



Distribution of some annual and perennial plants in BHEL area of Bhopal

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Abstract

Natural resources play a vital role in supporting life and maintaining of ecosystem. Bhopal is the capital city of Madhya Pradesh and central part of India. The present study was carried out at the BHEL area of Bhopal with the purpose of collecting and recording of annual and perennial plants from this region. For this purpose field surveys were carried especially during flowering and fruiting seasons. In the present study about 20 field visits were carried to different places of BHEL region of Bhopal. During the present survey about 20 plants under 12 families and 20 genera were recorded from different localities throughout the study area. In the present investigation the dominant family Fabaceae recorded maximum number of 8 species followed by oxalidaceae 2 where as family primulaceae, rubiaceae, orobanchaceae, scrophulariaceae, mimosaceae, dipterocarpaceae, burseraceae, moringaceae, combretaceae and caesalpiniaceae which recorded 1 species each. Out of 20 plants collected and recorded from the study, the plants were distributed as 10 trees, and 10 herbs. The present study shows that the study area has rich biodiversity, however the previous literature reports that some of the species have become extinct from this area which may be due to the anthropogenic activities and indiscriminate cutting and felling of trees in this area. Therefore the study of flora and its proper management is need of hour of this region for the protection of its biodiversity before the species from this region becomes extinct.

Keywords: field survey, annual plants, perennial plants, distribution, BHEL area, Bhopal

Introduction

Natural resources survey like floristic study plays an important role in the economic development of developing Country like India ^[1].

Vegetation is the most precious gift, nature has provided to us as meeting all kinds of essential requirements of the humans in the form of food, fodder, fuel, Medicine, timber, resins, and oil, etc ^[2]. Plant communities play a pivotal role in sustainable management by maintaining biodiversity and conserving the environment ^[3]. Floristic study is a necessary prerequisite for much fundamental research in tropical community ecology, such as modeling patterns of species diversity or understanding species distributions ^[4] Floristic studies acquire increasing importance in recent years in response to need of developing and under developing countries to assess their plant wealth ^[5]. The importance of studying flora of the study area has been realized in the works of ^[6, 7, 8]. Therefore to bridge the gap the present study was carried in the BHEL region of the Bhopal district with the purpose of collecting and recording of distribution of annual and perennial plants of this region.

Study area

BHEL is the suburb of Bhopal and Madhya Pradesh. It was established in 1964, heavy electrical limited was merged with BHEL in 1974. The area is spread over an area of about 20-30 km². The vegetation of this area is mostly dry deciduous and tropical. The average temperature of this area is 30⁰c and may go up to 42⁰c in the month of May and June.

Results and discussions

In the present study that was carried out in the BHEL region

of district Bhopal recorded about 20 plants under 20 genera and 12 families. The present investigation reveals that dominant family was fabaceae which recorded maximum number of 8 species followed by oxalidaceae 2 where as the rest families of primulaceae, rubiaceae, orobanchaceae, scrophulariaceae, mimosaceae, dipterocarpaceae, burseraceae, moringaceae, combretaceae, and caesalpiniaceae recorded only 1 species respectively fig 1.

Materials and methods

In the present study field surveys were carried to different localities of BHEL region of Bhopal. In the present investigation about 20 field visits were carried especially during flowering and fruiting periods. All the plants were collected for herbs and trees. the plant parts of each species in the the form of leaf, flower, and fruit, were also collected in vasculum which were later taken to taxonomy laboratory MVM college Bhopal for their morphological study, and the identification was done with the help of relevant literature ^[6, 7, 8, 9, 10]. All the plants have been described with their scientific name, English name, family and habit.

