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Research Article

PLANT SPECIES DIVERSITY IN MALLIKARJUN ROCKY HILLS OF RAICHUR, KARNATAKA, INDIA

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ABSTRACT
The abiotic factors such as sunlight, temperature, wind, moisture and rainfall determine the structure and composition of the vegetation of a particular habitat. The plant species diversity is mainly relevant to the change of climate of the area. The present study investigated the status of plant species diversity in Mallikarjun rocky hills of Raichur. A total 41 species belonging to 41 genera and 29 families have been recorded. It is observed that the number of plants was highest in the rainy season and lower in the summer season. The Rocky hill flora shows very rich representation of dicotyledons (35) as compared to monocotyledons (06). It is interesting to note that the Fabaceae and Asteraceae members are dominant followed by Amaranthaceae, Apocynaceae, Convolvulaceae, Euphorbiaceae, Lamiaceae, Malvaceae, Solanaceae and Poaceae respectively.

***Keywords**: Plant Species, Mallikarjun Rocky Hill, Diversity, Raichur, Karnataka*

INTRODUCTION
All over the world biodiversity is in steady decline mainly due to habitat fragmentation and degradation (Fischer & Lindenmayer 2007). The considerable variation in the vegetation of a particular habitat is seen because of remarkable climate change and anthropogenic impact. It is important to restore the biodiversity rather than stopping its declination. To know the plant species diversity and their status in among different forests of the world is an urgent need of the present time. In India many plant researchers have reported the distribution of plant species in different regions among which some of them are namely Ramanjam and Kadamban (2001), Bairagee and Kalita (2003), Shrikanth *et al.*, (2006), Anuradha Chauhan *et al.*, (2007) , Vinay Ranjan (2010) , Shiragave, P. D. (2015) , Patharaj (2016) , Soosairaj *et al.*, (2016) and Balkrishna *et al.*, 2018). The Raichur Mallikarjun Rocky hill forest is located in Northern part of Karnataka and lies between $17^0$35' and $18^0$25' north latitude and $76^0$42' and $77^0$39' east longitude and altitude of 514 meters from the Sea level and the average temperature from 30 to 42 ^{0}C (Figure 1, 2).

Figure 1: Map of Raichur district showing Mallikarjun rocky hills in Karnataka

Figure 2: Panoramic view of Mallikarjun rocky hills of Raichur

MATERIALS AND METHODS

Frequently visited the Mallikarjun rocky hills of Raichur in different seasons and collected plants growing in the study area. The collected angiosperm plants were transferred to the blotting paper and carried to the laboratory. All the plants were identified by using the flora such as "Flora of Gulbarga District" (Seetharam et al, 2000) [13] "Flora of presidency of Madras" (Gamble's 1915-1935) "Flora of Karnataka" (Saldhana et al, 1988) and prepared the herbaria. These plants were deposited in the department of Botany, Laxmi Venkatesh Desai College Raichur for further reference.

RESULTS AND DISCUSSION

About 41 plant species belonging to 41 genera and 29 families of phenarogams have been recorded from Mallikarjun rocky hills of Raichur and are arranged alphabetically along with their family (Table: 1, Plate 1,2,3,4, Figure 3,4).

It is apparent from the present study that 41 species of plants belongs to 41 genera and 29 families occurs in the Mallikarjun rocky hills of Raichur, Karnataka. The different forms of plant species namely herbs are represented by 27 species and shrubs by 08 species, climber by 01 species and trees by 05 species. Herbs and shrubs have been observed growing in normal shape and size throughout all seasons except during summer, but the tree species are in extremely stunted condition. Present exploration has recorded 35 species of diocots and 06 species of monocots respectively. Fabaceae (3) and Asteraceae (3) members are dominant followed by Amaranthaceae (2), Apocynaceae (2), Convolvulaceae (2), Euphorbiaceae (2), Lamiaceae (2), Malvaceae (2), Solanaceae (2) and Poaceae (2). Nineteen families were represented by only one species. The diversity of plant species of Mallikarjun rocky hills of Raichur was rich due to the occurrence of very fertile black soil and suitable for luxurious growth of the plants. In this hill, situated a temple of lord mallikarjun which has got the significance for its purity and holiness. This place has history of about 1200 to 1400 years and belived that many saints namely Yallalinga Maharaja, Siddalinga Maharaja, Kiralinga Maharaja and Sharanappa Maharajaya came here for meditation and attained the salvation. The present report play significant role to enrich the existing flora of our country. Several authors have also studied flora of rocky hills in various parts of the world (Hossain *et al*., 2005 and Ghimeray *et al*., 2010.)

