

## Preliminary survey of Wild Edible Plant Resources in Rajgarh (M.P.)

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### ABSTRACT

The present study was carried out in the Rajgarh district of Madhya Pradesh, India to document the diversity, indigenous uses and availability status of wild edible plants. Tribals are mainly depending on it and preserve this plant. The inhabitants of the region are dependent up to a large extent on wild resources for their food and other daily needs. The region is rich in wild edible plant resources. Plant parts such as leaves, shoots, young twigs, roots, rhizomes, tubers, flowers, fruits, seeds, etc. are used for food by the local people. The study will be helpful in developing a comprehensive data base on wild plant resources, strengthening the food security in area and in conserving the traditional knowledge for the prosperity of the remote areas. Plant survey was conducted in the year 2018-2019 in eight villages of Rajgarh district of Madhya Pradesh. A total of 25 species belonging to 18 genera and 16 families was reported with further emphasis on their vernacular names, along with habitat which are used in their daily life in Rajgarh district of Madhya Pradesh, India. Out of the recorded species 12 were herbs, 6 shrubs, 6 trees and the rest one species were climbers. These plant species were arranged alphabetically by their families. Among the documented plants, 8 were abundant, 12 common and 5 uncommon to this area. This wisdom available with the tribes is transmitted only through oral communication therefore needs conservation.

**Key words:** wild edible plants, Rajgarh, food security

### INTRODUCTION

Rajgarh district of Madhya Pradesh is known to have a rich flora of medicinal plants as well as wild edible plants. The scant knowledge concerning medicinal plants prompted investigation on intensive search of systematic study to better understanding of traditional healing. The present study aims to create awareness about Wild Edible Plant Resources in Rajgarh (M.P.) to draw the attention of taxonomist and other research workers. In rural areas majority of people are still depend on wild plants for their various requirements. The variety of plants has been used by tribals and people residing in the remote areas of Rajgarh district. They are well familiar with the local flora occurring in their surroundings. Wild edible plants have played an important role in human life since time immemorial. Throughout the history, wild edible plants have sustained human populations in each of the

inhabited continents (Khyade *et al.* 2009). Plants are natural industries, which provide high quality food and raw material for pharmaceutical, cosmetic and perfumery industries without causing environmental degradation. Medicinal plants as a group comprise approximate 8000 species and account for around 50% of all the higher flowering plant species of India (Jain *et al.*2006).

### MATERIAL METHODS

Systematic plant survey was carried out during 2018-2019. Plant collection was carried out by Standard method (Jain and Rao 1977). The current survey was conducted among 10 different regions of Rajgarh District Area. The choice of the individual informant to be interviewed was of fundamental importance to the reliability of the gathered information. I only selected who utilized wild edible plants as part or all of their activity, and who were regarded as professional. Questions addressed to the informants were mainly focused on wild edible plant resources. Botanical specimens of recorded plants were collected and materials were mounted on herbarium sheet. Plant

specimen was identified with the help of Flora (Verma *et al.*1993; Khanna *et al.*2001, Mudgal *et al.*1977) and available literature.

### Study area

Rajgarh District is located in the Northern part of Malwa Plateau. It forms the North Western part of Division of Bhopal Commissioner. Rajgarh District extends between the parallels of Latitude 23 27' 12" North and 24 17' 20" North and between the meridians of Longitude 76 11' 15" and 77 14' East. It has a Quadrangular shape with the Northern and Western sides longer than the Southern and Eastern sides respectively. The zigzag boundaries of the District resemble a pear. Rajgarh District is bounded by Shajapur District in the South as well as west. The District of Sehore, Bhopal, Guna and Jhalawar (Rajasthan) enclose it from the South-East, East, North-East, and North directions respectively. The total Geographical area of the District is 6,154 sq. km. according to census 2011 population of Rajgarh is 15, 45,814. Total Villages is 1728 in the district. It is one of the small districts of Madhya Pradesh both in respect of area and population. It is 145 KM from the State capital Bhopal (Figure 1)

