RESEARCH ARTICLE

A floristic survey of flowering plants from Vidyabharati Mahavidyalya Campus, Amravati (Maharashtra) India

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ABSTRACT

One of the grand tasks of current taxonomy is to prepare a checklist of plants of the globe. This work is largely based on collecting information from regional floras and databases. Till this date, the progress is relatively slow, as the number of common names, synonyms, poorly resolved aggregates is high. For this purpose regional flora, checklists and databases with reliable taxonomy and complete coverage of critically examined data are required. The majority of novelties come from the tropics; but certain areas remain poorly explored as well, and numerous species in these areas still await recognition. In the present work, the studied area is Vidyabharati Mahavidyalaya campus which is situated in the prime location of the Amravati city. Amravati is a district in the state of Maharashtra with its district headquarters situated at 20°55′33″ N and 77° 45′53″ E. The district is situated at 343m (1,125ft.) asl. The present study deals with the floristic diversity of campus in the former sense, i.e., the number of individual species in the area. The present paper attempts to highlight the diversity of vast plant resources of the campus in a conservation perspective. A total of 91 species of flowering plants are documented in which 43 were herbs, 25 shrubs, and 24 angiospermic trees distributed in 22, 13, and 12 families respectively.

Key words: taxonomy, explored, survey, diversity, conservation

INTRODUCTION

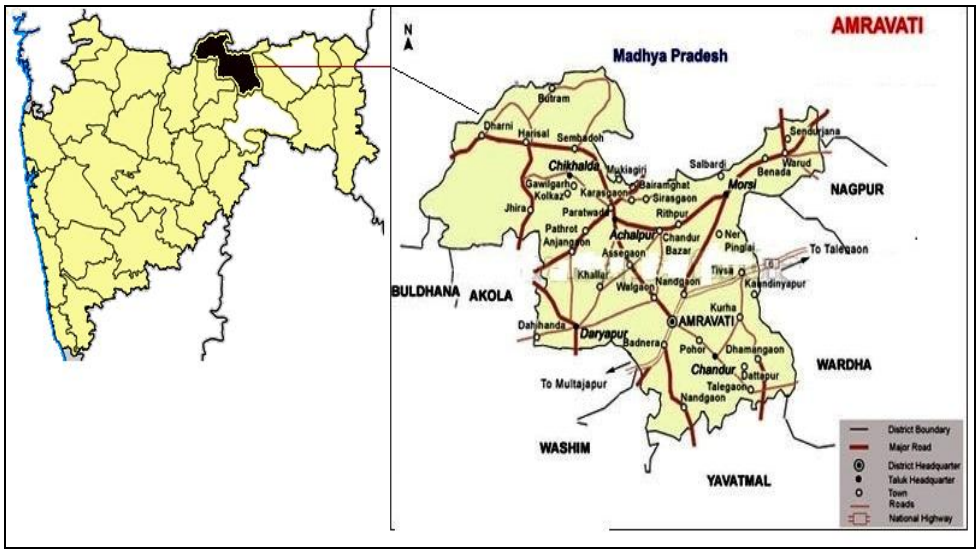
From the very beginning of inception of human beings on the earth man has relied on plants to fulfill his basic needs for his survival. Plants provide food, shelter and health. It is estimated

that about ten million species of plants inhabit the planet earth of which, however only 1.7 million species are known to science. It is therefore the need of the hour to explore the floristic wealth of the earth so as to know what we have. The plant diversity however is under serious threat due to various anthropogenic factors and many plant species are disappearing. Many species are becoming extinct even before their discovery. This scenario necessitates the urgent need of conservation of this diversity. To formulate various strategies for this purpose, the first important step is to explore and inventories the flora. Keeping this perspective in view the present studies were conducted to explore and inventorize the plant species. Therefore an attempt has been made to study the plant species present in the campus. Different Morphological characters are being studied like habit, height, leaf, inflorescence, flowers, and fruits etc representing diversity of plants in the campus of Vidyabharati Mahavidyalaya college.

