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OBSERVATIONS ON THE VEGETATION OF SOUTH ARCOT DISTRICT, TAMIL NADU

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South Arcot District lies on the eastern side of Peninsular India, between 11° 9′ to 12° 6′ N and 78° 48′ to 79° 50′ E. It is surrounded by Chengleput District in the north, North Arcot and Salem Districts in the west, Tiruchirapalli and Thanjavur Districts in the south and the Bay of Bengal in the east. Most of the area is flat and plain, very gently sloping down from the west to the sea in the east and also from the north to the south, except for a strip of high grounds near Virudachalam. The main rivers are the Gingee, Pennaiyar, Gadilam, Uppanar, Vellar and Coleroon, all draining into the Bay of Bengal. Sudden floods during rains are a common feature of these rivers. The flood waters recede as rapidly as they appear. The major tanks are Perumal yeri, Veeranam Lake and Wellington reservoir.

The climate is generally of coastal type without extremes of heat and cold. The coastal tracts are more humid than the inland areas.

Red loamy soil is the most common type of soil especially in scrub formations. It is deep in the plains and becomes gravelly with rocky outcrops in the hilly areas. Generally an impenetrable rocky bed is seen below these soils. Though the soil is deficient in humus content it has a fair measure of moisture retaining capacity. The sandy soil with a slight admixture of silt occurs in the coastal region. In Pichavarám and Kille areas owing to the rise and fall of tides and the salinity of the water, the soil is more or less clayey and poor in drainage.

Biotic interferences like grazing by cattle and chopping of plants by human beings for fuel and green manure result in stunted growth of plants, in the area.

Sporadic plant collections made from the area under study by Barber (1899-1906), Raju and Naganathan (1926), Narayanaswamy (1931), Sebastine (1959-61) and Ramamurthy (1961-62) are deposited in MH. Thus 536 species from this area, belonging to 342 genera under 102 families are represented in MH.

Plant collections in South Arcot District was started in 1977 and is in progress. Regular field trips were undertaken during September, 1977; January, 1978 and September-October, 1978, resulting in a collection of 433 field numbers. These yielded 397 taxa and are deposited in MH.

Dry scrub vegetation, aquatic and marshy vegetation and mangrove vegetation are the main vegetational types found in this district.

The Dry Scrub Vegetation consists mainly of drought resistent spinous shrubs and small trees. The ground flora comprises of herbaceous plants. The permanent mostly xerophytic vegetation shows various xeromorphic features such as succulence, stunted growth etc. The small trees which are common include *Acacia ferruginea* (Roxb.) DC., *A. leucophlaea* (Roxb.) Willd., *Dichrostachys cinerea* (L.) Wight & Arn., *Ziziphus mauritiana* Lam., *Z. oenoplia* (L.) Mill., *Z. xylopyrus* (Retz.) Willd. etc. *Barleria prionitis* L., *Capparis zeylanica* L., *Carissa hirsuta* Roth, *Maytenus emarginata* (Willd.) Ding Hou,

Pisonia aculeata L., *Randia malabarica* Lam., *Scutia circumscissa* (L. f.) Druce, *Toddalia asiatica* (L.) Lam. etc., are the common shrubs. *Alangium salvifolium* (L. f.) Wang, *Bauhinia racemosa* Lam., *Clausena dentata* (Willd.) Roem., *Strychnos potatorum* L. f. and *S. nux-vomica* L., are some of the other plants found. These shrubs and small trees support a number of twiners and tendril or hook climbers like, *Abrus precatorius* L., *Cardiospermum canescens* Wall., *Ceropegia juncea* Roxb., *Derris scandens* (Roxb.) Benth., *Dioscorea oppositifolia* L., *D. pentaphylla* L., *D. tomentosa* Koenig ex Spr., *Gloriosa superba* L., *Gymnema sylvestre* (Retz.) R. Br. ex Schult., *Hemidesmus indicus* (L.) Schult., *Ichnocarpus frutescens* (L.) Ait. & Ait. f., *Pergularia daemia* (Forsk.) Chiov. and *Rivea hypocrateriformis* Choisy.

