in their day to day life. Some of them are vascular hydrophytic . As the modern civilization has now spread to most regions of the world, it has made most of the primitive societies to break away from their culture and tradition has brought about a disintegration of knowledge and practices of plants in their daily life. Before these people completely lose their knowledge of medicinal value of plants forever, there is an urgent need to record such plants through investigation, documentation, systematic study for the benefit of mankind. Therefore an attempt has been made to conserve and document this vanishing knowledge of the medicinal properties of the plants used by the inhabitants of Morigaon district of Assam.

Floristic composition works in the North east India have been carried out by some workers, while many others have worked on medicinal uses of plants of North East India , Assam among tribes of Mikir Hills, Bodo, Mishing for different purposes. This paper enumerates medicinal uses of vascular hydrophytic plants by the people of Morigaon District of Assam.

METHODS

To study the medicinally important vascular hydrophytes, intensive field work has been carried out during August 2012 to july 2014 covering almost all the season of the year. Collected specimens were processed through the conventional techniques (Jain & Rao) and mount on herbaria sheaths for proper identification and preservation. The methodology followed during field work was based mainly on detailed questionnaires. The Questionnaires were prepared to record the

locale name of the plant species, parts used, purpose of uses and method of application etc. The informations are collected from fishermen, fodder collectors, local medicine practitioners and local communities nearby the wetlands. Tribal markets or weekly bazaar were also visited to study the plants and plant products sold there.

Plants were identified using some relevant floras, standard literature and by matching the specimens in the Herbaria of the Department of Botany of Cotton College, Herbaria of the Department of Botany, Gauhati University and also at Botanical Survey of India at Shillong.

RESULTS

Morigaon District is not only rich in biodiversity but also rich in its cultural heritage. It is a land of multiculture with large number of ethnic tribes. Tiwa, Bodo, Karbi etc. tribes have their own traditional health care systems. They have used some particular crude plant extracts to treat patients. During the present study 34 vascular hydrophytic medicinal plants species were collected from different wetlands of Morigaon District like Doikhuwa, Bormonoha , Charon , Muribeel, Udori, Koliajari beel etc.. The information regarding scientific name , local name, family, ecological groups and medicinal uses for every plant species are enumerated in Table 1. Out of these, 26 species are emergent, 6 species are rooted with floating leaves, one species is submerged and one species is free floating.

Table 1: Vascular Hydrophytic Medicinal Plants Used by People of Morigaon District of Assam

Sl. No.	Scientific Name	Local Name	Family	Ecological Groups	Medicinal Uses
1	Acorus calamus Linnaeus	Bonsh	Araceae	Emergent	Rhizome used as anti inflammatory, sudorific, antiseptic, insecticidal. It is also used in dyspepsia, epilepsy and dysentery.
2	Alternanthera philoxeroides (Mart.) Grisebach	Tita helonsi	Amaranthaceae	Emergent	Juice of twigs and leaves is used to cure worm problem. Paste is also applied on wounds of cattle.
3	Alternanthera sessilis (Linnaeus) DC.	Mati kanduri	Amaranthaceae	Emergent	Twig used in leprosy, skin diseases and in jaundice.
4	Centella asiatica (Linnaeus) Urban.	Manimuni	Apiaceae	Emergent	Entire plant is taken as vegetable or in curries considered to be restorative for women after child birth. Past also used as antiseptic in wounds.
5	Ceratophyllum demersum Linnaeus	Sirolia	Ceratophyllaceae	Submerged	Entire plant's paste is used in insect biting and as cooling agent.
6	Ceratopteris thalictroides (Linnaeus) Brongn.		Pteridaceae	Rooted floating	Entire plant paste with turmeric applied over the wounds and skin diseases.
7	Colocasia esculenta (Linnaeus) Scholl.	Kosu	Araceae	Emergent	Curry made from corm, stolon flower, young leaves with petiole used in encourage in breast milk production. hemorrhoids, congestion. The curry is also used as remedy for piles.
8	Commelina diffusa Burm.f	Kona simolu	Commelinaceae	Emergent	Leaves and Stem juice is applied to stop bleeding.
9	Cyperus corymbosus Rottboell	Ghah bon	Cyperaceae	Emergent	Paste applied on affected bone for fast relief of pain.
10	Eclipta prostrata Linnaeus	Kehraaj	Asteraceae	Emergent	The aqueous extract of the stem and leaves is used to cure pain and jaundice. Paste is also used in wounds and skin disease of cattle. Leaf juice mixed with coconut oil is applied to cure white spots due to burning.
11	Enhydra fluctuans Loureiro	Alencha	Asteraceae	Emergent	Leaves paste with mustered oil is applied on chest to cure bronchitis.
12	Grangea maderaspatana Linnaeus		Asteraceae	Emergent	Plant paste with cow milk and suger is used to cure menstrual disorders. Leaf paste is also used in stomach pain.
13	Ipomoea aquatic Forsk.	Kolmou	Convolvulaceae	Emergent	Used as antidiabetic. Leaves extract is used in religious functions with 'mah Halodhi'. The leaves are purgative and are used to purifyblood.
14	*Jussiea repens* Linnaeus	Pani khutura	Onagraceae	Emergent	Leaf juice is used in skin diseases.

