



Uses of Wild Medicinal Herbs and Ecology of Gardens of District Bhopal, Madhya Pradesh (India)

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(Received 20 Jan., 2011 Accepted 20 March, 2011)

ABSTRACT : A Study was conducted in gardens of Bhopal to find out the medicinal uses and relative frequency of wild medicinal herbs. 20 quadrates were laid down and find out that *Cyanadon dactylon* (Linn.) Pers and *Euphorbia hirta* Linn. were frequently available. A total of 23 species of wild plants were collected from two gardens of district Bhopal, in which 11 species were used medically by local people. Ethanomedicinal information was collected from local people as well as obtained from available literature. It was concluded from this study that such type of research should be carried out in future for conservation and utilization of wild medicinal herbs.

Keywords : Wild plants, relative frequency, medicinal uses.

INTRODUCTION

Bhopal is the capital of Madhya Pradesh. It is a Tropical region with moderate climate which provides suitable atmosphere for growth of various plants. The city has black cotton soil and laterite soil. The uses of wild plants are common among many people of the world. The World Health Organization (WHO) has estimated that up to 80 per cent of the world's populations rely on plants for their primary healthcare (Ramesh et al., 2008; Akaneme, 2008).

From the ancient time man has been using various plants to cure different diseases. In India many wild plants are available everywhere. Wild plants spread like wildfire and grow abundantly in the open spaces, roadsides and crop fields etc. wild plants grow in all type weather conditions but winter and rainy season are most conducive for the growth of plants. These wild plants would be great source of herbal medicines. Very little ecological information exists on the Bhopal region. Such information is important to understand the ecology of the region. So it is necessary to work on ecological investigations as well as find out the medicinal value of wild plants.

MATERIAL AND METHODS

Study area

The study area lays 23°-16' North Latitude and 77°-25' East longitude. The climate of the area is moderate and pleasant. It provides a favorable atmosphere for the growth development of a variety of wild plants.

Sampling

Vegetation Analysis of two gardens was undertaken using 10 quadrates in each garden. The standard quadrate

sizes were 10 cm × 10 cm. Frequency of each species was analyzed as suggested by Mishra (1968) and Kershaw (1973).

The Frequency of a plant species was determined with the help of the following formula:

Frequency

$$= \frac{\text{Total no. of quadrat in which the species occur}}{\text{Total no. of quadrat studied}} \times 100$$

The following formula was used for calculating relative frequency of a plants species:

Relative frequency of a species (%)

$$= \frac{\text{Frequency of a species}}{\text{Total frequency of all species}} \times 100$$

In both the gardens plants species were collected, identified with the help of available relevant literature and floras (Bhattacharjee and De, 2005; Grewal 2000; Oommachan, 1977; Prajapati and Kumar, 2003; Dhiman, 2006). Their specific medicinal value were verified with the knowledge of local people and also confirming the details available in recent studies.(Husain *et al.*, 2008 ; Tomar, 2008).

RESULTS AND DISCUSSION

Medicinal plants and their uses in the indigenous medicine are well known to many Indian communities. The recent trend has been to blend the traditional knowledge with modern health care practices to provide effective health care services to wider population. In addition to the requirement for conservation of medicinal plants it has also become essential to protect and patent the traditional knowledge. (Raghupathy, 2001).

Table 1: Frequently available species in Garden 1 and Garden 2.

S. No.	Study Site	Most Frequently available wild herbs
1.	Garden 1 (Kamla Park)	<i>Cynadon dactylon</i> (Linn.) Pers., <i>Euphorbia hirta</i> Linn., <i>Eclipta prostrata</i> Linn.,
2.	Garden 2 (Vardhman Park)	<i>Cynadon dactylon</i> (Linn.) Pers., <i>Euphorbia hirta</i> Linn., <i>Ageratum conyzoids</i> Linn., <i>Alternanthera sessilis</i> (Linn.) DC.

Table 2: Comparative Relative frequency of Garden 1 and Garden 2.

