

UGC SPONCERED MINOR RESEARCH PROJECT
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Assessment of Angiosperm Diversity of Lateritic Plateaus of Konkan

EXHECUTIVE SUMMARY

Biodiversity is the very basis of human survival and economic well-being. With current estimates of the total number of species on earth is of 13.6 million species of these, only 1.76 million species have been so far recorded. Western Ghats alone harbour about 1600 endemic plant species (Ahmedullah & Nayar, 1986; Nayar 1996). The biodiversity of Western Ghats is also due to its various habitats influenced by rainfall, altitude, latitude, edaphic conditions etc. The plateaus, stand out in their uniqueness which are quite frequent in Northern Western Ghats. In Maharashtra, low altitude lateritic plateaus (below 100 m from MSL) are common in Konkan region.

Plateaus in konkan lack proper substrate (soil) and exhibit extreme climatic conditions like daily thermal variation, constant winds, high evapotranspiration, low water retention and impermeable soils. Plant species diversity in this area is basically edaphically controlled and show adaptation for water accumulation. Infact, these habitats serve as centres of diversity of desiccation-tolerant plants. In India, studies on plateaus are yet to gain pace. Till date there is no comprehensive account on the flora of plateaus. There is no checklist available on plateau flora. Secondly, the flora on the plateaus comprises mainly ephemeral and seasonal herbaceous elements and hence gets neglected by the botanists. Also, their dry barren appearance during drier months have led people to label them as waste lands. In addition, these plateaus face an immediate threat because they lie on top of good-quality iron and aluminium deposits of

worldwide economic importance. Hence, the present study was carried out to study the vegetation of the plateaus, to inventory the angiosperm diversity, to document threatened and endemic taxa of the plateaus and assessing their present status based on IUCN criteria and finally to assess their (plateaus) potential as reservoir of useful plants. This data will serve as a baseline for setting up conservation guidelines as many narrow endemics inhabit these plateaus.

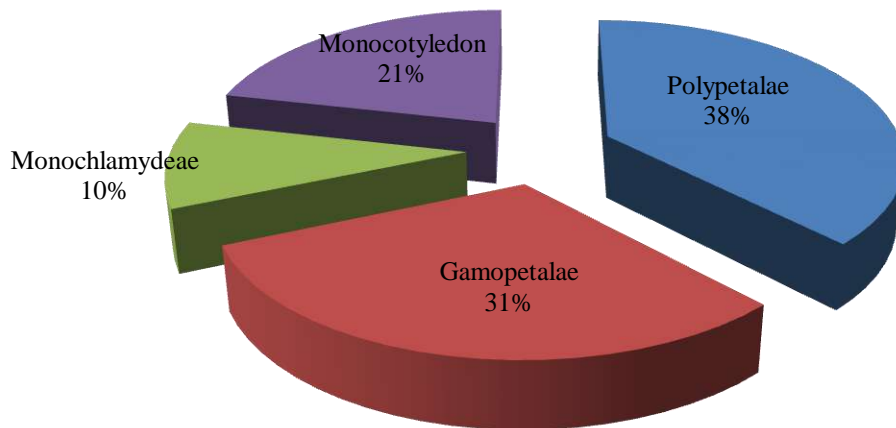
Floristic analysis:

A total of 515 taxa of angiosperms belonging to 233 genera under 93 families have been described from the Konkan region. The table shows the differential distribution of four subclasses Polypetalae, Gamopetalae and Monochlamydeae in the area of study.

Taxa	Families	Genera	Species
Polypetalae	40	88	122
Gamopetalae	23	72	98
Monochlamydeae	10	23	34
Monocotyledon	20	50	61

Pie chart showing the dominance of taxa at different taxonomic rank:

Distribution of taxa at different taxonomic rank



Amongst the angiosperms, Polypetalae dominates with respect to the number of genera and species.

