RESEARCH ARTICLE

DOCUMENTATION OF WEED FLORA IN KARNATAKA COLLEGE CAMPUS AT DHARWAD IN SOUTH INDIA

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Abstract: Plants which are grown in unwanted places are considered as weeds. A small attempt has been made to document the weed flora of Karnataka College Campus at Dharwad in Karnataka. The present work was undertaken during 2011 to 2015 and nearly 73 species of weeds belonging to 26 families have been documented. Some weeds are effectively preadapted to grow and proliferate in human-disturbed areas such as agricultural fields, lawns, roadsides, and construction sites. In locations where predation and mutually competitive relationships are absent, weeds have increased resources available for growth and reproduction. College campus and Botanical garden weeds have large ecological amplitude so they multiply and flourish well even in changed conditions. Since they have unique potentialities for adaptation, they survive almost in any environment and adjust themselves to changed conditions, which are also supported by the outcome of the present study.

Keywords: Botanic Garden, College Campus, Crops, Lawns, Soil, Weeds

INTRODUCTION

Plants are found everywhere in all kinds of soils, unless it happen to be unable to support plant life. Man tries to grow only a fraction of plants that he needs and the original inhabitants of soil become useless to him referring as weeds. The term weed has been defined in various ways by different authors and most of them convey only a partial meaning. Perhaps the most comprehensive one means that "weed is a plant out of a place". Some people define it as "a plant growing in a place where something else is expected to grow". This definition does not therefore recognize weeds of waste land; because man does not cultivate any plant in waste places and if he does they are no more such. Usually weeds are useless or relatively useless plants causing sometimes great damage to crops or live-stock or making a place ugly. They grow in the fields where they compete with crops for water, soil nutrients, light and space and thus reduce crop yields. They also harbor insects, pests and microorganism. Certain weeds release into the soil, the inhibitors or poisonous substances which are harmful to the plants, human beings and live stocks. They increase the expenditure on labor and equipment, render harvesting difficult, and reduce the quality and marketability of agricultural produce. They block the drainage and impede the flow of water in canals and water-transport channels and their growth in the rivers renders navigation very difficult. The dense growth of weeds in water pollutes the water because they deoxygenate the water and kill the fish.

When land is cultivated to raise crops, weeds spring up naturally along with the crop plants. Ordinarily under any sort of cultivation the natives of the soil try to assert themselves and no land is free from them, and as such they become "necessary corollaries of agriculture". Hence the continual struggle between the ryot and weeds. Being well adapted to the conditions of soil and environment the weeds are not easily destroyed. Therefore it becomes necessary that they should be studied in various aspects so that, ways and means may be devised to control or utilize them.

Despite the use of disease free and healthy seeds, ploughing, cultivation, hand pulling and crop rotation, weeds persist because of our inability to cope up with their great reproductive capacity and mass recycling potential. In contrast to cultivated plants, the weed is an invader, an uninvited guest in any cultivated field or garden or campus of various places. Weeds are excellent example of the struggle for existence. Out of more than 3,00,000 plant species known in the world about 3,000 species are the weeds.

College campus and Botanical garden weeds have large ecological amplitude so they multiply and flourish well even in changed conditions. Since they have unique potentialities for adaptation, they survive almost in any environment and adjust themselves to changed conditions. Man has been mostly different towards weeds and has allowed them to create havoc by growing, spreading and disseminating their seeds. Fortunately a large majority of the weeds are not harmful to cultivated with which they are associated.

Dharwad is one of the 29 districts of Karnataka in southern India. Karnataka College is situated in western part of Dharwad (14°, 78′ to 15, 5′N longitude and 74°, 48′ 76°, 00′ E longitude) elevation of 678 MSL above. The vegetation is dry deciduous type in the west to scrubby jungles in the eastern dryer parts. Eastern plains of the district have black cotton soil and western parts are with literate soil. College campus is with abundant red soil, in which

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large number of phanerogamic plants grows. This leads to grow many weeds in the campus. The present work is designed mainly to document, evaluate the richness, distribution, effect and medicinal uses of the weed flora of Karnataka College Campus at Dharwad

MATERIAL AND METHOD

Plants were collected during 2011 to 2015 and identified with the help of flora up to species level [1-10]. Standard herbarium techniques are followed and specimens are preserved in the Departmental Herbarium for further reference.

