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## RESEARCH ARTICLE

# CONSERVING MEDICINAL PLANTS: A SURVEY REPORT IN MBNR

<sup>1\*</sup>Pushpalatha, J.K., <sup>2</sup>Mary Esther Cynthia Johnson, <sup>3</sup>Thakur John and <sup>4</sup>Thakur Jacob

<sup>1</sup>Department of Botany, Palamuru University, Mahabubnagar - 509001, TS, India

<sup>2</sup>Department of Botany, OUCW, Koti, Hyderabad - 500195, TS, India

<sup>3,4</sup>TS, India

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\*Corresponding Author:  
Pushpalatha, J.K.,

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### ABSTRACT

A comprehensive survey of medicinal plants was conducted over a one-year period (2014-2015) in the Mahabubnagar district. During the survey, 31 medicinal plants belonging to 26 families were collected during their flowering and fruiting seasons. Out of these 31 plants, some were used for antiepileptic purposes, 4 for anti-rheumatic treatment, 2 for each of the following: abortifacients, antiasthmatic, antidiabetics, anti dysentery, anti sterility, boils, cough, jaundice, laxatives, leprosy, ophthalmic diseases, and piles, while only 1 was used for each of the following: anti-plague, cold, fever, restorative, carminative, tuberculosis, and urinary diseases. Additionally, four rare and endangered plant species and seven endemic plant species were collected and multiplied in PU MBNR through the ex-situ method. The purpose of this paper is to bring attention to the pressing need for domesticating useful plant species based on their significance, potential alternatives, and level of endangerment.

## INTRODUCTION

For centuries, plants have played a crucial role in human life as a source of food, shelter, clothing, medicine, and cosmetics. The importance of plants, particularly in hilly regions, cannot be overstated. It is imperative to conserve and utilize these resources in a way that is both environmentally sustainable and economically viable (Gardon Gragg, 2000). Nearly 6000 medicinal plants with healing properties are used for medicinal and personal hygiene purposes. Traditional Indian systems of medicine, such as Ayurveda, Unani, and Sidha, are once again gaining popularity and are in high demand in our country. Mitra and Jain (1991) and Rao et al (2000) conducted ethnobotanical research and conservation efforts on medicinal plants. They observed that valuable flora in local areas were being destroyed for either sadistic pleasure or personal gain, leading to the extinction of some plants and putting many others at risk. Thus, there was a need to conduct a survey of medicinal plants in the nearby area.

## MATERIALS AND METHODS

A comprehensive study of medicinal plants was conducted in the Mahabubnagar district during the years 2014-2015. The survey involved the collection of 31 plant species belonging to 26 families, all of which were collected during their flowering and fruiting periods.

The collection and identification methods used were based on previous studies by Salunkte et al (2001), Chavan et al (1973), and Khairmar (2003). The collected specimens were accurately identified using literature, standard herbariums, and relevant books. Some of the plants were collected with their propagating organs such as tubers, bulbs, corms, cutting seeds, and saplings, and were then multiplied in pots in the shade house located in PU MBNR.

## RESULTS AND DISCUSSION

A total of 31 plant species from 26 families were documented during the study. Out of these, 7 were endemic, 4 were rare and endangered, and 20 were common medicinal plant species. Over 30% of the plant species were found at the top of hills. Due to exploitation by people, cowboys, and other animals, some species such as *Asparagus racemosus*, *Gloriosa superba*, *Tinospora cordifolia*, and *Emblia officinalis* have become endangered. The medicinal plants, *Tinospora cordifolia* and *Emblia officinalis*, were collected during the summer and monsoon seasons, while the rest of the medicinal plants were collected throughout the year and are listed in Table 1 along with their medicinal uses. Table 1 also shows some of the medicinal plants along with their respective families, flowering and fruiting seasons, parts used, and their uses. The present study indicates that *Bacopa monnieri*, *Evolvulus alsinoides*, *Asparagus racemosus*, *Hemidesmus indicus*, and *Martynia annua* are used for antiepileptics, *Gloriosa superba*, *Dichrostachys cinera* var. *Indica*,