Table 1: Enumeration of plant species diversity in Mallikarjun rocky hills of Raichur

Name of the plant Species	Name of the plant Species Family	Habit
Justicia simplex D. Don	Acanthaceae	Herb
Achyranthes aspera L.	Amaranthaceae	Herb
Allmania nodiflora (L.) R.Br.	Amaranthaceae	Herb
Annona squamosa L.	Annonaceae	Shrub
Cryptostegia grandiflora R.Br.	Apocynaceae	Shrub
Caralluma stalagmifera C.E.C. Fisch.	Apocynaceae	Herb
Phoenix sylvestris (L.) Roxb.	Arecaceae	Tree
Aristolochia indica L.	Aristolochiaceae	Herb
Calotropis procera L.	Asclepidiaceae	Shrub
Drimia indica (Roxb.) Jessop	Asparagaceae	Herb
Tridax procumbens L.	Asteraceae	Herb
Echinops echinatus Roxb.	Asteraceae	Herb
Parthenium hysterophorus L.	Asteraceae	Herb
Brassica nigra (L.) W.D.J.Koch	Brassicaceae	Herb
Cleome viscosa .L	Capparaceae	Herb
Iphigenia indica (L.) A.Gray ex Kunth	Colchicaceae	Herb
Commelina bengalensisi L.	Commelinaceae	Herb
Cuscuta reflexa Roxb.	Convolvulaceae	Climber
Evolvulus alsinoides L	Convolvulaceae	Herb
Cyperus compressus L.	Cyperaceae	Herb
Euphorbia hirta L	Euphorbiaceae	Herb
Jatropa gossipifolia L.	Euphorbiaceae	Shrub
Gleciridia sepium (Jacq.)Walp.	Fabaceae	Tree
Prosopis juliflora (Sw.) DC.	Fabaceae	Tree
Tamarindus indica L	Fabaceae	Tree
Hyptis suaveolens (L.) Poit	Lamiaceae	Shrub
Leucas aspera (Willd.)Link	Lamiaceae	Herb
Malva sylvestris L	Malvaceae	Herb
Abutilon indicum L.	Malvaceae	Shrub
Azadirachta indica Juss.	Meliaceae	Tree
Boerhavia diffusa L.	Nyctaginaceae	Herb
Striga gesneriods (Willd.)Vatke	Orobanchaceae	Herb
Argemone maxicana L.	Papaveraceae	Shrub
Phyllanths niruri L.	Phyllanthaceae	Herb
Cynodon dactylon (L.)Pers.	Poaceae	Herb
Cymbopogon citratus (DC) Stalf	Poaceae	Herb
Datura inoxia L.	Solanaceae	Herb
Solanum surattense Burm.f	Solanaceae	Herb
Lantana camara L	Verbenaceae	Shrub
Hybanthus enneaspermus (L.) F.Muell.	Violaceae	Herb
Tribulus terrestris L.	Zygophyllaceae	Herb

PLATE-1

Justicia simplex D. Don.

Achyranthes aspera L.

Cryptostegia grandiflora R.Br.

Caralluma stalagmifera C.E.C. Fisch.

Commelina bengalensisi L.

Cuscuta reflexa Roxb.

PLATE-2

Phoenix sylvestris (L.) Roxb.

Aristolochia indica L.

Drimia indica (Roxb.) Jessop

Evolvulus alsinoides L.

Iphigenia indica (L.) A.Gray ex Kunth

Phyllanths niruri L.

PLATE-3

Euphorbia hirta L. – *Habit*

Jatropa gossipifolia L.

Tamarindus indica L.

Echinops echinatus Roxb.

Abutilon indicum L.

Azadirachta indica Juss

PLATE-4

Datura inoxia L.– Habit

Solanum surattense Burm.f

Lantana camara L.

Tribulus terrestris L.

Argemone maxicana L.