RESULT AND DISCUSSION

Karnataka College Campus at Dharwad in Karnataka is rich in weed plants, as over 73 plant species of 26 families are observed and identified at species level (Table 1). Some of them are medicinally useful and among surveyed, plants belonging to Asteraceae > Poaceae > Malvaceae > Acanthaceae and > Euphorbiaceae are large in numbers, respectively. These weeds have useful aspects such that (1) it minimizes the force of falling rain drops, (2) it checks soil erosion and sloping land mainly in belly terrains, (3) many weeds have medicinal importance, and, (4) some weeds fix atmospheric nitrogen in soil. Hence, sustainable utilization of these weeds resources warrants further study.

Table 1. List of weeds collected and documented from Karnataka College Campus at Dharwad in South India.

Family	Species
Acanthaceae	*Blepharis maderaspatensis* Juss.
	Crossandra infundibuliformis (L.) Needs.
	Justicia betonica Linn.
	Peristrophe bicalyculata (Retz) Nees.
	Thunbergia alata Boj. ex Sims
	Strobilanthes ciliatus Wall.ex Nees
Amaranthaceae	*Achyranthes aspera* Linn.
	Alternanthera triandra Lam.
Asclepiadaceae	*Gymnema sylvestre* (Retz) R. Br.
Asteraceae	*Ageratum conyzoides* Linn.
	Artemisia annua Linn.
	Blainvillea rhomboidea Cass.
	Blumea oxyodonta DC.
	Blumea eriantha DC.
	Conyza stricta Willd.
	Eclipta alba Haask.
	Lagasca mollis Cav.
	Parthenium hysterophorus Linn.
	Poidea biferata Linn.
	Sonchus aspera Hill.
	Spilanthes acmella Murr.
	Vernonia cinerea Less.
	Vicoa auriculata Cass.
	Tridax procumbens Linn.
Basellaceae	*Basella alba* Linn.
Ceasalpinaceae	*Cassia tora* Linn.
Chenopodiaceae	*Chenopodium murale* Linn.
Commelinaceae	*Commelina benghalensis* Linn.
	Cyanotis cristata Schult.
Convolvulaceae	*Ipomea biloba* Forsk.
Cuscutaceae	*Cuscuta reflexa* Roxb.
Cyperaceae	*Cyperus rotundus* Linn.
Euphorbiaceae	*Acalypha indica* Linn.
	Euphorbia corrigioloides Boiss.
	Euphorbia hirsute Linn.
	Euphorbia geniculata Ort.
	Euphorbia pulcharrima Willd.
Lamiaceae	*Coleus forskohlii* (Wild.) Briq.
	Leucas aspera R. Br.
	Leucas martinicensis (Jacq.) R. Br.
Malvaceae	*Abutilon indicum* G. Don.
	Malvestrum coromandalianum Gorcke.
	Sida acuta Burm.
	Sida cardifolia Linn.
	Sida rombifolia Linn.

	Sida mysorensis Wight & Arn.
Minispermaceae	*Cocculus hirsutus* (L.) Diels
Mimosaceae	*Mimosa pudica* Linn.
Nyctaginaceae	*Boerhaavia diffusa* Linn.
Oxalidaceae	*Oxalis corymbosa* (DC.) Lourteig
	Oxalis carniculata Linn.
Papaveraceae	*Argemone mexicana* Linn.
Papilioniaceae	*Desmodium triflorum* DC.
	Crotolaria albida Heyne.
	Indigofera hirsute Linn.
	Indigofera parviflora Heyne.
Poaceae	*Cenchrus ciliaris* Linn.
	Cynodon dactylon Pers.
	Digitaria sanguinalis (L.) Scop.
	Digitaria ciliaris (Retz.) Koeler.
	Eleusine indica Gaern.
	Eragrostis aspera Nees.
	Eragrostis bifaris (Vahl) Wight
	Panicum dichotomiflorum Michx.
	Setaria glauca (L.) Beauv.
	Themeda triandra Forssk.
Plumbagenaceae	*Plumbago zeylanica* Linn.
Rubiaceae	*Heliotropium indicum* Linn.
Solanaceae	*Datura innoxia* Linn.
	Datura metel Linn.
	Solanum nigrum Linn.
Umbelliferae	*Centella asiatica* Linn.
Verbenaceae	*Lantana camera* Linn.

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