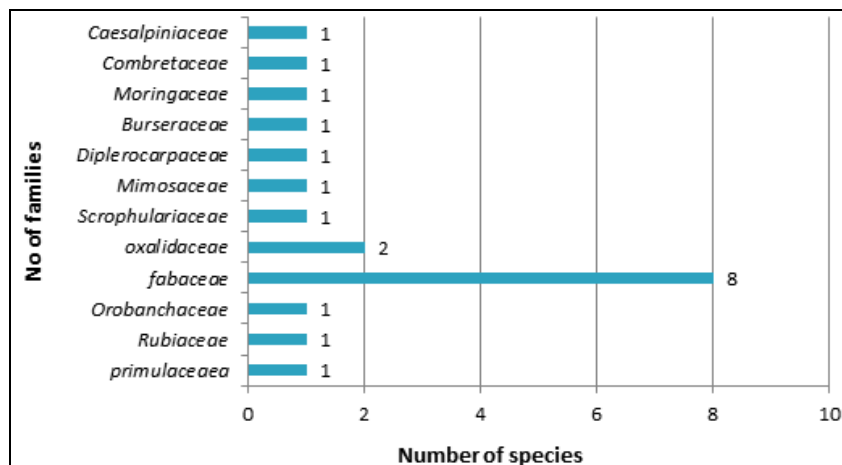
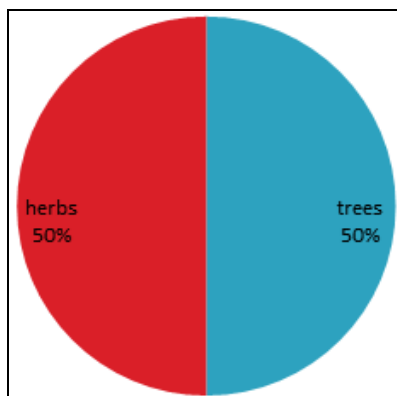
Of all the plants collected from the different localities during different seasons the plants were distributed as 10 herbs and 10 trees fig 1. The past published literature shows that some of the species have become extinct from this region which may be associated due to high anthropogenic activities, fast urbanization, indiscriminate cutting and felling of trees. All the plants (annual and perennial) have been described with their scientific name, English name, family and habit table (1 and 2.).

Table 1: Showing distribution of annual plants at study area

S.NO.	Scientific name	English name	Family	Habit
1	<i>Anagallis arvensis</i> L.	Blue scarlet- pinpernal	Primulaceae	Herb
2	<i>Oldenlandia corymbosa</i> L.	Diamond flower	Rubiaceae	Herb
3	<i>Lindenbergia indica</i> (L.) Vatke	Nettle leaved lindenbergia	Orobanchaceae	Herb
4	<i>Medicago polymorpha</i> L.	California burclover	Fabaceae	Herb
5	<i>Melilotus albus</i> Medik	Honey clover	Fabaceae	Herb
6	<i>Biophytum sensitivum</i> (L.) DC.	Little tree plant	Oxalidaceae	Herb
7	<i>Oxalis Carniculata</i> L.	Creeping wood sorrel	Oxalidaceae	Herb
8	<i>Lindernia ciliata</i> (Colsm)	Hairy slitwrot	Scrophulariaceae	Herb
9	<i>Phaseolus trilobus</i> L.	Wild bean	Fabaceae	Herb
10	<i>Indigofera glandulosa</i> L.	Narrow leaf indigo	Fabaceae	Herb

Table 2: Showing Ddtribution of perennial plants at study area

S.NO.	Scientific name	English name	Family	Habit
1	<i>Acacia leucophloea</i> (Roxb.)	White bark acacia	Mimosaceae	Tree
2	<i>Leucaena leucocephala</i> (Lam.) De Wit.	White lead tree	Fabaceae	Tree
3	<i>Delonix regia</i> (Boj. Ex Hook.)	Gulmohar	Fabaceae	Tree
4	<i>Shorea robusta</i> (Roth)	Sal	Diploerocarpaceae	Tree
5	<i>Boswellia serrata</i> Triana and Planch	Salai	Burseraceae	Tree
6	<i>Parkia biglandulosa</i> Wight and Arn	Badminton	Fabaceae	Tree
7	<i>Moringa oleifera</i> Lam.	Drumstick tree	Moringaceae	Tree
8	<i>Terminalia cattapa</i> L.	Indian almond	Combretaceae	Tree
9	<i>Peltophorum ferrugineum</i> (Decne.) Benth	Copper pod	Fabaceae	Tree
10	<i>Cassia siamea</i> Lam.	Kassod	Caesalpiniaaceae	Tree

**Fig 1:** showing number of families with their species at the study area**Fig 2**

recorded about 20 plants under 20 genera and 12 families. The dominant family fabaceae recorded maximum number of 8 species followed by oxalidaceae, which recorded 2 species and the rest families recorded only 1 species each. Out of 20 plants collected from various localities, the plants were distributed as 10 herbs and 10 trees. The indiscriminate cutting and felling trees, urbanization and other anthropogenic activities going on in the area doesn't only effect the floristic composition of the region but also pose a great threat to some species which have low abundance and are rare in this area. Therefore the present study may be helpful for the future researchers especially to ecologists and taxonomists to study the flora of this region and design research in such way for protecting and maintaining of its biodiversity before these species inhabited to this region become completely vanished.

Conclusion

In the present survey carried out at BHEL area of Bhopal

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