

ORCHIDS IN GOVERNMENT BOTANICAL GARDEN UDHAGAMANDALAM, THE NILGIRIS, TAMIL NADU

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The Botanical Garden, was established in 1847 by Marquies Tweedale by collecting subscriptions from the European residents in the Nilgiris. The first curator Mr. W.G. McIvor from Kew developed the garden and gave a definite shape to it. It covers an area of about 51 acres at an elevation 2200-2400m. The average annual rainfall is 1400 mm. With occasional frosty nights from December to February and the temperature fluctuates between 28°C and 0°C. The lawns are beautifully laid out and planted with indigenous and exotic ornamental trees, shrubs and herbs. There is a fine terrace laid out with flower beds in Italian style, three conservatories, and a range of glass houses for propagating and nursing plants of special interests in this garden. (Nathan, 1941; Price, 1908).

The garden is divided into six different sections, viz.

1. Lower garden
2. New garden
3. Italian garden
4. Conservatory
5. Fountain terrace
6. Nurseries

Objectives of the Garden

1. To promote horticultural activities in this district and also in the state of Tamil Nadu.
2. To serve as a reference centre for researchers and students of horticulture, botany and allied subjects.
3. To introduce exotic ornamental plants of economic importance.
4. To collect and maintain a record of information on the flora of Nilgiris, including exotic collections.
5. To take suitable conservatory steps to preserve the Nilgiri Biosphere. The rare, endangered and economic plants of the region will be propagated by *in vitro* methods.

Among the wild flowers of Nilgiri Biosphere, orchids are very important and much sought after in international floricultural trade. They are beautiful multicoloured forms representing one of the largest families in the flowering plants group. The Western Ghats, especially the Nilgiris constitute one of the richest natural orchid treasure houses comprising 113 species reported by Sharma *et al.* (1977), 121 species reported by Joseph (1987) and 128 species reported by Henry *et al.* (1989).

The conservation of natural resources *in situ* or by *ex situ* methods in many conservatories has increased rapidly today. In recent times, owing to changes in human life style and due to anthropogenic pressure by the locals, many plants face threats in the wild and need to be conserved.

A collection of 49 species of orchids from within Nilgiri forest area and outside for *ex situ* conservation. They are either terrestrial or epiphytic. The terrestrial orchids are cultivated using pots with pieces of brick, charcoal and leaf mould in the ratio 2:2:1. The epiphytic orchids are grown in pots or beds equal parts of brick and charcoal pieces without leaf mould. Further, epiphytic orchids are suspended on dead wood pieces tied with moss and are periodically watered. Manure is seldom applied. We have adopted this recommended procedure as practised by the National Orchidarium, Yercaud (Ansari & Dwarakan, 1995). The plant growth and phenology and related observations are under progress.

The nomenclature has been updated by Sarkar (1995). The orchids listed in Table 1 have been selected for *ex situ* conservation; and the asterix (*) indicates those that are endemic to the Western Ghats. The list of orchids mentioned in Table 2 is taken for conservation for its economic value of cut flowers.

References

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Table 1. Orchids in Botanic Gardens for ex situ conservation.

1. *Aerides crispum* Lindley
2. *Arundina graminifolia* (D. Don) Hochr. (= *A. bambusifolia* Lindley)
3. *Bulbophyllum fusco-purpureum* Wight *
4. *Bulbophyllum neilgherrense* Wight
5. *Calanthe masuca* (D. Don) Lindley
6. *Coelogyne mossiae* Rolfe *
7. *Coelogyne nervosa* A. Rich. *
8. *Coelogyne odoratissima* Lindley
9. *Cymbidium aloifolium* (L.) Sw.
10. *Dendrobium aphyllum* (Roxb.) C. Fischer (= *Limodorum aphyllum* Roxb.; = *Dendrobium pierardi* Roxb. ex Hook. f.)
11. *Dendrobium macrostachyum* Lindley
12. *Dendrobium moschatum* (Buch.-Ham.) Sw. (= *Epidendrum moschatum* Buch.-Ham.)
13. *Eria nana* A. Rich. *
14. *Eulophia nuda* Lindley
15. *Habenaria heyneana* Lindley *
16. *Oberonia brunoniana* Wight *
17. *Oberonia wightiana* Lindley
18. *Pepilionanthe subulata* (Koenig) Garay (= *Aerides cylindricum* Lindley)
19. *Rhynchostylis retusa* (L.) Blume (= *Epidendrum retusum* L.)
20. *Vanda tessellata* (Roxb.) Hook. ex G. Don (= *Vanda roxburghii* R. Br.)
21. *Vanda testacea* (Lindley) Reichb. f.

Table 2. Orchids under cultivation in the Garden for commercial purposes.

1. *Aerides multiflora* Roxb.
2. *Aerides odorata* Lour.
3. *Arundina chinensis* Blume
4. *Coelogyne cristata* Lindley
5. *Coelogyne holochila* Hunt & Summerh. (= *C. elata* Hook. non Lindley)
6. *Coelogyne nitid* (Wallich) Lindley (= *Cymbidium nitidum* Wallich; *Coelogyne ochracea* Lindley)
7. *Cymbidium eburneum* Lindley
8. *Cymbidium hookerianum* Reichb. (= *C. grandiflorum* Griffith)
9. *Cymbidium lancifolium* Hook.
10. *Cymbidium lowianum* Reichb. f. (= *C. giganteum* Wallich var. *lowiana* Reichb.)
11. *Cymbidium pendulum* (Roxb.) Sw.
12. *Dendrobium bicameratum* Lindley (= *D. bulboflorum* Falc. Ex Hook. f.)
13. *Dendrobium chrysotoxum* Lindley
14. *Dendrobium fimbriatum* Hook (= *D. fimbriatum* Hook. var. *oculatum* Hook.)
15. *Denrobium nobile* Lindley
16. *Dendrobium primulinum* Lindley
17. *Phaius flavus* (Blume) Lindley (= *Limodorum* Blume)
18. *Phaius maculatus* Lindley
19. *Phaius mishmensis* Reichb.
20. *Phaius tankervilleae* (L' Herit) Blume (= *Limodorum lankervilleae* Banke ex L'Herit; *Phaius wallichi* Lindley)
21. *Phalaenopsis mannii* Reichb. f.
22. *Pleione hookeriana* (Lindley) J. Moore (= *Coelogyne hookeriana* Lindley)
23. *Pleione raecox* (Smith) D. Don (= *Epidendrum praecox* Smith; *Coelogyne praecox* (Smith) Lindley; *C. lagenaria* Lindley)
24. *Renanthera imscheotrana* Rolfe
25. *Thunia alba* (Lindley) Reichb. f. *
26. *Vanda coerulea* Griffith
27. *Vanda cristata* Lindley
28. *Vanda parishii* Veitch.