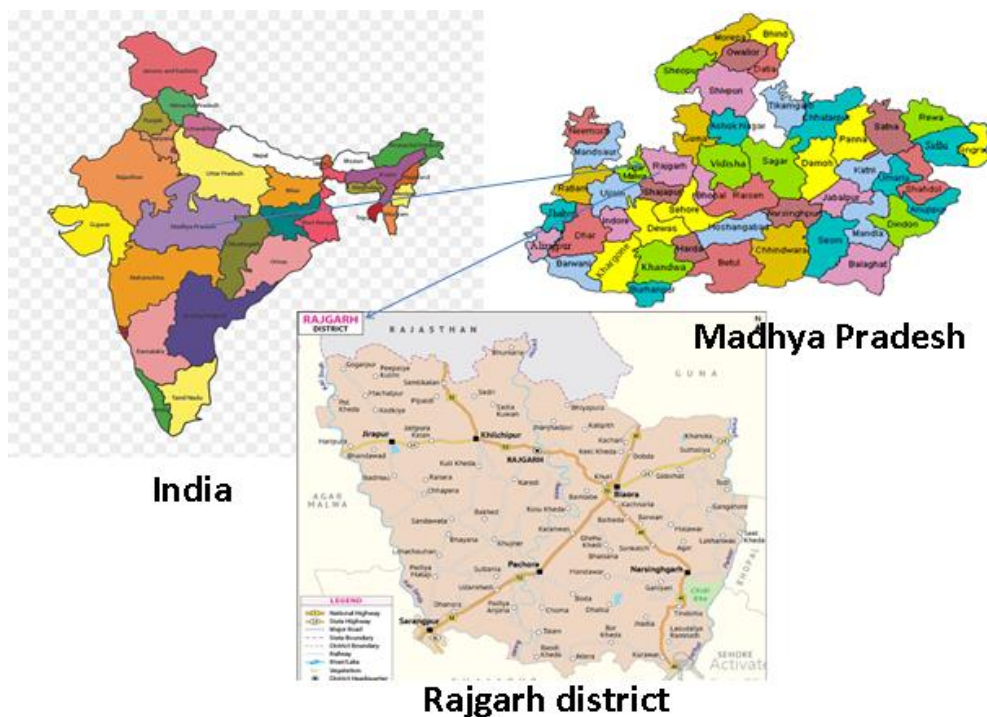


Figure 1 study area

## RESULTS & DISCUSSION

During present study it was noted that the inhabitants especially of farming communities in rural Parts consume certain wild plants in raw or cooked form. Plant survey was conducted in the year 2018-2019 in eight villages of Rajgarh district of Madhya Pradesh. These are the main ingredients in their diets. Usually during famine it is used as complementary to main food stuff. Tribals are mainly depending on it and preserve this plant. The inhabitants of the region are dependent up to a large extent on wild resources for their food and other daily needs. The region is rich in wild edible plant resources. Plant parts such as leaves, shoots, young twigs, roots, rhizomes, tubers, flowers, fruits, seeds, etc. are used for food by the local people. The study will be

helpful in developing a comprehensive data base on wild plant resources, strengthening the food security in area and in conserving the traditional knowledge for the prosperity of the remote areas. A total of 25 species belonging to 18 genera and 16 families was reported with further emphasis on their vernacular names, along with habitat which are used in their daily life in Rajgarh district of Madhya Pradesh, India. Out of the recorded species 12 were herbs, 6 shrubs, 6 trees and the rest one species were climbers. These plant species were arranged alphabetically by their families. Among the documented plants, 8 were abundant, 12 common and 5 uncommon to this area. This wisdom available with the tribes is transmitted only through oral communication therefore needs conservation.

**Table 1: Medicinal plants used in Rajgarh District**

SN	Botanical name	Family	Life form	Plant part used	Availability
1.	<i>Adhatoda zeylanica</i> Med.	Acanthaceae	S	Leaves	\$
2.	<i>Amaranthus caudatus</i> L.	Amaranthaceae	H	Shoot	\$\$
3.	<i>Amaranthus cruentus</i> L.	Amaranthaceae	H	Leaves	\$\$
4.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	H	Leaves	\$\$
5.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	H	Leaves	\$\$\$
6.	<i>Amaranthus tricolor</i> L.	Amaranthaceae	H	Shoot	\$\$
7.	<i>Amaranthus tricolor</i> L.	Amaranthaceae	H	Leaves	\$\$
8.	<i>Amaranthus viridis</i> L.,	Amaranthaceae	H	Leaves	\$\$
9.	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	T	Flowers	\$\$
10.	<i>Bauhinia racemosa</i> Lam.	Caesalpiniaceae	T	Flowers	\$\$
11.	<i>Bombax ceiba</i> L.	Bombacaceae	T	Flowers	\$\$
12.	<i>Chenopodium album</i> L.	Chenopodiaceae	H	Leaves	\$\$\$
13.	<i>Cleome viscosa</i> L.	Cleomaceae	H	Seeds	\$
14.	<i>Cucumis prophetarum</i> L.	Cucurbitaceae	C	Fruits	\$
15.	<i>Dendrocalamus strictus</i> (Roxb.) Nees	Poaceae	S	Rhizome	\$\$
16.	<i>Grewia oppositifolia</i> Buch.-Ham. Ex Don	Tiliaceae	T	Fruits	\$
17.	<i>Mangifera indica</i> L.	Anacardiaceae	T	Fruits	\$\$\$
18.	<i>Mentha arvensis</i> L.	Lamiaceae	H	Leaves	\$\$\$
19.	<i>Murraya koenigii</i> (L.) Sprengel	Rutaceae	S	Leaves	\$\$\$
20.	<i>Oxalis corniculata</i> L.	Oxalidaceae	H	Leaves	\$
21.	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	T	Fruits	\$\$\$
22.	<i>Senna tora</i> (L.) Roxb	Caesalpiniaceae	S	Fruits	\$\$
23.	<i>Solanum nigrum</i> L.	Solanaceae	H	Fruits	\$\$\$
24.	<i>Woodfordia fruticosa</i> (L.) Kurz.	Caesalpiniaceae	S	Flowers	\$\$
25.	<i>Ziziphus oxyphylla</i> Edgew.	Rhamnaceae	S	Fruits	\$\$\$

