

Some hepatoprotective ethnomedicinal plants used by Manipuri community in Barak valley, Assam, India

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Abstract

Recent survey to explore the ethnomedicinal plants used by Manipuri community of Barak valley, Assam for hepatoprotection recorded 25 species belonging to 25 genera and 22 families using structured questionnaires in consultations with the community practitioners. For curing liver ailments, the use of aboveground plant parts was higher (80%) than the underground plant parts (8%). Of the aboveground plant parts, leaf was used in the majority of cases (10 species), followed by whole plant (5 species), fruit (4 species), bark (3 species), stem (2 species) and seeds (1 species). Root of one species was also used by them to protect their livers.

Key words: Manipuri community, Barak valley, Hepatoprotective plants, Traditional Knowledge.

INTRODUCTION

Hepatoprotectivity means protection of liver - the largest gland of the body. This important organ can be caused by (a) drugs, (b) viruses, (c) bacteria, (d) mushrooms and (e) parasites. The most common disease of liver is the hepatitis.

Southern Assam is one of the remotest parts of N.E India and is also equally significant so far as the medicinal plant research is concerned. Many traditionally formulated medicines are available here for treating different types of diseases like Hepatitis, cancer, ulcer etc. from generation after generation. The state of Assam comprises two valleys namely the Brahmaputra valley and Barak valley. The Barak valley is the southernmost part of the Assam lying approximately at 24° N to 25° N latitude and 92° E to 93° E longitude. Three districts of Assam, Cachar, Karimganj and Hailakandi are located in Barak valley. The inhabitants of these areas are Bengali, Hmar, Manipuri, Kuki, Dimasa, and other different groups of tribal people. Manipuri is a Mongolian type of community inhabited in 18 villages of these three districts. To cure their different diseases, even today, they depend on their traditional knowledge on medicinal plants. Some of the works related to the medicinal plants of Barak valley, Assam include ethnomedicinal uses of plants by Manipuri and Barman communities of Cachar district, Assam (Das *et al* 2003), diversity and conservation of medicinal plants in Barak valley, Northeast India (Barbhuiya *et al* 2009), environment ethics in the culture of Meeties from North east India (Singha *et al* 2001), Traditional use of medicinal plants by the Jaintia tribes in North Cachar Hills district of Assam, N.E. India (Sajem *et al* 2006), some observations on the status of medicinal plants of Barak valley, economic development of Assam (Bhattacharya 1998), ethnobotany of Barak Valley (Southern Assam) with special reference to folk medicine (Nath & Maiti 2003), Flora of Assam Vol. I-IV (Kanjilal *et al* 1934 – 1940), ethnogynaecological records from the state of Assam (Gogoi *et al* 1979), etc. are important.

The medicinal importance of plants of Assam and other states of N.E. India is well known and a good number of well documented publications are available including Bor (1940), Deb (1968), Devi (1990), Kumar (2002), Caius (2003), Nath & Maiti (2003), Pandey, *et al.* (2006), Vardhana (2008), and Tiwari *et al* (2009).

The published works concerned with the ethnobotany of Manipuri community of Barak valley of Assam is comparatively very less. The present work represents particularly the hepatoprotective ethnomedicinal plants used by the Manipuri community in Barak valley of Assam.

METHODOLOGY

The field survey was carried out during 2007 to 2008 covering all seasons to collect information on the hepatoprotective plants used by the Manipuri people inhabited villages of Bibigram, Gobindonagar, Lakhipur, Jaribond, Wapokpi, Echaper and Katlicherra located in the three districts of the Barak Valley, Assam. Plants have been collected in their flowering and fruiting stages as far as possible from the natural habitat. Notes were taken regarding the location, habitat, distribution pattern, nature of roots, tubers, bulbs or rhizomes, etc. Specimens were processed into mounted herbarium sheets following Jain & Rao (1977).

Methodologies as suggested by Schultes (1960, 1962), Jain (1964, 1967, 1987, 1989) and Ford (1978) have been followed using collection of information on ethnobotanical aspects. The informations have been gathered from the elderly villagers, local medicine-men, both men and women and cultivators using semi-structural questionnaires. Queries have been made repeatedly, occasionally taking the help from interpreters. Confirmation of data on each medicinal plant has been done through cross-checking. Queries include: (a) SI no. (b) Botanical name (c) Family (d) Local name (e) Parts used (g) Process of utilization (h) Established reports of utilization.

The plants were identified by consulting different floras especially *Flora of British India* (Hooker 1872 – 1897), *Flora of Assam* (Vols. 1 – 4 by Kanjilal *et al* 1934 – 1940 and Vol. 5 by Bor 1940), *Flora of Tripura State* (Deb 1981, 1983), and matching at Assam University herbarium. After completion of the work sets of identified herbarium sheets have been deposited at the Herbarium of the Assam University Silchar.

RESULT AND DISCUSSION

Altogether 25 species of hepatoprotective plants belonging to 24 families were recorded during the survey. Except Cucurbitaceae (2 spp.) all other families are represented by one species only. Table 1 presented these plants alphabetically along with their local and scientific names, families, parts used, and mode of use.

