Documentation of medicinal plants and its uses by Chang tribe in Tuensang District, Nagaland

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Abstract
The present study was carried out in the district of Tuensang, Nagaland which lies at 94.83° East Longitude and 26.28° North Latitude covering a total area of 4228 square kilometres. The study was conducted during July 2015 to June 2016. The distribution and abundance of these indigenous medicinal plants were recorded through consultation of the villagers and local traditional healers of Chang tribe of Tuensang District. In the present study, a total of 33 medicinal plants were documented and further the scientific names, common names, local names, family, habitat and medicinal uses were given.

Keywords: Chang tribe, medicinal plants, uses

Introduction
India is considered as one of 17 mega biodiversity centres in the world comprising of two hotspots regions viz; Western Ghats and Eastern Himalayas. The rich and diverse flora and fauna of India is an indication of the country’s wide range of environmental regimes. The country has wide ranging ecosystem from hot and humid tropics to alpine meadow. The total flora comprises over 45,000 species in the region. Out of which, 15000 are flowering plants having medicinal values and the rest non-flowering plants. The North-East India comprises of 50% of the India’s large biodiversity. The region is considered as the centre of speciation and is also the main centres for the origin of cultivated crops. This region has diverse natural resources which are useful to the people of the region and also serve as a platform for biodiversity interaction at different levels. Nagaland is the sixteen state of India and it borders the state of Assam to the west, Arunachal Pradesh and part of Assam to the north, Burma to the east and Manipur to the south. The state capital is Kohima and the largest city is Dimapur. It has an area of 16,579 square kilometres with a population of 1,980,602 per the 2011 Census of India. The state is inhabited by 16 major tribes – Ao, Angami, Chakhesang, Chang, Khammungan, Konyak, Lotha, Phom, Pochury, Rengma, Sangtam, Sumi, Yimchunger, Zeliang, Kuki and Kachari. Each tribe is unique in character with its own distinct customs, language and dress. Nagaland has basically an agricultural economy. Over 70% of the population is dependent on agriculture. The main crops are rice, millet, maize and pulses. Rice is the dominant crop and also the staple diet of the people. Of the gross cropped area under food grains, rice accounts for about 84.4%. The two methods of cultivation among the Naga tribes are jhuming and terrace cultivation. The area under jhum cultivation is about 87,339 hectares and under terraced cultivation is about 62,091 hectares. Nagaland with its varied agro-climatic conditions has several types of forest and is covered with coniferous trees, numerous broad leaved varieties of flora, medicinal plants, bamboos and it is therefore has immense potential to utilize and cultivate almost all varieties of medicinal and aromatic plants. The indigenous people of the state have vast knowledge of their plant resources as medicine and have been using over the years. However, very few studies were made available on the uses of medicinal plants from Tuensang district. In this regard, the present study is to document the information about the uses of medicinal plants by the Chang tribe of Tuensang district.

Materials and Methods
Study site
The present study was carried out in the district of Tuensang, Nagaland which lies at 94.83° East Longitude and 26.28° North Latitude covering a total area of 4228 square kilometres.
The two locations were; lower altitude of 800 metres above sea level at Noksen Block and the higher altitude of 1371 metres above sea level at Tuensang Sadar. The villages selected under Noksen Block were: Noksen and Litem and the villages selected under Tuensang Sadar were: Tuensang and Helipong. Comparing the two locations, the vegetation was sparse at Noksen Block due to frequent human activities and interference while the Tuensang Sadar has rich vegetation and denser forest.

**Method**

The survey was conducted in July 2015 to June 2016 in the selected villages through personal interviews and interaction about collection practices to ensure long-term survival of wild populations and their associated habitats. The information regarding the use of medicinal plants by the local traditional healers were recorded during the period. The medicinal plants were observed in the natural habitats in both the two locations and simultaneously the plants were collected for herbarium records.

