Some medicinal plants of the Rema-Kalenga Wildlife Sanctuary in Habiganj District, Bangladesh


Abstract

Rema-Kalenga Wildlife Sanctuary is located at Chunarughat of Habiganj district, Bangladesh. The sanctuary is noted for its availability of rare floral species. An ethnomedicinal survey conducted among the local population residing in areas adjoining the Sanctuary area revealed the presence of three folk medicinal practitioners (FMPs) who used plants from inside and adjoining areas of the sanctuary to treat ailments. The FMPs practiced folk medicine essentially on a part-time basis and information on only ten medicinal plants distributed into ten families were obtained from them. However, these plants contained rare species with no known ethnomedicinal reports on them, at least from Bangladesh. It is expected that the plants not only will add to the list of medicinal plants in Bangladesh but also prove to be a rich source of scientific research and possible drug discovery.

Keywords: Ethnomedicine, folk medicine, Rema-Kalenga, Bangladesh

1. Introduction

Rema-Kalenga Wildlife Sanctuary is located at Chunarughat in Habiganj district, Bangladesh. It occupies an area of 1795.54 hectares and is among the very few undisturbed places of the country where the primary vegetation and floral species has not been disturbed. The Sanctuary is said to contain a number of rare or endangered plant species. We had been documenting the medicinal plants of Bangladesh as used by folk medicinal practitioners (FMPs) and tribal medicinal practitioners (TMPs) on a systematic basis [1-18], since such documentations has so far been largely absent in the country. FMPs and TMPs are among the ancient traditional medicinal practitioners of Bangladesh and scientists can be enriched with knowledge of their traditional phytotherapeutic practices. As such, the objective of the present study was to conduct an ethnomedicinal survey among the FMPs practicing in adjoining areas of the Rema-Kalenga Sanctuary.

2. Materials and Methods

The survey was conducted in the latter part of 2016 in three villages, which falls around the southeastern part of the Sanctuary. The three villages had three folk medicinal practitioners (FMPs), namely Mohammad Moin Uddin, Mohammad Babul Mia, and Mohammad Rafiq Mia. All three FMPs were male and practiced folk medicine on a part-time basis and used plants collected from within and outside the Sanctuary for treatment. Prior Informed Consent was first obtained from the FMPs. They were thoroughly apprised as to the nature of our visit and consent obtained to disseminate any information both nationally and internationally. Actual interviews were conducted in the Bengali language, which was spoken fluently by the FMPs as well as the interviewers. The interviews were conducted with the help of a semi-structured questionnaire and the guided field-walk method of Martin [19] and Maundu [20]. In this method the FMPs took the interviewers on guided field-walks through areas from where they collected their medicinal plants, pointed out the plants, and described their uses. All plant specimens were photographed and collected on the spot, pressed, dried and brought back to Bangladesh National Herbarium at Dhaka for identification, deposition, and obtaining accession numbers.
Voucher specimens were also deposited with the Medicinal Plant Collection Wing of the University of Development Alternative.

3. Results and Discussion

The FMPs between themselves were observed to use a total of thirteen plants in their phytotherapeutic practices. Three plants will be described in a later report and ten plants will be presented in this report. The ten plants were distributed into ten families, the families being Araceae, Asparagaceae, Asteraceae, Lauraceae, Menispermaceae, Myrsinaceae, Orchidaceae, Polygonaceae, Polypodiaceae, and Rutaceae. The plants were used to treat ailments like jaundice, bleeding from external cuts and wounds, gastrointestinal disorders, fever, skin disorders, decreased sexual strength, jaundice, coughs, and rheumatic fever. One plant each was used as snake repellent and mosquito repellent.