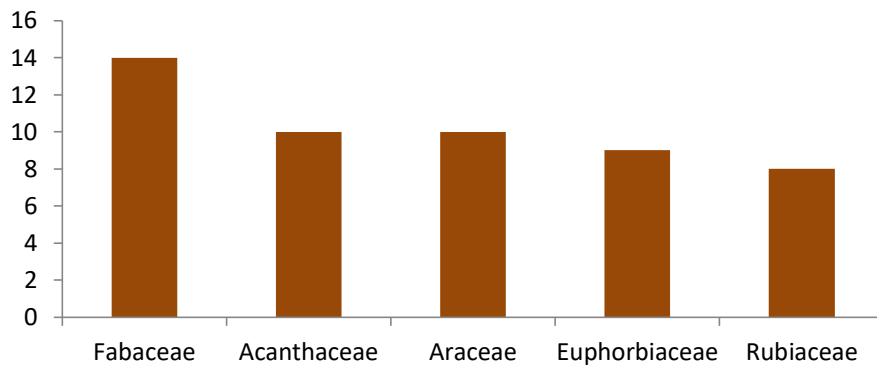
Five dominant families based on the number of genera and species in Konkan:
Out of the total 93 families of Angiosperms occurring in Konkan the five dominating families accounts for 23.17% of genera.

Family	Genera
Fabaceae	14
Acanthaceae	10
Araceae	10
Euphorbiaceae	9
Rubiaceae	8

Family	Species
Fabaceae	28
Euphorbiaceae	13
Araceae	12
Acanthaceae	11
Rubiaceae	9

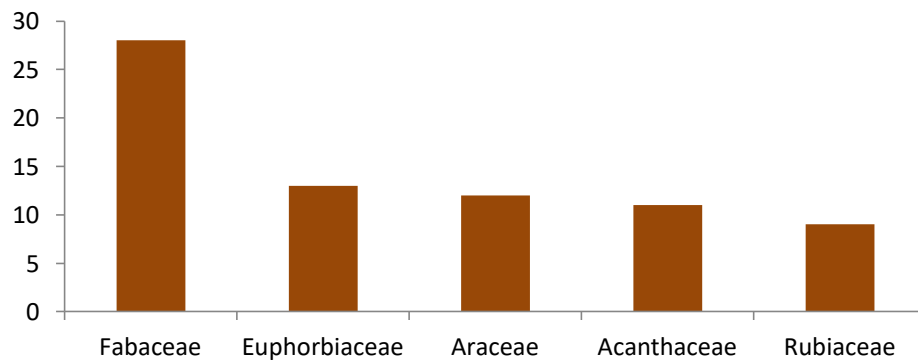
Graph showing the top five families with highest number of genera:

Families with highest number of genera



Graph showing the top five families with highest number of species:

Families with highest number of Species



Amongst the angiosperms studied in the region, family fabaceae dominates the others with respect to the number of genera as well as number of species.



Dillenia pentagyna



Nymphaea pubescens



Nymphaea rubra



Cleome chelidonii



Cleome simplicifolia



Sida acuta



Urena lobata



Bombax ceiba



Firmiana colorata



Helicteres isora



Triumfetta rhomboidea



Biophytum reinwardtii



Impatiens pulcherrima



Ochna obtusata



Cardiospermum helicacabum



Derris scandens



Geissaspis cristata



Mucuna pruriens



Moullava spicata



Drosera burmanni



Terminalia bellirica



Careya arborea



Osbeckia muralis



Woodfordia fruticosa



Ludwigia octovalvis



Passiflora foetida



Momordica dioica



Ixora coccinea



Morinda citrifolia



Mussaenda glabrata



Neanotis foetida



Pavetta crassicaulis



Echinops echinatus



Elephantopus scaber



Senecio bombayensis



Holarrhena pubescens



Rauwolfia serpentina



Ceropegia anantii



Ceropegia mohanramii



Heterostemma dalzellii



Exacum tetragonum



Rhamphicarpa longiflora



Sopubia delphinifolia



Striga gesnerioides



Aeginetia indica



Utricularia reticulata



Sesamum laciniatum



Barleria prattensis



Barleria prionitis



Neuracanthus sphaerostachyus



Clerodendrum philippinum



Clerodendrum serratum



Tectona grandis



Achyranthes aspera



Elaeagnus conferta



Breyenia retusa



Bridelia retusa



Euphorbia konkanensis



Ricinus communis



Sapium insigne



Artocarpus heterophyllus



Ficus arnottiana



Aerides maculosum



Costus speciosus



Zingiber zerumbet



Ananas comosus



Curculigo orchiooides



Crinum viviparum



Tacca leontopetaloides



Asparagus racemosus



Dipcadi cocconensis



Gloriosa superba



Camptorrhiza indica



Cyanotis tuberosa



Pandanus odoratissimus



Aponogeton bruggenii



Amorphophallus konkanensis



Ariopsis peltata



Arisaema tortuosum



Fimbristylis complanata