Table 1: Contd.,

15	*Limnophila rugosa (Roth) Merr.*	Bhringaraj	Scrophulariaceae	Emergent	Leaf paste with leaves paste of Tulsi and suger is given orally to cure urinary burning
16	*Lindernia antipoda*	Kasidorea	Scrophulariaceae	Emergent	Stem and leaves juice is used to expel ring worm.
17	*Ludwigia octavalvis* (Jacq.) Raven Hel	Pani jolokia, jui anguli	Onagraceae	Emergent	Leaves juice is used to expel worm.
18	*Mardannia loriformis(Hassk)Rao & Kam*	Digholi kona	Commelinaceae	Emergent	Plant juice is used in eyelid boil
19	*Marsilea quadrifolia* Linnaeus	Pani tengesi	Marsileaceae	Rooted with floating leaves	Leaves juice is used in snakebite. Leaves paste is also used in diarrhea
20	*Monochoria vaginalis* Burm. F.) Presl ex. Kunth	Bhat meteka	Pontederiaceae	Emergent	Roots are used in toothache. Rhizome and flower are also used in empty stomach to cure asthmatic problem.
21	*Nymphaea nouchalli* Burm. F.	Boga bhet, Shelook	Nymphaeaceae	Rooted with Floating leaves	Roots used in heart palpitation.Rhizome is used as raw in dysentery.
22	*Nymphaea pubescens Willd.*	Ronga bhet, ronga Shelook	Nymphaeaceae	Rooted with floating leaves	Juice of rhizome is used in blood dysentery
23	*Nymphoides cristatatum (Roxb) O. Kuntze*	Pan chuli	Menyanthaceae	Rooted with floating leaves	Leaves juice is used in jaundice and skin diseases.
24	*Oenanthe javanica* (BL) DC	Pan tarori	Apiaceae	Emergent	Entire plant extract is also used in fever.
25	*Pistia stratiotes* Linnaeus	Bor puni	Araceae	Free floating	Entire plant used as bio fertilizer. Leaves Juice is used in asthma and skin diseases.
26	*Polygonum hydropiper*	Bihlongoni	Polygonaceae	Emergent	Leaves paste used externally to reduce pain. Whole plant extract is also used as poison to catch fish in hole.
27	*Polygonum orientale* Linnaeus	Bihlongoni	Polygonaceae	Emergent	Concentrate infusion of plants used to poison fish, juice prescribed for tubercular swellings and in acidity.
28	*Ranunculus sceleratus* Um.	Pani lopha	Ranunculaceae	Emergent	Used externally for rheumatism. Irritating to skin i.e. causes pain and burning sensations.
29	*Rubus moluccanus*	Jetulipoka	Rosaceae	Emergent	Leaf extract is used in early morning to reduced headache
30	*Rumex maritimus*	Bon paleng	Polygonaceae	Emergent	Whole plant used to cure stomach pain.
31	*Sagittaria sagittifolia* Linnaeus	Pani kosu	Alismataceae	Emergent	Leaves extract is used as antiseptic and used as antidote for insect bites.
32	*Spilanthes calva* Wall, ex Dc.	Morisha	Asteraceae	Emergent	Tender twigs used in cough.
33	*Trapa natans* Linnaeus	Pani shingori	Trapaceae	Rooted with floating leaves	The seeds are eaten raw as they are rich in starch. Fruits are useful in vitiated conditions of liver, burning sensation, dyspepsia
34	*Xanthium strumarium* Linnaeus	Agora	Asteraceae	Emergent	Seed paste is used to cure pain. Leaves past used in malaria. The plant is also burned in time of “jak diya” in ‘Goru Bihu’as incect repellent.

