Ethnomedicinal uses of plants of family Acanthaceae found in Dausa Rajasthan

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Abstract
The paper enumerates the ethnomedicinal uses of 11 plant species of 09 genera of family Acanthaceae used by local tribal people, Bhopa (village priest), headman and informants of Dausa district of Rajasthan. Information on the medicinal uses gathered from the tribals together with their botanical identity, local name and mode of administration are presented.

Keywords: Ethnomedicine, traditional, Dausa, Acanthaceae, tribe, meena, Rajasthan

Introduction
Though ethnobotany was almost unheard word in India in middle of last century yet it deals with study of traditional and indigenous knowledge about man-plant relationships which exist since birth of man on this earth [1]. Traditional ethnomedicinal studies have in recent years received much attention due to their wide local acceptability and clues for new or lesser-known medicinal plants [2]. Ethnomedicine is an area of research that deals with medicines derived from plants, animals, minerals etc. used in the treatment of various diseases and ailments [3]. Ethnomedicine includes indigenous beliefs, concepts, knowledge and practices among the ethnic group, folk people or race for preventing, lessening or curing disease or pain. Out of 20,000 medicinal plants of the world, India contributes about 15 per cent (3000 – 3500) medicinal plants. About 90 per cent of these are found growing wild in different climatic regions of the country. Out of 3000 medicinal plants occurring in India, about 200 species are used in bulk quantities as articles of commerce [4]. Significant ethnobotanical/ethnomedicinal research has been done by several workers in India and in Rajasthan [5-20]. Acanthaceae is a large cosmopolitan family of ca. 250 genera and 2500 species distributed mostly in the tropical and subtropical areas of the world. The plants are Paleotropical, Neotropical cape and Australian. They are centered on Indo-Malaysia, Asia, Africa, Brazil and Central America. Medicinally very important family includes about 68 genera and 250-300 species are found throughout India while in Rajasthan this family is represented by 30 genera and 81 species. The family has a large number of ornamental and medicinal plants. They are mostly herb shrub and climbers. A large number of crude drugs used in Ayurvedic system employ plants of family Acanthaceae. The district Dausa is situated in the north eastern region of Rajasthan, a region widely known as Dhundar and lies between 26°23’ to 27°15’ N latitude and 76°06’ to 77°02’ E longitude. The total area of the district is 3414.28 km² which is 0.99% of the area of state (Fig.1) and surrounded by 06 districts viz., Jaipur, Tonk, Alwar, Bharatpur, Kariauli and Swaimadhopur. The total population of district is 16,34,409 out of which 2,01,793 urban and 14,32,616 rural populations as per census 2011 [21]. The soil of district is yellowish to dark brown with fine texture generally suitable for all types of crops. It is characterized by dry climate with the hot season. The maximum temperature is 47°C and minimum 4°C. Total annual rainfall varies from 450mm to 670mm. Agriculture practices mostly depends on monsoon rainfall. The district dominated by Meena tribe and other backward caste Gujar and Mali.
Methodology

Plant material collected from surveyed area. Plant specimens were identified consulting various flora, taxonomic books, ethnobotany and medicinal plants books [22-39]. Collected plants were deposited in Herbarium, Department of Botany, University of Rajasthan, Jaipur and assigned RUBL numbers. Detailed ethnomedicinal investigation was conducted on medicinally important 09 genus and 11 species of family Acanthaceae found in Dausa district. The plants are viz., Adhatoda vasica Nees (Syn. Justicia adhatoda, Adhatoda zeylanica), Barleria prionitis Linn, Barleria cristata Linn (Syn. B. ciliata Roxb., B. dichotoma Roxb., B. laciniata Wall.) Blepharis repens (Vahl) Roth., Elytraria acaulis Lindau (Syn. E. crenata Vahl; Tubiflora acaulis Kunze.), Hygrophila auriculata (Schum) Heines, Indoneesiella echioides (L.) Sreem, Lepidagathis cristata Wild, Lepidagathis trinervis Nees, Peristrophe bicalyculata Nees (Syn. P. paniculata (Forrsk.) Brummitt), Rungia repens (Linn.) Nees (Syn. Justicia repens Linn.).

