



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2018; 4(3): 536-539
www.allresearchjournal.com
Received: 17-01-2018
Accepted: 26-02-2018

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Ethnomedicinal study of some plants of family Acanthaceae of Rajasthan

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Abstract

Tribes are the distinct ethnic group who are usually confined to definite geographical areas, mainly in forest. Their life is woven around forest ecology and forest resources. Information on some very useful medicines known to the tribal communities through experience of age is usually passed on from generation to generation. The paper documents the traditional knowledge of ethnomedicinal plants that are used by tribal communities. An extensive ethnomedicinal survey of southern part of Rajasthan including Banswara, Dungarpur, Udaipur, Chittorgarh, Sirohi, Bhilwara, Pratapgarh, Jhalawar, Baran and Kota districts was carried out to document the traditional knowledge of ethnomedicinal plants of family Acanthaceae. A list of plant species along with their part/s used and mode of administration for effective control in different ailments are given.

Keywords: Traditional, Acanthaceae, tribe, ethnomedicinal, folklore, flora

Introduction

World Health Organization estimates over 80% of the people in developing countries depend on traditional medicines for their primary health needs [1]. Beneficial and medicinal properties of plants have been used in same forms or the other by the primitive people and cures were effective without any harmful consequences. Formulations of these medicinal plants were based totally on the local flora present in their vicinity. Tribal people live in harmony with the nature and maintain a close link with environment [2]. The field approach of study of ethno-botany plays a vital role because of the direct contact that can be established with the authentic information on the uses of plants both wild and cultivated. The wild plants in Indian folklore have been and are used to meet the various needs of the tribal's and poor people. These plants are used for purposes of food, fodder, medicine, drugs, clothing, agricultural implements, hunting, narcotics, poison, gums, dyes, insecticides and food etc [3]. Rajasthan is the largest state of India, located in the north western part of India. Geographically it lies between 23°3' to 30°12' longitude and 69°30' to 78°17' latitude. Southern part of Rajasthan comprising Banswara, Dungarpur, Udaipur, Chittorgarh, Sirohi, Bhilwara, Pratapgarh, Jhalawar, Baran and Kota districts is the tribal belt in which Bhil, Damor, Garasia, Kalbelia, Kathodia and Meena are the main tribes (Figure 1). In India and Rajasthan, a lot of work has been done on ethnomedicinal plants used for various ailments by tribal communities [4-24]. However, the studies on the ethnomedicinal plants of Acanthaceae of southern Rajasthan are scantier [25]. Therefore an extensive ethnomedicinal survey has been made to collect the recent information about plants used by tribal in their traditional healthcare system. The study based on interviews with local tribal living in the region and entirely dependent on the plants occurring around them.

Acanthaceae is a large cosmopolitan family of *ca.* 250 genera and 2500 species distributed mostly in the tropical and subtropical areas of the world. 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.

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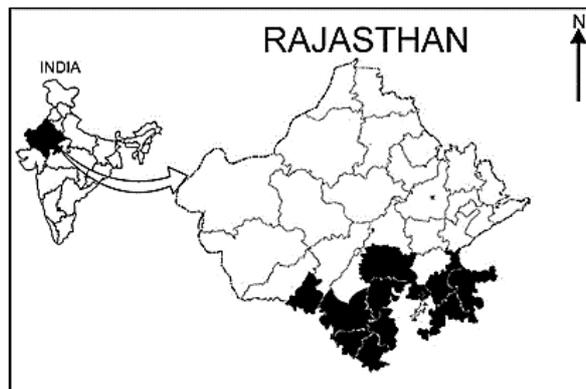


Fig 1: Map of the study area

Methodology

The ethnomedicinal knowledge of the plants based remedies for the treatment of ailments rest with the medicine men, all

of which belong to one family of hereditary indigenous practitioners. Generally tribals, who know about the herbal medicine, do not want to give all the information because they believe that when the medicinal plant is disclosed its medicinal properties will be lost. For this reason, information collecting from the tribals is an important aspect of ethnobotanical study. Local informants who can provide information about medicinal plants were interviewed. The local informants were the medicine-men, men and women working in field, village headman, priests, birth attendant and other community leaders. The standard methods of ethnobotanical studies were followed [26-31]. Plant material collected from surveyed area. Plant specimens were identified consulting various flora, taxonomic books, ethnobotany and medicinal plants books [32-47]. The voucher specimens were deposited in the Herbarium of Department of Botany, University of Rajasthan, Jaipur and assigned RUBL (Rajasthan University Botany Laboratory) numbers.

Enumeration

Table 1

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 is 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. sub sp. <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>Blepharis maderaspatensis</i> (L.) Heyne ex Roth. Syn. <i>Acanthus maderaspatensis</i> L., <i>Blepharis boerhaviaefolia</i> Pers.	--	Leaves	Leaves ground with egg, black gram and onion are applied for fracture in human being and in livestock.
6	<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.
7	<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.
8	<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.
9	<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
10	<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.
11	<i>Peristrophe bicalyculata</i> Nees Syn. <i>P. paniculata</i> (Forssk.) 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.
12	<i>Rungia repens</i> (L.) Nees Syn. <i>Justicia repens</i> (L.)	Kharmar	Whole Plant	The decoction of leaves is used in cough, fever, vermifuge, diuretic and scalp remover.
13	<i>Rungia pectinata</i> (L.) Syn.: <i>Justicia pectinata</i> L., <i>R. parviflora</i> Retz. var. <i>pectinata</i> L., <i>R. parviflora</i> (Retz) Nees var. <i>muralis</i> Clarke.	--	Whole Plant	It is used by tribals for curing stomach pain, dysentery, gas problems of livestock.
14	<i>Andrographis paniculata</i> Nees Syn. <i>Andrographis subspatulata</i> Clarke; <i>Justicia paniculata</i> Burm.	Kalmegh	Whole Plant	Leaf decoction is used in leucoderma, liver ailments; plant decoction with milk and black salt is given in malaria; traditionally used to cure children suffering from liver and digestion complaints; also used to eradicate worms in children and against excessive gas formation.
15	<i>Eranthemum roseum</i> (Vahl) R. Br. Syn. <i>Justicia rosea</i> Vahl, <i>Daedalacanthus roseus</i> (Vahl) T. Anders.	Dasmuli	Roots	The decoction of the entire plant is used in urino-genital diseases, malaria, typhoid and leucorrhoea. Decoction of root is very useful in leucorrhoea.
16	<i>Ruellia tuberosa</i> (L.)	Sisrangha	Whole Plant	Leaves and tuberous roots are used in venereal diseases, stimulant in making rice beer. Four teaspoonful of tuberous root decoction is given twice daily for the treatment of gonorrhoea.

Results & Discussion

During the present investigation authors have reported medicinally important 12 genus and 16 species of family Acanthaceae used by tribal in these districts 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 some of them are now cultivated and they have proved handy and easily available remedial material. 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. 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.

Acknowledgement

The corresponding author is grateful to the University Grants Commission, CRO, Bhopal for financial support and sincere thanks to people, headman and informants of the study area to provide valuable information about uses of above mentioned plants. Authors are also thankful to the forest officials of surveyed districts for providing necessary facilities during field survey.

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