

**EX SITU PERFORMANCE OF WILD ORCHIDS IN BOTANICAL GARDEN, UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE**

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The Western Ghats of peninsular India are repositories of orchids at various altitudes. Of about 275 taxa from the Western Ghats, at a rough estimate, about 100 are endemics and many may be endangered. Thus it is of interest to study these orchids both *in situ* and *ex situ*. With this in view, Chikmagalur and Agumbe located in Karnataka were chosen for plant collection from the wild. Efforts were made to grow them *ex situ* at the University Agricultural Sciences campus, Bangalore.

Sringeri of Chikmagalur and Agumbe of Shimoga Districts of Karnataka in peninsular India are very rich in Orchid flora. The following Orchids were collected and grown in the nursery of Botanical garden, University of Agricultural Sciences, Bangalore and their growth performance observed.

The Cashew, *Anacardium occidentale* tree having several thick branches and rough textured bark was selected in the Botanical Garden for growing epiphytic orchids. The orchids were tied on to this tree with wires, and periodic spraying of water was done to keep the atmosphere cool and sub-humid. Some orchids were grown in pots and on ground. The pots were filled with brick pieces and charcoal and were provided with holes for aeration. The pots were kept under a cashew tree which provided shade and intermittent sunlight. They were also watered periodically.

Even though many workers have indicated the inadequacy of *ex situ* cultivation of the orchids, mention may be made of Abraham and Vatsala (1981) who have indicated real problems encountered in growing orchids and have suggested some means of overcoming the difficulties.

The following epiphyte orchids were grown on cashew tree and their growth performance is indicated.

1. *Bulbophyllum fischeri* Seidenf.  
Small epiphyte with creeping rhizome; pseudobulbs brown and wrinkled; flowers yellowish or brown.  
Excellent performance.
2. *Cleisostoma tenuifolium* (L.) Garay (Syn: *Sarcanthus pauciflorus* Wight).  
Pendulous epiphyte; leaves linear-oblong; flowers pale yellow; flowering May to August.  
Excellent performance.
3. *Coleogyne breviscapa* Lindley  
Epiphyte; young pseudobulbs sheathed; inflorescence drooping raceme; flowers white, scented, in long slender, erect scape; flowering from April to December.  
Excellent performance.
4. *Cotonia peduncularis* (Lindley) Reichb. f.  
Robust, profusely branched epiphyte; leaves lorate, channelled, unequally bilobed; flowers brownish, December-March.  
Excellent performance.
5. *Cymbidium aloifolium* (L.) Sw.  
Robust epiphyte; pseudobulbs large, covered by leaf sheaths; flowers yellow, in pendulous racemes; flowering April to July.  
Excellent performance.
6. *Cymbidium bicolor* Lindley  
Tufted robust epiphyte; leaves distichous, irregularly bilobed or cleft at apex; petals yellow with a central purplish streak in pendulous raceme; flowering April to July.  
Excellent performance.
7. *Dendrobium aqueum* Lindley  
Robust, pendulous epiphyte; flowers 2-3, whitish-green; flowering May - June and June-December.  
Very good performance.
8. *Dendrobium macrostachyum* Lindley  
Pendulous epiphyte; internodes slightly swollen at nodes, purplish brown with longitudinal streaks; flowers white or creamy-yellow, scented; flowering May-December.  
Excellent performance.
9. *Eria mysorensis* Lindley  
Epiphyte; pseudobulbs aggregated, sheathed; pendulous racemes shorter than leaves; flowers white, fragrant; flowering August to September  
Excellent performance.
10. *Oberonia chandrasekharanii* Nair *et al.*  
Pendulous or erect epiphyte; flowers greenish-yellow on long spikes; flowering August to January.  
Excellent performance.

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11. *Pholidota pallida* Lindley

Robust epiphyte; pseudobulbs large, oval; clustered flowers creamy-white; flowering July to October - February.

Excellent performance.

The following orchids were grown in pots and their growth performance is indicated:

1. *Acampe praemorsa* (Roxb.) Blatter & McCann

Epiphyte; leaves unequally cleft at apex, channelled; flowers yellow, pleasantly scented; flowering April to July.

Excellent performance.

2. *Aerides crispa* Lindley

Robust epiphyte; stem sheathed with old leaves; flowers white, fragrant; flowering May to July.

Excellent performance.

3. *Dendrobium aqueum* Lindley

Robust, pendulous epiphyte; flowers 2-3, whitish-green, flowering May to June and June to December.

Excellent performance.

4. *Dendrobium macrostachyum* Lindley

Pendulous epiphyte; internodes slightly swollen at nodes purplish brown with longitudinal streaks; flowers white or creamy-yellow, scented, flowering May to December.

Excellent performance.

5. *Gastrochilus acaulis* (Lindley) Kuntze

Epiphyte, leaves unequally notched at apex; flowers greenish-white; flowering April to October.

Very good performance.

6. *Geodorum densiflorum* (Lam.) Schltr.

Terrestrial with large greenish pseudobulbs; inflorescence pendulous with pinkish-white flowers; flowering March to June.

Excellent performance.

7. *Liparis elliptica* Wight

Epiphytic herb; roots thick, creeping; flowers small greenish-yellow; flowering August to October.

Very good performance.

8. *Pholidota pallida* Lindley

Robust epiphyte; pseudobulbs large, oval; clustered flowers creamy-white; flowering July to October - February.

Excellent performance.

9. *Trias stocksii* Benth. ex. Hook. f.

Small epiphyte; pseudobulbs reticulately sheathed at base; flowers orange-red with many red dots; flowering July to

September.

Excellent performance.

10. *Vanda testacea* (Lindley) Reichb. f.

Stout epiphyte; stem woody; flowers small, yellowish; flowering August to October.

Excellent performance.

Only one orchid was grown on land and its growth performance is indicated.

1. *Habenaria roxburghii* (Pers.) Nicolsen (syn. *H. platyphylla* Spr.).

Terrestrial, erect, tuberous herbs; leaves lying flat on the ground; flowers white, in spikes; flowering July to August.

Excellent performance.

The above observation shows that epiphytes show excellent performance in pots and also when tied to trees having rough textured bark. The shade of the tree, intermittent sunlight and cool and sub-humid conditions made available have resulted in excellent performance. In addition, the orchids obtain their major and minor inorganic nutrients from the tree and also from the atmosphere.

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**References**

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