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Mahendra CP
Associate Professor, Department
of Botany, SW. PNKS Govt. P.
G. College Dausa, Rajasthan,
India

Ethnomedicinal uses of plants of family Acanthaceae found in Dausa Rajasthan

Mahendra CP

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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 of in India in the middle of the last century yet it deals with the study of traditional and indigenous knowledge about man-plant relationships which exist since the 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 Palearctic, Neotropical 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 the 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 the state (Fig.1) and surrounded by 06 districts viz., Jaipur, Tonk, Alwar, Bharatpur, Karauli and Swaimadhopur. The total population of the 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 the district is yellowish to dark brown with fine texture generally suitable for all types of crops. It is characterized by a 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 depend on monsoon rainfall. The district is dominated by Meena tribe and other backward castes Gujar and Mali.

Corresponding Author:
Mahendra CP
Associate Professor, Department
of Botany, SW. PNKS Govt. P.
G. College Dausa, Rajasthan,
India

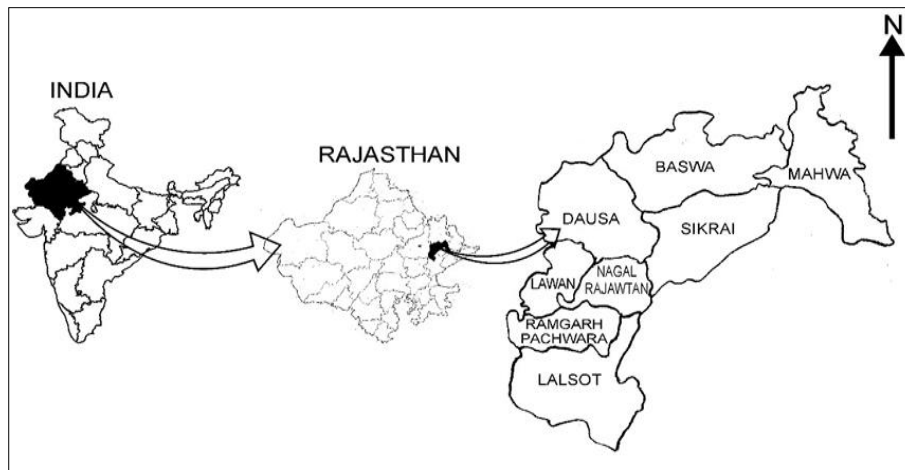


Fig 1: Map of the study area

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* Kuntze.), *Hygrophila auriculata* (Schum) Heines, *Indoneesiella echioides* (L.) Sreem, *Lepidagathis cristata* Willd, *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

S. No.	Name of Plant	Local Name	Plant Part (s) Used	Uses
1	<i>Adhatoda vasica</i> Nees Syn. <i>Justicia adhatoda</i> L., <i>Adhatoda zeylanica</i> Medic	Adusa	All parts especially leaves	Decoction of leaves along with jaggery and water are kept in an earthen pot for a month by tribals and taken two teaspoonfuls twice orally. This is highly beneficial in cure of tuberculosis.
2	<i>Barleria prionitis</i> L. subsp. <i>prionitis</i> var. <i>prionitis</i>	Vajradanti	All parts especially leaves	Leaf decoction is given for the treatment of cough; roots and leaves chewed to relieve toothache and bodyache.
3	<i>Barleria cristata</i> L. Syn <i>B. ciliata</i> Roxb., <i>B. dichotoma</i> Roxb., <i>B. laciniata</i> Wall.	Janti	All parts especially leaves	The decoction of root is very useful in anaemia. The juice of leaves is useful in cough and inflammations.
4	<i>Blepharis repens</i> (Vahl) Roth.	--	Leaves	Decoction of the leaves is taken orally for jointache.
5	<i>Elytraria acaulis</i> Lindau Syn <i>E. crenata</i> Vahl; <i>Tubiflora acaulis</i> Kuntze.	Pathar-Chatta	Root and Leaves	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.
6	<i>Hygrophila auriculata</i> (Schum) Heines (Syn. <i>Barleria longifolia</i> L., <i>H. longifolia</i> Nees, <i>Astercantha longifolia</i> (L.), <i>Hygrophila spinosa</i> T. Anders)	Kulakhara, Oont-katela	Leaves and Roots	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.
7	<i>Indoneesiella echioides</i> (L.) Sreem. Syn. <i>Justicia echioides</i> L., <i>Andrographis echioides</i> (L.) Nees in Wall.	Jodapatta Pattar	Leaves	Leaf paste is applied on the affected areas of a skin. This plant is beneficial in skin diseases.
8	<i>Lepidagathis cristata</i> Wild.	Aewal Kangio.	Whole Plant	It is bitter herb used in fevers as a tonic. Ash of the dry plant is employed as on application to sores
9	<i>Lepidagathis trinervis</i> Nees	Pather-phor	Whole Plant	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.
10	<i>Peristrophe bicalyculata</i> Nees Syn. <i>P. paniculata</i> (Forrsk.) Brummitt	Atrilal	Whole Plant	Two drops of juice of freshly collected and washed leaves is poured into eyes twice daily in cases of conjunctivitis for 2-3 days.
11	<i>Rungia repens</i> (L.) Nees Syn. <i>Justicia repens</i> (L.)	Kharmar	Whole Plant	Four teaspoonful of tuberous root decoctions are given twice daily for the treatment of gonorrhoea.

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 possess 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, gonorrhoea, 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 ethnobotanical studies can be greatly beneficial to human race for treating disease with cheap and best non side effect solutions.

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