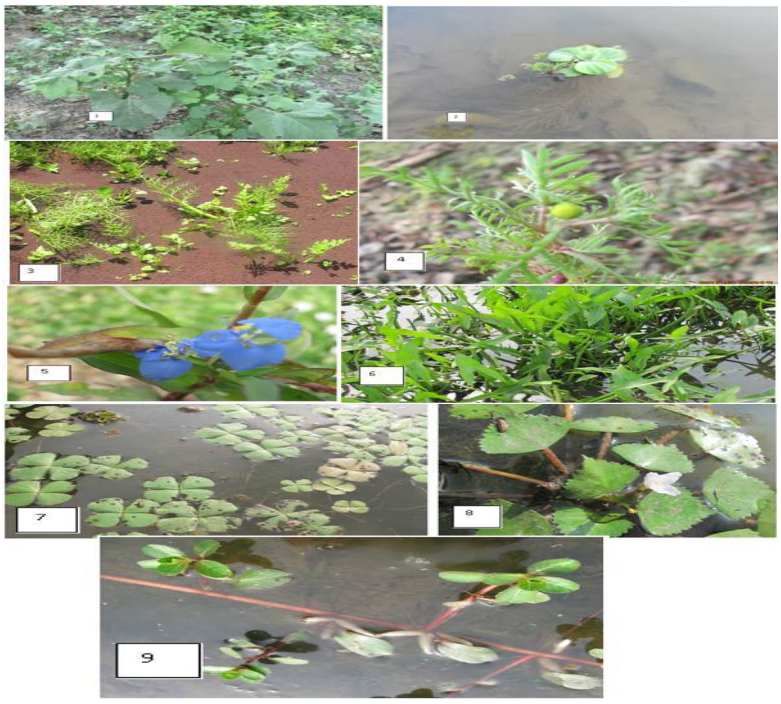

Figure 1: Xanthium Strumarium Linnaeus, 2. Pistia Stratiotes Linnaeus, 3. Ceratopteris Thalictroides Linnaeus Brongn., 4. Grangea Maderaspatana Linnaeus., 5. Commelina Diffusa Burm.f, 6. Sagittaria Sagittifolia Linnaeus, 7. Marsilea Quadrifolia Linnaeus , 8. Trapa Natans Linnaeus., 9. Jussiea Repens Linnaeus

DISCUSSIONS

Most of the plant species used by the local people for medicinal purposes have vast economic importance. It is necessary to screen the chemical constituents of each and every species. Immidiate attention on preservation, protection and conservation measures of rare, threatened and endangered plants and ethno medicinal uses of the district should be given so as to save the plants from destruction and for the benefit of local people. Many existing hydrophytes which have assumed the status of weeds can be gainfully utilized for getting useful chemical derivatives of medicinal importance for direct human benefit. There were no sufficient scientific record of doses of the application . Without proper identification of phytoactive particles, their nature of action and their strength, the use of herbal medicine is not safe. But vast potentiality of ethno pharmacological research is there in Assam for establishing a standardized herbal therapeutic system as an alternative to modern synthetic drugs. In Morigaon District of Assam, there are so many plants whose medicinal value are not known properly, which may be the source of medicines of deadly diseases like cancer, AIDS, Hepatitis etc.

CONCLUSIONS

A comprehensive phytochemical investigation of those studied plants would be a handy work for the invention of future eco- friendly drug. A serious awareness is needed be raised among the locale people on sustainable utilization and management of the plant resourses.

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