The FMPs used very simple formulations. Usually, juice obtained from single plant or plant part was orally or topically administered. A single plant part may be used for treatment of single or multiple diseases. For instance, roots of Drynaria quercifolia were used to treat jaundice, coughs, and rheumatic fever. It was interesting that within these ten plants used by the FMPs, four were used for treatment of jaundice. Although no survey was done in the area regarding prevalence of jaundice, the number of plants used to treat jaundice probably indicates that jaundice may be fairly prevalent in areas around the Rema-Kalenga Sanctuary. The four plants that were used to treat jaundice were Amorphophallus bulbifer, Persicaria serrulata, Drynaria quercifolia, and Micromelum minutum. With the exception of D. quercifolia and M. minutum, to our knowledge, any ethnomedicinal uses of the other two plants are reported from Bangladesh for the first time, not only to treat jaundice but to treat any disease. Also, the hepatoprotective effect of only D. quercifolia and has been described in the scientific literature [21], which validates the use of this plant by the FMPs to treat jaundice. In reported ethnomedicinal uses reported from outside Bangladesh, A. bulbifer is used for treatment of rheumatic muscular or joint pain by the Tripuri and Reang tribes of Tripura, India [22]. Roots of the plant are used to treat severe pain by the Mog community of Tripura State, India [23]. P. serrulata has no reported ethnomedicinal uses. M. minutum has been reported as a medicinal plant from Bangladesh, but no specific ethnomedicinal uses have been reported for the plant [24]. In another study, the plant has been reported to be used against fever by tribal people in Chittagong Hill Tracts region of Bangladesh, but no mention has been made of the tribes who use the plant, nor any formulations given as to mode of use or any other particulars [25].

Table 1: Medicinal plants and formulations of the FMPs from Rema-Kalenga.

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Scientific Name (Accession Number)</th>
<th>Family Name</th>
<th>Local Name</th>
<th>Parts used</th>
<th>Ailments and mode of medicinal use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amorphophallus bulbifer (Roxb.) Blume. (43827)</td>
<td>Araceae</td>
<td>Dakduma</td>
<td>Tuber</td>
<td>Jaundice. Tubs are cooked and eaten.</td>
</tr>
<tr>
<td>2</td>
<td>Sansevieria trifasciata Prain</td>
<td>Asparagaceae</td>
<td>Dudhraj</td>
<td>Leaf</td>
<td>Snake repellent. Leaves are kept inside homes.</td>
</tr>
<tr>
<td>3</td>
<td>Mikania cordata (Burm.f.) B.L. Rob. (43777)</td>
<td>Asteraceae</td>
<td>Refugee lota</td>
<td>Leaf</td>
<td>To stop bleeding from external cuts and wounds. Leaf juice is topically applied.</td>
</tr>
<tr>
<td>4</td>
<td>Litsea monopetala (Roxb.) Pers. (43767)</td>
<td>Lauraceae</td>
<td>Menda</td>
<td>Leaf, bark</td>
<td>Dysetery. Leaf juice is orally taken. Mosquito repellent. Bark is burnt to create smoke, which repels mosquitoes</td>
</tr>
<tr>
<td>5</td>
<td>Tinospora cordifolia (Willird.) Miers. (43770)</td>
<td>Menispermaceae</td>
<td>Poddo guruj</td>
<td>Stem with leaf</td>
<td>Chronic fever. Juice obtained from crushed stems and leaves is orally taken.</td>
</tr>
<tr>
<td>6</td>
<td>Ardisia colorata Roxb. (43826)</td>
<td>Myrsinaceae</td>
<td>Daud</td>
<td>Leaf</td>
<td>Eczema. Leaf paste is topically applied.</td>
</tr>
<tr>
<td>7</td>
<td>Bulbophyllum neillgerrense Wight (43775)</td>
<td>Orchidaceae</td>
<td>Ek pata ek fol</td>
<td>Fruit</td>
<td>To increase sexual strength, gastric disorders, to lessen anger. Fruits are taken orally.</td>
</tr>
<tr>
<td>8</td>
<td>Persicaria serrulata (Lag.) Webb &amp; Moq. (43766)</td>
<td>Polygonaceae</td>
<td>Bish katali</td>
<td>Whole plant, leaf</td>
<td>Jaundice. Juice obtained from crushed whole plant/leaves is orally taken.</td>
</tr>
<tr>
<td>9</td>
<td>Drynaria quercifolia (L.) J.Sm. (43768)</td>
<td>Polypodiaceae</td>
<td>Bandar mal</td>
<td>Root</td>
<td>Jaundice, cough, rheumatic fever. Root juice is orally taken.</td>
</tr>
<tr>
<td>10</td>
<td>Micromelum minutum (G. Forster) Wight &amp; Arn. (43828)</td>
<td>Rutaceae</td>
<td>Chagol ledi</td>
<td>Leaf</td>
<td>Jaundice. Leaf juice is orally taken till cure.</td>
</tr>
</tbody>
</table>

5. References