S. No.	Name of wild herb	Garden 1		Garden 2		
		Frequency	%	Frequency	%	Relative Frequency
1.	<i>Bidens pilosa</i> Linn.	10	2.63	10	1.81	
2.	<i>Cynadon dactylon</i> (Linn.) Pers.	90	23.68	80	14.54	
3.	<i>Eclipta prostrata</i> Linn.	60	15.78	30	5.45	
4.	<i>Altenanthera sessilis</i> (Linn.) DC.	40	10.52	70	12.72	
5.	<i>Oxalis corniculata</i> Linn.	10	2.63	-	-	
6.	<i>Parthenium hysterophorus</i> Linn.	40	10.52	30	5.45	
7.	<i>Borreria stricta</i> (Linn.F.)	40	10.52	-	-	
8.	<i>Gomphrena celosioides</i> Mart.	10	2.63	40	7.27	
9.	<i>Desmodium trifolium</i> (Linn.)DC.	-	-	30	5.45	
10.	<i>Euphorbia thymifolia</i> Berq.	-	-	70	12.72	
11.	<i>Sonchus asper</i> (Linn.) Hill	-	-	20	3.63	
12.	<i>Tridax procumbens</i> Linn.	-	-	30	5.45	
13.	<i>Ageratum conyzoides</i> Linn.	10	2.63	70	12.72	
14.	<i>Euphorbia hirta</i> Linn.	70	18.42	70	12.72	

Table 3: List of medically important wild herbs identified in two gardens of District, Bhopal.

S .No.	Name of Herb	Local name of Herb	Part of Herb used	Uses
1.	<i>Bidens pilosa</i> Linn.	-	leaves	Stomach upsets, diarrhoea, coagulant
2.	<i>Cynadon dactylon</i> (Linn.) Pers.	Doob ghas	Whole plant	Root extract with cow milk is used for leucorrhoea
3.	<i>Eclipta prostrata</i> Linn.	Bhiringraj	Leaves	Leaves are used for hair growth, fever, liver problems, and urinary infections.
4.	<i>Altenanthera sessilis</i> (Linn.) DC.	Gurundi, Pathachatta	Leaves	Blood purifier, alleviative sour and cooling.
5.	<i>Oxalis corniculata</i> Linn.	Khatti butti	Whole plant	Stomach trouble, decoction of roots are useful for worms.
6.	<i>Parthenium hysterophorus</i> Linn.	Gajar ghas	Roots, stem	Skin disorders, Root decoction is useful in dysentery.
7.	<i>Desmodium trifolium</i> (Linn.) DC.	Kudaliya	Whole plant	Diuretic, carminative and tonic.
8.	<i>Sonchus asper</i> (Linn.) Hill.	Shahdehi	Whole plant	Diuretic, sedative, cooling diaphoretic, antiseptic and expectorant
9.	<i>Tridax procumbens</i> Linn.	Ghamra	Leaves	Leaf juice is applied over the cuts and wounds as antiseptic.
10.	<i>Ageratum conyzoides</i> Linn.	Ajgandha	Whole plant	Purgative, leaves used to dress wound and ulcers.
11.	<i>Euphorbia hirta</i> Linn.	Dudhi	Whole plant	Blood purifier and curing of skin diseases.

Medicinal plants and their uses in the indigenous medicine are well known to many Indian communities. The recent trend has been to blend the traditional knowledge with modern health care practices to provide effective health care services to wider population. In addition to the requirement for conservation of medicinal plants it has also become essential to protect and patent the traditional knowledge. (Raghupathy, 2001).

CONCLUSION

The relative frequency of wild medicinal herb like *Cynadon dictylon* (Linn.) Pers. and *Euphorbia hirta* Linn. was higher in both gardens. *Eclipta prostrata* Linn. was dominant in garden 1 and in garden 2.

Altenanthera sessilis (Linn.) DC and *Ageratum conyzoides* Linn. were more dominant. Out of 23 studies wild herbs, 11 wild herbs are of medically important and used as a cure in many different diseases. There is a need, to create awareness of the importance of wild herbs among local people and to provide them guidance and training in collection and processing to enhance their income.

ACKNOWLEDGEMENT

Authors are thankful to local people of Bhopal and Department of Botany, Saifia Science College, Bhopal for their sincere guidance.

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