During the rainy season a variety of herbaceous plants cover the ground giving a vivid green surface. Since these plants complete their life cycle in a short period and die they help in increasing the humus content of the soil. Plants like *Acalypha ciliata* Forsk., *Achyranthes aspera* L., *Aristida setacea* Retz., *Blumea mollis* (D. Don) Merr., *Celosia argentea* L., *Cyanotis papilionacea* Schult. f., *Digitaria ciliaris* (Retz.) Koel., *Emilia sonchifolia* (L.) DC., *Euphorbia thymifolia* L., *Indigofera linnaei* Ali, *Oldenlandia umbellata* L., *Phyllanthus maderaspatensis* L., *Polycarpaea corymbosa* (L.) Lam. and *Zornia gibbosa* Span., belong to this category. In areas where the soil consists of gravel forming a superficial mantle over the rocks, *Oropetium thomaeum* (L. f.) Trin., forms a dense tufted growth along with *Drosera burmanii* Vahl and *Drosera indica* L.

The ground floor vegetation comprises of some interesting plants, including terrestrial orchids like *Eulophia epidendraea* (Retz.) Fischer and *Habenaria plantaginea* Lindl., and insectivorous plants like *Drosera burmannii* Vahl, *D. indica* L., *Utricularia hirta* Klein ex Link., and *U. minutissima* Vahl. The partial stem parasite *Dendropthoe falcata* (L.) Etting., growing on *Acacia* sp., the total parasite *Cassytha filiformis* L., twining on *Dodonaea viscosa* (L.) Jacq., and the root parasite *Striga angustifolia* (D. Don) Saldanha are also observed in the area.

The following aquatic and semiaquatic angiosperms are commonly seen : *Ammannia baccifera* L., *Aponogeton natans* (L.) Syl. & Koey., *Bulbostylis barbata* (Rottb.) Kunth., *Cyperus rotundus* L., *Eichhornia crassipes* (Mart.) Solms, *Hydrophila auriculata* (Schum.) Heine, *Limnophila indica* (L.) Druce, *Nechamandra alternifolia* (Roxb.) Thw., *Nymphaea pubescens* Willd., *Ottelia alismoides* (L.) Pers., *Polygonum glabrum* Willd., *Potamogeton nodosus* Poir., *Typha augustata* Chaub., Bory *et al.*

Isoetes coromandelina L., occurs in pure formations in many low lying areas during retreating monsoon.

The mangrove forests are found in Kille and Pichavaram area occupying about 1400 hectares in South Arcot District. The vegetation thrives under a water-logged condition, where soil aeration is very poor. The varying degree of salinity is an important factor, peculiar to the mangroves. The mangroves exhibit well defined zones. The first zone which borders the forest is occupied by *Acanthus ilicifolius* L., *Aegiceras corniculatum* Bl., *Excoecaria agallocha* L., *Rhizophora candelaria* DC., *R. mucronata* Lam., *Sonneratia apetala* Buch.-Ham. etc. In the second zone, plants like *Avicennia marina* Vierh., *A. officinalis* L., *Bruguiera cylindrica* (L.) Bl., *Ceriops roxburghiana* Arn., and *Lumnitzera racemosa* Willd., are found. The undergrowth is spares. In the third zone halophytic plants like *Arthrocnemum fruticosum* Moq., *A. indicum* Moq., *Salicornia brachiata* Roxb., *Sesuvium portulacastrum* L., *Suaeda maritima* Dunn., *S. monoica* Forst. and *S. nodiflora* Moq., are very common. Here and there are found stunted plants of *Avicennia marina* Vierh. In places of high salinity no plant

grows. In flat lands which are flooded by sea-water or otherwise during rains abundant growth of *Suaeda fruticosa* Forsk., and *Cressa cretica* L., is seen.

During the present floristic studies a new species *Justicia gingiana* Seb. et Ramam., was discovered. *Utricularia hirta* Klein ex Link, and *Halophila beccarii* Aschers., are two new records collected from the area. *Mussaenda tomentosa* Wight has been relocated from the type locality.

Some plants endemic to Peninsular India were also collected. There are *Acacia ferruginea* (Roxb.) O. Kuntze, *Cyanotis fasciculata* (Heyne ex Roth) Schult. f., *C. papilionacea* Schult. f., *Digitaria tomentosa* (Koenig) Henr., *Justicia beddomei* Clarke, *J. glauca* Rottl., *Lepidagathis cristata* Willd., *Leonotis nepetaefolia* (L.) R. Br., *Leucas diffusa* Benth., *Mussaenda tomentosa* Wight, *Scirpus jacobi* Fischer and *Sesbania procumbens* Wight & Arn.

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