Cymbopogon citratus (DC) Stalf

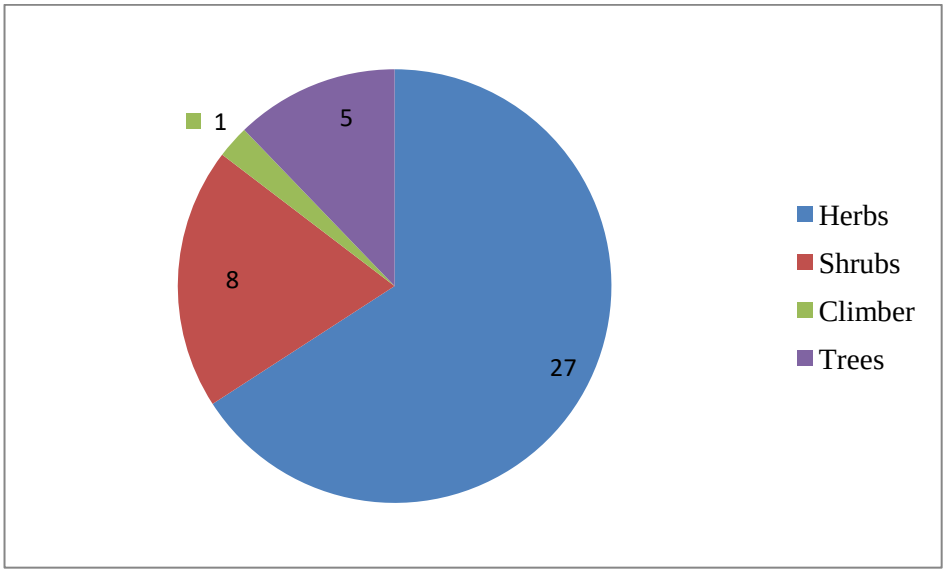

Figure 3: Life form wise distribution of plant species in the Mallikarjun rocky hills of Raichur

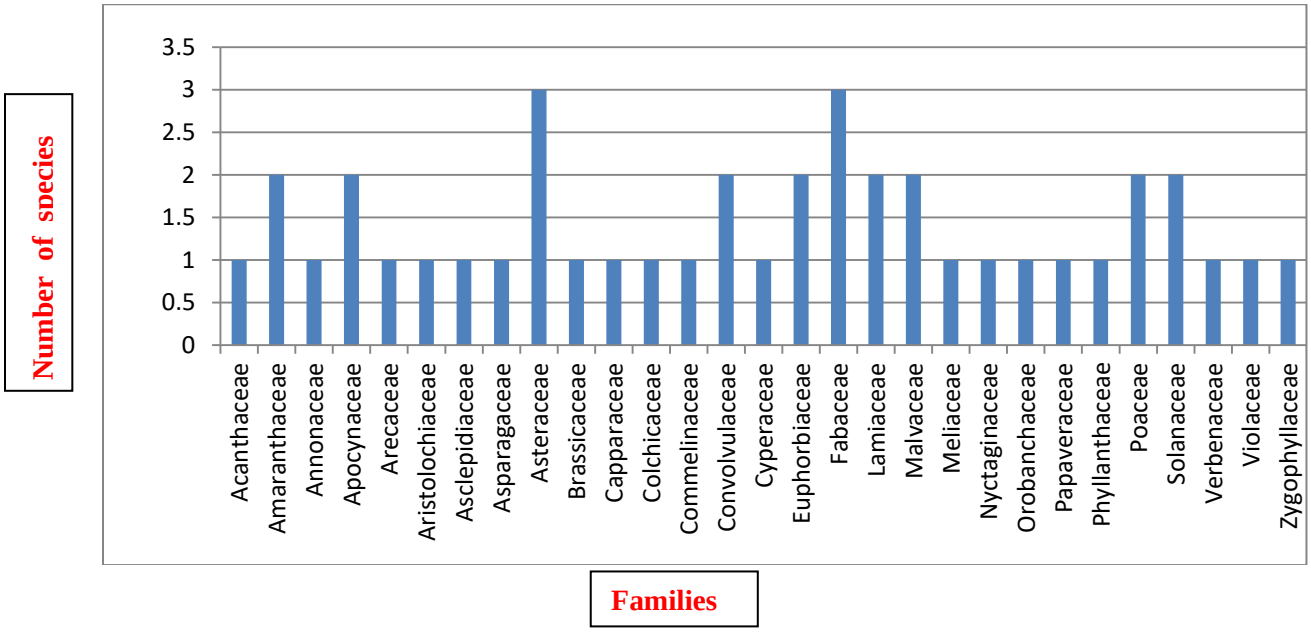

Figure 4: List of families with number of genera and species of Mallikarjun rocky hills of Raichur

CONCLUSION

In India and abroad forest resources provide protection to environment and wildlife. It also enhances water holding capacity of soil, maintains the soil fertility, checks soil erosion, reduces flood disaster etc. people have to understand the significance of forests resources and the fact that deforestation threatens the ecology. Thus, people have to create more interest and involve in conservation of forest resources.

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