**Abbreviations: H = herb, S = shrub, T = tree, Cl = climber, +++ = abundant, ++ = common, + = uncommon**

**Table 2: Floristic spectrum of plants used in Rajgarh District**

Sn	Plant part used	No. of Species
1.	Flower	4
2.	Fruit	7
3.	Leaves	10
4.	Rhizome	1
5.	Seed	1
6.	Shoot	2

**Table 3: Distribution of medicinal plants in Rajgarh District**

Botanical name	Ko	Kar	Kh	Sul	Ud	Dh	Pad	Kar
<i>Adhatoda zeylanica</i> Med.	✓	✓		✓	✓	✓		✓
<i>Amaranthus caudatus</i> L.		✓			✓	✓		✓
<i>Amaranthus cruentus</i> L.	✓		✓	✓	✓		✓	
<i>Amaranthus spinosus</i> L.		✓	✓		✓		✓	
<i>Amaranthus spinosus</i> L.	✓	✓	✓	✓				
<i>Amaranthus tricolor</i> L.				✓	✓	✓		
<i>Amaranthus tricolor</i> L.	✓	✓	✓		✓	✓		
<i>Amaranthus viridis</i> L.,		✓	✓	✓		✓	✓	✓
<i>Bauhinia purpurea</i> L.	✓		✓	✓	✓		✓	✓
<i>Bauhinia racemosa</i> Lam.	✓	✓			✓		✓	✓
<i>Bombax ceiba</i> L.		✓	✓	✓			✓	
<i>Chenopodium album</i> L.	✓		✓	✓	✓	✓		
<i>Cleome viscosa</i> L.	✓	✓			✓	✓		✓
<i>Cucumis prophetarum</i> L.	✓	✓	✓	✓		✓		✓
<i>Dendrocalamus strictus</i> (Roxb.) Nees	✓		✓	✓	✓	✓	✓	✓
<i>Grewia oppositifolia</i> Buch.-Ham. Ex Don		✓	✓		✓		✓	
<i>Mangifera indica</i> L.	✓	✓	✓	✓				
<i>Mentha arvensis</i> L.				✓	✓	✓		
<i>Murraya koenigii</i> (L.) Sprengel	✓	✓	✓		✓	✓		
<i>Oxalis corniculata</i> L.		✓	✓	✓		✓	✓	✓
<i>Phyllanthus emblica</i> L.	✓		✓	✓	✓		✓	✓
<i>Senna tora</i> (L.) Roxb	✓	✓			✓		✓	✓
<i>Solanum nigrum</i> L.		✓	✓	✓			✓	
<i>Woodfordia fruticosa</i> (L.) Kurz.	✓		✓	✓	✓	✓		
<i>Ziziphus oxyphylla</i> Edgew.	✓	✓			✓	✓		✓

Abs.=Ko=Kolukheda,kar=Karanwas;kh=Khujner;sul=Sultania;Ud=Udankhedi;Dh=Dhanora;Pad=Padlya mataji; Kare=Karedi

