

*Newsletter – September 2015*

The Orchid Society of Karnataka



21<sup>st</sup> September 2015



## **From the Editor's Desk**

*21<sup>st</sup> September 2015*

Twelve long months have rolled by since the revival of the Newsletter – the first electronic issue was released on this day last year. We fell short of one issue, nonetheless, it is indeed encouraging that we are able to abide by the chosen dates of the equinoxes/solstices and are able to bring out the issues. Thanks to all those who continue to contribute articles – howsoever brief or lengthy – most every piece is interesting and illuminative.

As always Dr Sastry educates us with his erudite write up on the inter relationships of the orchids and our ecosystem.

Ravee Bhat elucidates us with the importance of habitat and preserving the microcosm of one of the terrestrial orchids which enchants the select group of orchid enthusiasts every year around this time of the year who all visited the nearby Turahalli forest to watch *Habenaria roxburghii* in its natural habitat.

Habitat again – is evident from the brief sojourn of Savitha Suresh who engages us with her holiday at Kumarakom where she found just this one interesting plant she collected – the Brittle Tiger Orchid.

Dr Chandan elaborates on the sequence of events required to successfully grow the very uncommon Doll Orchid – *Habenaria crinifera*.

If you have a Vanda needing hospitalization for revival, no need to panic says Suresh Babu Donthi. He instructs us in a neat stepwise manner how to bring back to life the sickly Vanda.

This issue is by far the slimmest, nonetheless, it is hoped that the next issue will be a robust one and more and more members of TOSKAR will contribute enthusiastically.

***Vani Hardev Ph. D***  
[\*editor.nl@toskar.org\*](mailto:editor.nl@toskar.org)

## *In This Issue*

**Orchids and Ecosystem 4**

**Dr K.S. Shashidhar**

**Watching *Habenaria roxburghii* 10**

**Ravee Bhat**

**Holiday at Kumarakom, Kerala – *Acamape praemorsa* 14**

**Savitha Suresh**

***Habenaria crinifera* –The Bog Orchid 17**

**Dr Chandan**

**How I saved my Vanda Orchid 20**

**Suresh Babu Donthi**

**Upcoming Events**

**Bi-monthly Meeting of the society 24**

**Orchid Show 2015 25**



*Conchidium braccatum* (Lindl.) Brieger



*Malaxis versicolor* (Lindl.) Abeyw.

Front cover: *Bulbophyllum* "Kalimpong"  
Grower: Dr K S Shashidhar

## Orchids and Ecosystem

Dr. K. S. Shashidhar

Man and his environment have undergone tremendous change in the recent past. Change is an inevitable phenomenon, but is this change always good for the living beings of the planet? Many of these changes have been natural while a number of them are manmade. We have little or no control over Nature's effect on earth. These natural phenomena are sometimes beneficial but at times they do have negative impact such as loss of several species of flora and fauna; at the same time they also paved way for emergence of new species. Man being an integral part of the environment, his actions have brought several changes in the ecosystem and also resulted in a lot of irreparable damages. Despite being aware of these changes, we do little about it. The ecosystem comprises of both living and non living components with fine-tuned interacting mechanisms which work like the precision of a clock. Any unwarranted interference will result in disturbance resulting in a cascading effect. However, the best part is, despite the impact of these disturbances (manmade and natural) there is certain amount of resilience (within the limits) and the system tries to get back to the process of recovery.

***The one process ongoing in the 1990s that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly that our descendants are least likely to forgive us***

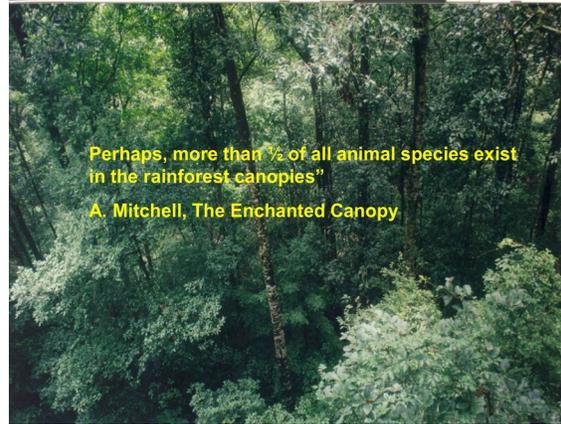
**E.O.Wilson, Harvard Univ. USA**

Let us look at the ecosystem we live in, it is a community of living organisms – man, plants, animals, microbes in conjunction with other non living components of the environment and interacting as a unified system. The main features of the ecosystem are, the living component (biotic) in the form of Primary producers, herbivores, carnivores, omnivores, scavengers, detritivores and decomposers. The non living

component (abiotic) such as sunlight, temperature, precipitation, water or moisture and soil, interacting with each other and with the biotic component as well in the system. Ecosystems are dynamic entities and are subjected to changes due to disturbances. They provide goods and services both tangible (food, fodder, fiber, medicinal plants) and intangible in the form of tourism, recreation and genetic diversity. Several services such as hydrological cycle, clean air, water, oxygen are all part of the benefits of ecosystem. Ecosystem is characterized by exchange of energy. In an ecosystem “The whole is greater than the sum of its parts and everything is connected”.