Floristic diversity can be defined as the variety and variability of plants in a given region. It refers to the number of types or taxa in a given region or group. Floristic diversity can be measured at any level from overall global diversity to ecosystem, community, species, populations, individuals and even to genes within a single individual. The present survey deals with the floristic diversity of college campus in the former sense, i.e., the number of individual species in the area. The present paper attempts to highlight the diversity of vast plant resources of the college campus in a conservation perspective. In this survey we have focused only on the flowering plants of the campus Although the lower groups of plants (Pteridophytes, Lichens, Bryophytes) form a important part of vegetation and contribute significantly to the floristic diversity, they have been excluded in the present discussion.

Area of study:

Amravati is a district in the state of Maharashtra with its district headquarters situated at 20°55′33" N and 77° 45′53" E. The district is situated at 343m (1,125ft.) asl. The Amravati district has an area of 270 km^2. Vidyabharati College is situated in the prime location of the Amravati city. It has a set of beautiful buildings along with a play ground & Gardens situated over the 7.77 acres of a piece of a land. The total area under the gardens is about 30,000 sq.feet. The study area has well demarcated four seasons as a hot summer, heavily raining monsoon, a brief autumn and a mild winter. The area has sub tropical climatic conditions with ample rainfall in the monsoon resulting in a rich diversity of vascular plants.



Map: Amravati a district in the state of Maharashtra

MATERIAL AND METHODS

Plants were observed during all seasons of the year 2012-13. During observation field notes were recorded in field notebooks and voucher specimens of these species were collected. The collected specimens were processed using usual taxonomic methods of drying and mounting. The specimens were identified with the help of existing literature (Bentham & Hooker, 1862-83 ; Cooke, 1901-1908; Dhore, 1986; Naik, 1966,1977,1998; Singh *et al.*,2000; Singh *et al*; 2001) and have been preserved in the herbarium of Department of Botany, Vidya Bharati Mahavidyalya, Amravati.

RESULTS AND DISCUSSION

The Present study deals with the documentation of the total number of herbs, shrubs and angiospermic trees, which are the native of different countries. Some of these plants have been brought here from different areas of the country & cultivated over here in the garden, and some grow wildly in this area. A list of plant species in the catchment area starting by herbs, then shrubs, and at last angiospermic trees. A total of **91** species of flowering plants are documented in which **43** were herbs, **25** shrubs, and **24** angiospermic trees distributed in **22**, **13**, and **12** families respectively.

Table 1 : list of herbs

Sr. No.	Botanical Name	Family
1	*Vernonia cineria* (L.)Less.	Asteraceae
2	*Calendula officinalis* L.	Asteraceae
3	*Zinnia peruviana* (L)	Asteraceae
4	*Zinnia angustifolia* kunth.	Asteraceae
5	*Blainvillea acmella* L.	Amaranthaceae
6	*Aerva Lanata* (L.) Juss.	Amaranthaceae
7	*Achyranthus aspera* L.	Amaranthaceae
8	*Amaranthus poligonides* L.	Amaranthaceae
9	*Andrographis paniculata* (Burm.f.)Wall ex Ness	Acanthaceae
10	*Diplocyclous palmatus* L.	Cucurbitaceae
11	*Cocculus hirsutus* (L.) Deils	Menisparnaceae
12	*Oxalis corniculata* L.	Oxalideaceae
13	*Colocasia esculanta* (L.) Schott	Araceae
14	*Ocimum sanctum* L.	Lamiaceae
15	*Catharanthus roseus* (L.)	Apocynaceae
16	*Datura metal* L.	Solanaceae
17	*Withania somnifera* (L) Dunal.	Solanaceae
18	*Acalypha indica* L.	Euphorbiaceae
19	*Curcuma longa* L.	Zingiberaceae
20	*Zingiber officinale* Rosc.	Zingiberaceae
21	*Ipomoea cairica* (L.) Sweet.	Convolvulaceae
22	*Passioflora edulis* Sims.	Passifloraceae
23	*Aloe vera* L.	Liliaceae
24	*Asparagus racemosus* (L.) Willd.	Liliaceae
25	*Cissus qudrangularis* L.	Vitaceae
26	*Agave americana* (L.)A.L.Juss. ex Schutt	Agavaceae
27	*Hymenocallis littoralis* (Jacq.)	Amaryllidaceae