Enumeration

Table 1: Ethnomedicinal Uses of Plants of Family Acanthaceae

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Plant</th>
<th>Local Name</th>
<th>Plant Part(s) Used</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adhatoda vasica Nees Syn. Justicia adhatoda L., Adhatoda zeylanica Medic</td>
<td>Adusa</td>
<td>All parts especially leaves</td>
<td>Decoction of leaves along with jaggery and water are kept in an earthen pot for a month by tribes and taken two teaspoonfuls twice orally. This is highly beneficial in cure of tuberculosis.</td>
</tr>
<tr>
<td>2</td>
<td>Barleria prionitis L. subsp. prionitis var. prionitis</td>
<td>Vajradanti</td>
<td>All parts especially leaves</td>
<td>Leaf decoction is given for the treatment of cough; roots and leaves chewed to relieve toothache and bodyache.</td>
</tr>
<tr>
<td>3</td>
<td>Barleria cristata L. Syn B. ciliata Roxb., B. dichotoma Roxb., B. laciniata Wall.</td>
<td>Janti</td>
<td>All parts especially leaves</td>
<td>The decoction of root is very useful in anaemia. The juice of leaves is useful in cough and inflammations.</td>
</tr>
<tr>
<td>4</td>
<td>Blepharis repens (Vahl) Roth.</td>
<td>--</td>
<td>Leaves</td>
<td>Decoction of the leaves is taken orally for jointache.</td>
</tr>
<tr>
<td>5</td>
<td>Elytraria acaulis Lindau Syn E. crenata Vahl; Tubiflora acaulis Kunze.</td>
<td>Pathar-Chatta</td>
<td>Root and Leaves</td>
<td>Root of the plant crushed with garlic and salt and kept on the affected teeth for curing teeth infections or troubles. Decoction of leaves used for venereal diseases.</td>
</tr>
<tr>
<td>6</td>
<td>Hygrophila auriculata (Schum) Heines (Syn. Barleria longifolia L., H. longifolia Nees, Asystendia longifolia (L.), Hygrophila spinosa T. Anders.)</td>
<td>Kulakara, Oont-katela</td>
<td>Leaves and Roots</td>
<td>Dried leaf powder mixed with castor oil is applied twice a day till the recovery on the affected parts to cure skin diseases; Ash of aerial parts eaten with honey to remove kidney and urinary bladder stone.</td>
</tr>
<tr>
<td>7</td>
<td>Indoneesiella echioides (L.) Sreem. Syn. Justicia echioides L., Andrographis echioides (L.) Nees in Wall.</td>
<td>Jodapatta Pattar</td>
<td>Leaves</td>
<td>Leaf paste is applied on the affected areas of a skin. This plant is beneficial in skin diseases.</td>
</tr>
<tr>
<td>8</td>
<td>Lepidagathis cristata Wild.</td>
<td>Aewal Kangio.</td>
<td>Whole Plant</td>
<td>It is bitter herb used in fevers as a tonic. Ash of the dry plant is employed as on application to sores</td>
</tr>
<tr>
<td>9</td>
<td>Lepidagathis trinervis Nees</td>
<td>Patherphor</td>
<td>Whole Plant</td>
<td>One tea spoonful of the whole plant decoction is given once daily for fortnight and one tea spoonful of root juice or powder is given twice a day for two months to cure piles.</td>
</tr>
<tr>
<td>10</td>
<td>Peristrophe bicalyculata Nees Syn. P. paniculata (Forrsk.) Brummitt</td>
<td>Atrilal</td>
<td>Whole Plant</td>
<td>Two drops of juice of freshly collected and washed leaves is poured into eyes twice daily in cases of conjunctivitis for 2-3 days.</td>
</tr>
<tr>
<td>11</td>
<td>Rungia repens (L.) Nees Syn. Justicia repens (L.)</td>
<td>Kharmar</td>
<td>Whole Plant</td>
<td>Four teaspoonful of tuberous root decoctions are given twice daily for the treatment of gonorrhea.</td>
</tr>
</tbody>
</table>

Results and Discussion

During the present investigation authors have reported medicinally important 09 genus and 11 species of family Acanthaceae used by tribals in the district in their day to day life. The data on ethnomedicinal plants such as the botanical name, local name, plant part(s) used and the medicinal uses are presented (Table 1). The plants enumerated in the text are wild and they have proved handy and easily available remedial material which quick result. It has been observed that the folklore and tribal herbalist still depend upon wild plants around them for meeting their needs and posses good knowledge of the medicinal uses of such plants. Due to constant association with the forest environment, they have evolved knowledge by trial and error and have developed
their own way of diagnosis and treatment of different ailments. These plants are being used to treat various ailments such as tuberculosis, cough, fever, skin diseases, venereal diseases, sores, gonorrhea, conjunctivitis, anaemia, stone, toothache, bodyache, and inflammation. Now a day, population is expanding in villages, younger generations tend to discard their traditional life style therefore, much of this wealth of knowledge is being lost as the traditional culture is disappearing. Hence, documentation of traditional practices of herbal medicine will be coherence in future. With the help of earlier studies and the present day research data its exploration shows that these ethnomedical studies can be greatly beneficial to human race for treating disease with cheap and best non side effect solutions.

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References
22. Hooker JD. Flora of British India, Reeve & Co. Kent. 1885; 5:582 L.