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EXPERIMENTAL GARDEN AND NATIONAL ORCHIDARIUM AT YERCAUD AND THEIR ROLE IN THE BOTANICAL STUDIES IN THE PENINSULAR INDIA

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Botanical Survey of India, Yercaud

INTRODUCTION

Botanical Survey of India, after its revival opened Experimental Gardens and National Orchidaria at different regions of the country recognising the significance of botanical gardens in solving taxonomic problems which require additional data from experimental studies. The Experimental Garden and National Orchidarium at Yercaud, Shevaroys Hills, Salem District, Tamil Nadu, is one such opened for the Southern Circle, in the year 1963-64.

LOCATION AND CLIMATE

The garden is about 3 km away from Yercaud town in hilly grounds with altitudes 1380 to 1511 m above MSL. The garden provides the following ecological parameters : Annual rain fall rainging between 150 & 165 cm received through both South-West and North-East monsoons, relative humidity between 67 & 87% and temperature between 11 & 28° C.

The soil in the garden grounds is rich in archaean charnokite (Krishnan, 1956). Along the slopes the soil is red sandy loam with accumulation of rich humus in patches.

VEGETATION

The vegetation in the area is a mixture of deciduous and evergreen elements. The garden is having 2050 trees providing shade comprising about 58 species and the most dominant among them are : *Canthium dicoccum* (Gaertn.) T. & B., *Emblica officinalis* Gaertn., *Pterocarpus marsupium* Roxb., *Santalum album* L., *Sterculia villosa* Roxb., *Syzygium cumini* (L.) Skeels and *Vaccinium neilgherrense* Wight. An endemic species *Crotalaria shevaroyensis* Gamble, occurs as a shrub in the area.

The Experimental Garden and National Orchidarium, Yercaud has made Germ-plasm collections of 182 orchid species and other bulbous and rhizomatous plants, succulents, ferns and a few economic plants including species of medicinal value. These are flourishing. Some rare and endangered plants of Peninsular India and elsewhere like *Acanthephippium bicolor* Lindl., *Anemia schimperiana* Presl, *Anoectochilus elatior* Lindl., *Bentinckia condapanna* Berry ex Roxb., *Botrychium lanuginosum* Wall. ex Hook. & Grev., *Gnetum ula* Brongn., *Lilium neilgherrense* Wight, *Nepenthes khasiana* Hook f., *Psilotum nudum* (L.) Beauv. etc., are being successfully cultivated. Further, for experimental taxonomic studies collections have been brought together of *Musa* sp. from Visakhapatnam District, Andhra Pradesh, which has proved to be new species. A study of variation in vegetative and floral characters of *Dendrobium, herbaceum* grown in the Orchidarium, indicates a probable existence of two separate species. Epidermal study in 10 species of *Coelogyne*

Lindl., enabled the preparation of an artificial key for identification of these species and has also helped in the recognition of groups within the genus, indicating the probable phylogenetic trends. Constancy of stomatal types with in a species has also been observed (Banerjee and Rao, 1978). Observation of abnormal inflorescences in *Oberonia verticillata* Wight (Rao, 1978).

Discovery of the fibre which is almost like Jute and Mestha, obtained from a local wild species, *Decaschistia crotonifolia* Wight & Arn. and the utilization of a species of *Eragrostis* Beauv.. as a soil binder are considered significant achievements. Further, selection of wild showy flowering plants for horticulture has been carried out by introducing *Jasminum bignoniaceum* Wall. ex DC. and *Stachytarpheta mutabilis* Vahl, as hedge plants ; *Mussaenda hirsutissima* (Hook. f.) Hutch. ex Gamble and *Crotalaria shevaroyensis* Gamble, as ornamental shrubs and *Argyreia cuneata* (Willd.) Ker-Gawl., as an ornamental creeper. A survey of the naturally occurring plants in the garden grounds, as also in and around Yercaud is being carried out.

The work of the scientific staff attached to this garden has resulted in the publication of some interesting papers. (Ansari, 1977 ; Joseph & Rao, 1974 ; Pandey, 1971 ; V. J. Nair & Pandey, 1972 ; Rao, 1966, 1969).

The garden assists other scientists by supplying plant materials for their research. It is also maintaining an 'Index Seminum' and a Herbarium for the use of the local students. A number of botanical exhibits have also been displayed in the Salem Museum to disseminate botanical knowledge among the general public.

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