**Table 1. Flowering and fruiting season, plant part used and medicinal use of medicinal plants**

Sl. No.	Name of the plant	Family	Flowering & Fruiting season	Plant part used	Medicinal Use
1.	<i>Abrus precatorius</i>	Fabaceae	Winter & Summer	root	Abortifacients
2.	<i>Dolichandrone falcate.</i>	Bignoniaceae	Summer	Root	Abortifacients
3.	<i>Emilia sonchifolia</i>	Asteraceae	Winter	Whole plant	Anti asthmatics
4.	<i>Cajanus lineatus</i>	Fabaceae	Winter & Summer	Leaf	Antiasthmatic
5.	<i>Pongamia pinnata</i>	Fabaceae	Summer	Flower	Antidiabetics
6.	<i>Syzygium cumini</i>	Myrtaceae	Summer	Seed	Antidiabetics
7.	<i>Calotropis gigantea</i>	Asclepiadaceae.	Winter	Root	Antidysentrics
8.	<i>Alangium salvifolium</i>	Alangiaceae	Summer	Leaf	Antidysentrics
9.	<i>Bacopa monnieri</i>	Scrophulariaceae	All season	Whole plant	Antiepileptic
10.	<i>Evolvulus alsinoides</i>	Convolvulaceae	Monsoon & Winter	Whole plant	Antiepileptic
11.	<i>Asparagus racemosus</i>	Asparagaceae	Monsoon & Winter	Root	Antiepileptics
12.	<i>Hemidesmus indicus</i>	Apocynaceae	Winter	Root	Antiepileptics
13.	<i>Martynia annua</i>	Martyniaceae	Monsoon	Leaf	Antiepileptics
14.	<i>Aegle marmelos</i>	Rutaceae	Winter	Leaves & fruit pulp	Anti plague
15.	<i>Gloriosa superba</i>	Lilliaceae	Monsoon & winter	Root	Antirheumatics
16.	<i>Dichrostachys cinera</i>	Fabaceae	Monsoon & Winter	Root	Antirheumatics
17.	<i>Euphorbia tirucalli</i>	Euphorbiaceae	Monsoon	Latex	Antirheumatics
18.	<i>Leucas aspera</i>	Lamiaceae	Winter & Summer	Leaf	Antirheumatics
19.	<i>Diplocyclos palmatus</i>	Cucurbitaceae	Monsoon	Seed	Antisterility
20.	<i>Phyllanthus niruri</i>	Phyllanthaceae	Monsoon & Winter	Latex	Boils
21.	<i>Clematis heyneii</i>	Ranunculaceae	Monsoon & Winter	Leaf	Boils
22.	<i>Ipomea obscura</i>	Convolvulaceae	Winter	Leaf & stem	Cold
23.	<i>Abutilon indicum</i>	Malvaceae	Winter & Summer	Seed	Cough
24.	<i>Eclipta prostrata</i>	Asteraceae	All season	Whole plant	Jaundice
25.	<i>Amaranthus spinosus</i>	Amaranthaceae	Monsoon & Winter	Root and leaf	Laxatives
26.	<i>Ageratum conyzoides</i>	Asteraceae	Monsoon & Winter	Whole plant	Leprosy
27.	<i>Lawsonia inermis</i>	Lythraceae	Monsoon & Winter	Bark	Leprosy
28.	<i>Indigofera cassioides</i>	Fabaceae	Monsoon & Winter	Leaf	Piles
29.	<i>Capparis eylanica</i>	Capparidaceae	Summer	Fruit	Tuberculosis
30.	<i>Tinospora cordifolia</i>	Menispermaceae	Menispermaceae	Stem	Fever
31.	<i>Emblica officinalis</i>	Euphorbiaceae	Summer & Monsoon	fruit	Laxative

*Euphorbia tirucalli*, and *Leucas aspera* for antirheumatics. *Abrus precatorius* and *Dolichandrone falcate* are used for abortifacients, *Emilia sonchifolia* and *Cajanus lineatus* for antiasthmatics, *Pongamia pinnata* and *syzygium cumini* as antidiabetics, *Calotropis gigantea* and *Alangium salvifolium* as antidysentrics, and *Diplocyclos* for antisterility. *Phyllanthus* and *Clematis heyneii* are used for jaundice, boils, *Eclipta prostrata* and , and various plants for laxatives. *Amaranthus* and *Emblica officinalis*, leprosy (*Ageratum conyzoides* and *lawsonia inermis*), Ophthalmic diseases (*Bidens biternata* and *Pergularia daemia*) and piles (*Plumbago zeylanica* and *Indigofera cassioides*). Resources for future generations. Moreover, it is important to take proper measures to protect these precious species from over-harvesting and illegal trade. Collaboration between the government, scientific institutions, and local communities is crucial in order to achieve the common goal of sustainable use and conservation of medicinal plants. In conclusion, the study highlights the importance of medicinal plants in the region of Mahabubnagar and the urgent need to conserve these resources in a sustainable and economically beneficial manner. The authors stress the importance of creating awareness among society, multiplying endangered plant species, and promoting sustainable use through collaboration between different stakeholders. By doing so, we can ensure that these valuable resources are preserved for future generations to benefit from.

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