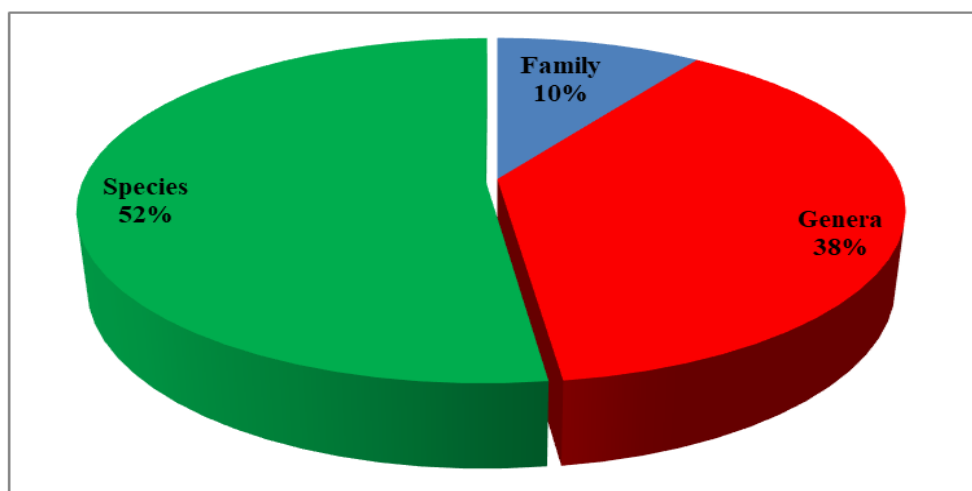


Figure 2: statistical analysis of taxa

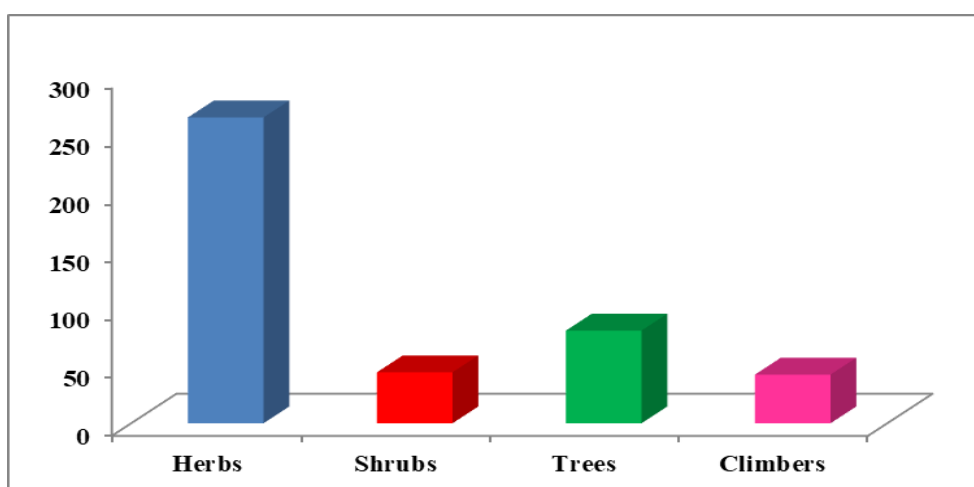


Figure 3: Distribution of medicinal plants in Rajgarh District

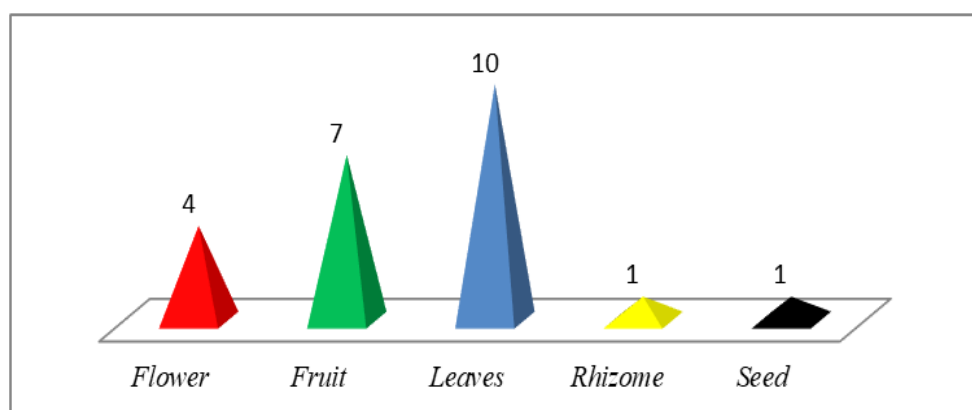


Figure 4: Floristic spectrum of the plants used in Rajgarh District

## CONCLUSION

The present study provides comprehensive information on diversity, availability status and indigenous uses of wild edible plant resources. Based on the results, it can be concluded that The area has high potential of wild edible plant species. Therefore, there is a need to

develop adequate strategy and action plan for the conservation and management of wild edible plants, so that sustainable utilization of these species could be ensured. As Rajgarh District traditional medical knowledge is orally passed down via lifestyle, it is important to exhaustively document and publicize medicinal plant knowledge within the young generation

to raise awareness of and appreciation for their traditional values and for the conservation and sustainable use of the plants as well as to keep the traditional medical knowledge left in their community alive.

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**Conflicts of interest:** The authors stated that no conflicts of interest.

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