**Result**

A total of 33 medicinal plants having 31 genera and 26 families were recorded in the present study. The information regarding the scientific names, common names, local names, families, habits, parts used and the therapeutic uses of the plants recorded were given in the Table -1.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Scientific name</th>
<th>Common name</th>
<th>Local name</th>
<th>Family</th>
<th>Habit</th>
<th>Part used</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allium Chinense</td>
<td>Japanese scallion</td>
<td>Lasing</td>
<td>Liliaceae</td>
<td>Herb</td>
<td>Bulbs and leaves</td>
<td>Stomachache, reduces cholesterol.</td>
</tr>
<tr>
<td>2</td>
<td>Amaranthus spinosus</td>
<td>Prickly amaranth</td>
<td>Pathak shik</td>
<td>Amaranthaceae</td>
<td>Herb</td>
<td>Whole plant</td>
<td>Laxative, antipyretic and pile problems.</td>
</tr>
<tr>
<td>3</td>
<td>Averrhoa carambola</td>
<td>Star fruit</td>
<td>Naleshik</td>
<td>Oxalidaceae</td>
<td>Tree</td>
<td>Fruits</td>
<td>Jaundice and astringent.</td>
</tr>
<tr>
<td>4</td>
<td>Begonia palmata</td>
<td>Begonia</td>
<td>Ampushik chipe</td>
<td>Begoninaceae</td>
<td>Herb</td>
<td>Roots</td>
<td>Astringent, haematemesis.</td>
</tr>
<tr>
<td>5</td>
<td>Cinnamomum camphora.</td>
<td>Camphor</td>
<td>Phoulu</td>
<td>Lauraceae</td>
<td>Tree</td>
<td>Whole plant</td>
<td>Muscular pain, rheumatism.</td>
</tr>
<tr>
<td>6</td>
<td>Cenilla asiatica.</td>
<td>Indian pennywort</td>
<td>Sangkhar</td>
<td>Umbelliferae</td>
<td>Herb</td>
<td>Whole plant</td>
<td>Rheumatism, skin disorder, Syphilis.</td>
</tr>
<tr>
<td>7</td>
<td>Colocasia esculenta</td>
<td>Cocoyam</td>
<td>Dongeik</td>
<td>Araceae</td>
<td>Herb</td>
<td>Corms</td>
<td>Insect sting, burns, injuries, internal haemorrhages.</td>
</tr>
<tr>
<td>8</td>
<td>Curcuma augustifolia</td>
<td>Hidden ginger</td>
<td>Thudli</td>
<td>Zingiberaceae</td>
<td>Herb</td>
<td>Rhizomes</td>
<td>Fever, jaundice, stomach ulcer.</td>
</tr>
<tr>
<td>9</td>
<td>Discentra scandens</td>
<td>Yellow bleeding heart</td>
<td>Phubai</td>
<td>Fumariaceae</td>
<td>Climb er</td>
<td>Tubers</td>
<td>High blood pressure, diabetes, malaria, dysentery.</td>
</tr>
<tr>
<td>10</td>
<td>Dolichos lablab</td>
<td>Hyacinth bean</td>
<td>Nyapashik</td>
<td>Fabaceae</td>
<td>Climb er</td>
<td>Whole plant</td>
<td>Fever, abdominal pain, antiseptic.</td>
</tr>
<tr>
<td>11</td>
<td>Eryngium foetidum</td>
<td>Long coriander</td>
<td>Tathonha</td>
<td>Apiaceae</td>
<td>Herb</td>
<td>Leaves</td>
<td>Jaundice, Liver disorders, skin diseases, condiments.</td>
</tr>
</tbody>
</table>

Fig 1: Map of Tuensang district, Nagaland.

Table 1: List of medicinal plants and its uses by the Chang tribe of Tuensang district, Nagaland.
During the study period, it was observed that the herbs are the most important medicinal plants which are used in large number by the local people, followed by the trees, shrubs and climbers (Figure-2).

![Bar diagram showing the uses of different medicinal plants.](image)

Fig 2: Bar diagram showing the uses of different medicinal plants.
Almost all the plant parts are used as medicine by the local traditional healers and the parts used are the fruits followed by leaves, whole plant, barks, roots, seeds, tubers, flowers, rhizomes, corms, nuts, bulbs and pods (Figure- 3).

![Fig 3: Bar diagram showing different parts used for medicinal purpose from of medicinal plants.](image)

The medicinal plants are used to cure different ailments ranging from fever to de-worming. The maximum number of plants used for curing ailments are the dysentery, diarrhoea, jaundice, astringent, antiseptic, de-worming, laxative, headache, diabetes, stomach-ache, rheumatism, abdominal pain to food poisoning (Figure-4).

![Fig 4: Bar diagram showing different ailments from the uses of medicinal plants.](image)

**Discussion and Conclusion**

The investigation revealed that the Chang tribe of Tuensang district depend on the uses of medicinal plants for treatment of many common health problems. A total of 33 medicinal plants having 31 genera and 26 families were recorded in the present study. The study showed that herbs are more frequently used by the indigenous population at remote areas even within the district. With development and modernization taking place at a fast pace, the old traditional knowledge that have been so valuable guarded and practised once are now losing its place to the more reliable and trusted scientific approach associated with modern medicine. The younger generation do not favour the value placed by their ancestors about the herbal use in lesser common diseases like fever, stomach ache, sprains, minor injuries etc. However, the old traditional practices about the uses of medicinal plants still exist in the district and the medicinal plants used are found in the wild. The wild species of these medicinal plants are slowly declining due to rampant destruction of forest, unsustainable exploitation, climate changes and bio-piracy. Out of the total listed medicinal plants, 1(one) species – *Discentra scandens* (Yellow bleeding heart) has been considered as most valuable in term of its uses and trade. Therefore, it is now felt that these rich species of medicinal plants found in the district are invaluable to the Chang tribe and as such, promotion and development of these medicinal plants is the need of the hour.

**References**

9. Gogoi P, Boissya CL. Information about a few herbal medicines used by the people of Assam India against Jaundice. Himalayan Research and Development. 1984; 2:41-44.