Table No.1 : Continued...

Sr. No.	Botanical Name	Family
28	*Jasminum auriculatum* Roxb.	Oleaceae
29	*Dianthus chinensis* L.	Caryophyllaceae
30	*Trigonella foenumgraecum* L.	Fabaceae
31	*Cynodon dactylon* (L.)Pers	Poaceae
32	*Dicanthium annulatum* (Hook.f.) Blatt. & Mc C.	Poaceae
33	*Lophopogon tridentatus* Hack.	Poaceae
34	*Andropogon pumilus* Roxb.	Poaceae
35	*Aristida hystrix* L.F.	Poaceae
36	*Chloris virgata* Swartz.	Poaceae
37	*Dactylotenium aegyptium* (L) P.Beauv.	Poaceae
38	*Eleusine indica*(L.)Gaertn.	Poaceae
39	*Setaria pumilla* (poir)R.	Poaceae
40	*Melanocenchris jacquemontii* Jaub.and Spach.	Poaceae
41	*Alpuda mutica*	Poaceae
42	*Eragrostis namaquensis* Schard var.*diplachnoides* (Steud)	Poaceae
43	*Eragrostis tanella*	Poaceae

Table No. 2: List of Shurbs

Sr. No	Botanical name	Family
1	*Hibiscus rosa-sinensis* L.	Malvaceae
2	*Abelmoschus moschatus* L.	Malvaceae
3	*Lawsonia inermis* L.	Lithraceae
4	*Murraya koenigii* (L.) Spr.	Rutaceae
5	*Citrus aurantiifolia* (Christm.) Sw.	Rutaceae
6	*Hamelia patens* Jacq.	Rubiaceae
7	*Ixora coccinea* L.	Rubiaceae
8	*Coffee arabica* Ritter Ron.	Rubiaceae
9	*Nyctanthes arbortristis* L.	Oleaceae
10	*Nerium oleander* L.	Apocynaceae
11	*Tabernaemontana divaricata* (L.) R. Br.	Apocynaceae
12	*Calotropis procera* (Ait) R. Br.	Asclepiadaceae
13	*Solanum nigrum* L.	Solanaceae
14	*Barleria cristata* L. var. *cristata*	Acanthaceae
15	*Adhatoda beddomei* Hong Gao	Acanthaceae
16	*Vitex trifolia* L.	Verbenaceae
17	*Lantana camara* L. var. *aculeatea*(L.) Mold	Verbenaceae
18	*Jatropha curcas* L.	Euphorbiaceae
19	*Ricinus communis* L.	Euphorbiaceae
20	*Acalypha wilkesiana* Muell. Arg.	Euphorbiaceae
21	*Euphorbia tithymaloides* L.	Euphorbiaceae
22	*Cajanus cajan*(L.)Millsp DC.nom. cons.	Fabaceae
23	*Calliandra calothyrsus* (Meisn.)	Fabaceae: Mimosoideae
24	*Indigofera tinctoria* L.	Fabaceae: Papilionaceae
25	*Punica granatum* L.	Punicaceae