The use of the aerial plant parts was higher (80%) than the underground plant parts (8%). Of the aboveground plant parts, leaf was used in the majority of cases (10 species), followed by whole plant (5 species), fruit (4 species), bark (3 species), stem (2 species) and seeds (1 species). Root of one species was also used by them to protect their livers. Of these *Neptunia oleracea* is a rare aquatic sensitive plant, *Lycopodium annotinum* is a rare pteridophyte and *Trichosanthes dioica* is a commonly cultivated crop plant. A cross check of the literature on the medicinal uses of local plants revealed that except *Cinnamomum obtusifolium* remaining 24 species recorded here are otherwise also known for their medicinal uses (Bor 1940; Deb 1968; Devi 1990; Kumar 2002; Caius (2003); Pandey *et al* 2006 and Vardhana 2008).

The efficacy of the recorded plants is not clear. It was not possible to contact any patient during the survey but the practitioners of local folk medicines claim that all the patients gets cured if they complete the entire course of treatment.

However, proper scientific evaluation of these plants is required to understand their efficacy and/or usefulness.

Table I: Hepatoprotective ethnomedicinal plants used by the Manipuri community in Barak valley of Assam

Botanical name [Family]	Local name	Plant Parts Used	Process of utilization
<i>Aegle marmelos</i> (L.) Correa [Rutaceae]	<i>Heirikhagok</i>	Tender leaves	Taken orally with milk in the morning in jaundice
<i>Aloe barbadensis</i> Miller [Asphodelaceae]	<i>Dhriti kumar</i>	Leaves	Juice taken orally
<i>Argemone mexicana</i> L. [Papaveraceae]	<i>Khomthokpi</i> .	Leaves	Taken fresh orally

Botanical name [Family]	Local name	Plant Parts Used	Process of utilization
<i>Azadirachta indica</i> A. Jussieu [Meliaceae]	<i>Neem</i>	Leaves	Fried in oil and taken orally in jaundice
<i>Benincasa hispida</i> (Thunberg) Cogniaux [Cucurbitaceae]	<i>Torbot</i>	Fruit	Boiled in water and taken orally in jaundice
<i>Bixa orellana</i> L. [Bixaceae]	<i>Ureirom</i>	Leaves	Crushed leaves taken orally in jaundice
<i>Carica papaya</i> L. [Caricaceae]	<i>Awathab</i>	Fruits	Crushed leaves taken orally
<i>Cajanus cajan</i> L. [Fabaceae]	<i>Arhar haoi</i>	Tender leaves	Crushed leaves taken orally
<i>Centalla asiatica</i> (L). Urban [Apiaceae]	<i>Peruk</i>	Whole plant	Boiled in water and extract taken orally in jaundice
<i>Chenopodium ambrosioides</i> L. [Chenopodiaceae]	<i>Monshaobi</i>	Leaves	Crushed leaves taken orally
<i>Cinnamomum obtusifolium</i> Nees [Lauraceae]	<i>Ram tejpat</i>	Bark	Dried, powdered and taken orally in jaundice
<i>Cuscuta reflexa</i> Roxburgh [Cuscutaceae]	<i>Swarnalata</i>	Plant	Boiled in water and extract taken orally in jaundice
<i>Garcinia cowa</i> Roxburgh [Clusiaceae]	<i>Heibung</i>	Young fruit	Eated fresh
<i>Lycopodium annotinum</i> L. [Lycopodiaceae]	<i>Club- mosses</i>	Whole plant	Crushed and taken orally
<i>Mentha arvensis</i> L. [Lamiaceae]	<i>Nungshihidak</i>	Leaves	Extract or paste taken orally in jaundice
<i>Neptunia oleracea</i> Loureiro [Mimosaceae]	<i>Ekaithabi</i>	Leaves	Fresh leaves crushed and taken orally in jaundice
<i>Nyctanthes arbortristis</i> L. [Oleaceae]	<i>Singgralei</i>	Bark and roots	Dried, powered and taken orally in liver complaints
<i>Pavetta indica</i> L. [Rubiaceae]	<i>Kukurchura</i>	Roots	Dried, powered and taken orally in jaundice
<i>Phlogacanthus thyrsiflorus</i> (Roxburgh) Nees [Acanthaceae]	<i>Nongmangkha amubi</i>	Leaves	Fresh or fried taken orally in jaundice
<i>Punica grantum</i> L. [Punicaceae]	<i>Kamphoi</i>	Seeds	Taken orally with honey in liver problems
<i>Saccharum officinarum</i> L. [Poaceae]	<i>Chu</i>	Stem	Juice taken orally during day time in jaundice
<i>Saraca indica</i> Roxburgh [Caesalpiniaceae]	<i>Ashok</i>	Stem	Extract taken orally in jaundice
<i>Terminalia arjuna</i> (Roxburgh) Wight & Arnott [Combretaceae]	<i>Arjun</i>	Bark	Dried, powered and taken orally with milk in liver diseases
<i>Tinospora cordifolia</i> (Wildenow) Miers [Menispermaceae]	<i>Ningthou- khongli</i>	Whole plant	Extract taken orally against enlarged liver
<i>Trichosanthes dioica</i> Roxburgh [Cucurbitaceae]	<i>Kwakthabi</i>	Fruits	Fresh fruits taken orally in jaundice

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