Table No. 3: List of Angiospermic Trees

Sr. No	Botanical name	Family
1	*Azardirecta indica* A. Juss.	Meliaceae
2	*Ficus benghalensis* L.	Moraceae
3	*Ficus religiosa* L.	Moraceae
4	*Ficus glomerata* Roxb.	Moraceae
5	*Aegle marmelos* (L.) Corr.	Rutaceae
6	*Feronia limonia* L.	Rutaceae
7	*Mangifera indica* L.	Anacardiaceae
8	*Emblica officinalis* Gaertn.	Euphorbiaceae
9	*Psidium guajava* L.	Myrtaceae
10	*Santalum album* L.	Santalaceae
11	*Tectona grandis* L. f.	Verbenaceae
12	*Cocos nucifera* Linn.	Arecaceae
13	*Ziziphus mauritiana* L.	Rhamnaceae
14	*Butea monosperma* (Lam.) Taub.	Fabaceae
15	*Gliricidia sepium* (Jacq.)Walp.	Fabaceae
16	*Pongamia pinnata* (L.) pierre	Fabaceae

Catharanthus roseus

Hymenocallis littoralis

Calliandra calothyrsus

Nyctanthes arbortristis

Butea monosperma

Delonix regia

Eleusine indica

Themada quadrivalvis

Eragrostis namaquensis

Dianthus chinesis

Barleria cristata

Acalypha wilkesiana

Fig. 1:

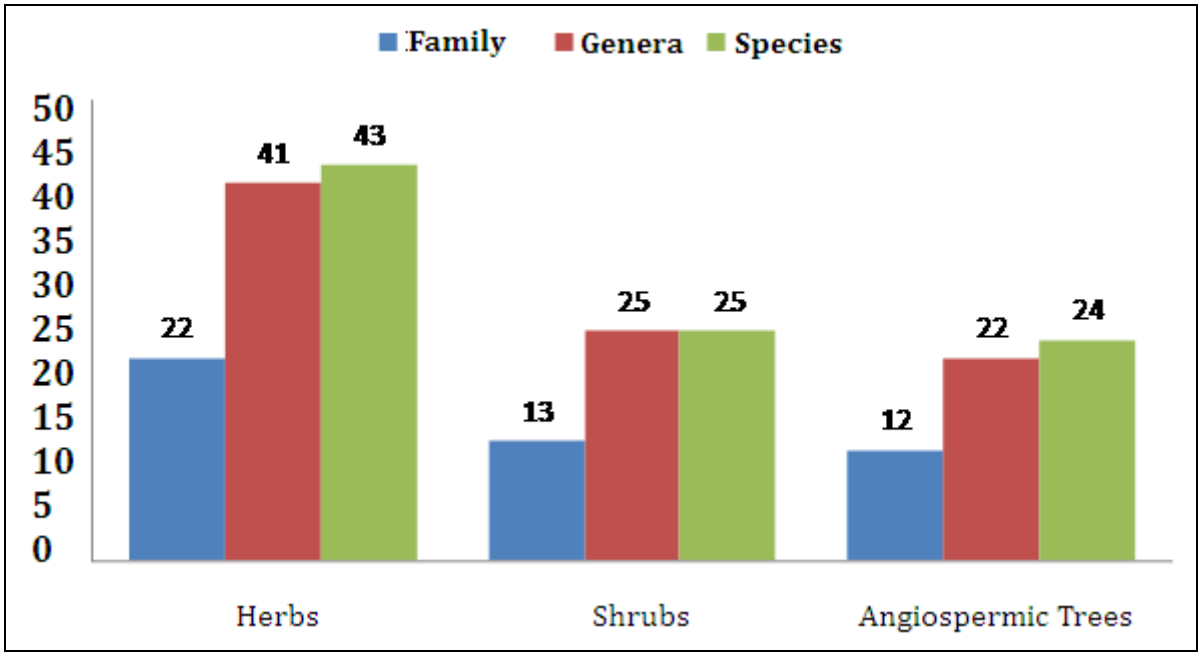


Fig. 2: showing number of Herbs, Shrubs, and Angiosperms with respect to their families, genera and species in the studied area

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