Ecosystem is very sensitive to changes and there are several components which indicate the status and its condition. It is important that these components need to be identified in the first place and then monitored for managing a healthy and sustainable ecosystem. Among the biotic components, the role of Angiosperms – the flowering plants - is well studied and documented.

Within the angiosperms, epiphytes have a distinct role to play. Epiphytes are those plants which grow on the tree tops and branches. They normally depend on host plants for anchorage and other benefits. Epiphytes have zoning constraints; hence, secondary vegetation might not have all the necessary micro sites for various epiphytic species. Epiphytes form an integral part of the rain forest and tropical forest ecosystem and exist in abundance in cloud forests occurring above 3300-6600 ft.



There are about 30,000 epiphytes worldwide and several of them have not been identified. Epiphytes are the most sensitive component among the flora to any change in the ecosystem. Epiphytes include orchids, ferns, mosses, lichens, bromeliads and cacti. Epiphytes provide nectar, pollen, fruits and seeds for harvest and their moisture retaining properties are essential to many of the terrestrial invertebrates and lower vertebrates. Epiphytes also play an important role in hydrology and mineral cycle. In general epiphyte species composition and biomass are much more sensitive at different levels than those of the other flora.

Epiphytes are far more vulnerable than other flora for any kind of disturbances to the ecosystem. In a study, it was found that 26 % vascular plant species present in 1900 are now extinct, whereas 62 % of epiphyte species are extinct. Among these epiphytes, orchids are one of the major and important players. They are well suited as indicators of changes in a local climate, forest structures and ecosystem health and biodiversity because, orchids serve as a source of nutrients for other flora and fauna and they are extremely sensitive to shifts or changes in the microclimates and they have slow growth. As they depend mostly on rain water for their nutrition, they are much more susceptible to drought

### **Features of Orchidaceae**

Orchidaceae is the most diverse of all angiosperm families, with estimates of 25, 000 species (Dressler, 1993; Mabberley, 1997; Cribb et al., 2003). Orchid family includes 900 genera, and over 120,000 hybrids and cultivars registered with RHS. Orchids are found all over the world from the tropical forests to the tundra and the Arctic Circle. This highlights their diversity and adaptability. Some species are found underground too such as *Rhizanthella gardneri* and *Rhizanthella slateri*. Orchids are the most highly evolved plants. About 70 % of the orchids in tropical forests are epiphytes.

There may be as many as 5000 species of orchids yet to be described. New orchid species are still being discovered at a rate of 200 to 300 per year. Recently in Cuba two new species *Tetramicra riparia* and *Encyclia navarroii* are discovered. New species such as the bright purple

*Phragmipedium kovachii*, discovered in 2002, caused a huge stir in the orchid world and even made headlines in the New York Times. Specimens smuggled out of native Peru were selling for £10,000 each. Ecuador as a whole is home to 4,000 known orchid species and a thousand of them discovered in the past 12 years alone.

Variations in plant and flower are very diverse in Orchidaceae. Flower is the most attractive feature of orchids; it comes in all sizes, shapes, form, contrivances, mimicry and many are fragrant and others often emit foul odor. All these contrivances are mainly to attract specific pollinators for their survival. In most cases orchids and pollinators have evolved together. Propagation in nature through seeds is classic case of interdependence on mycorrhiza for germination.

Looking at the Indian scenario, more than 1300 species of orchids occur in India; this constitutes almost 10 per cent of the world's orchid flora. Major distribution in India is in the regions of Himalayas (including the North East), Western Ghats, and Andaman and Nicobar islands. About 284 species of orchids are known to be endemic to India. The Eastern Himalayan region (Sikkim and Arunachal Pradesh) has about 600 species, this area is endemic to 105 species.

### **Importance of Orchids:**

**1. Commercial Value:** Orchids command world over sizeable value in terms of potted plants and cut flowers. The trade in Cut flower of orchids is almost eight times of potted plants. ASEAN countries dominate the world trade, with Brazil, China & Vietnam also into exporting. Countries importing are, Japan, France, Italy, Germany, UK, USA and Netherlands. Production in Netherlands has increased at a rate of 23 % with production of 62 million pots. During the year 2001, cut flower trade was about \$ 230 million. *Phalaenopsis* (moth orchid) is produced in mass by Taiwan, China, and Thailand, for exporting to North and South America and Europe. Orchids are the number-one selling potted flowering plants in the United States with a value of over 171 million dollars per year (USDA Floriculture Crops 2010, 7, 42).

**2. Medicinal Value:** Mostly used in Traditional Chinese medicine. *Bletilla* and Dendrobiums were extensively used. Salep – a concoction from dried tubers is widely used as medicine. Vanilla is also used to relieve nausea and to improve the food intake in patients receiving chemotherapy. It is also used for aroma testing in Alzheimer's disease.

**3. Environmental value:** One of the most important intangible service epiphytes and in particular orchids provide is the environmental value. Orchids are known to be the potential indicators of any changes in the climate. They show measurable responses to historic and current environmental disturbances. Orchids are the indicator species and they live in specific conditions and hint at the overall health and biodiversity of the ecosystem. Because of their complex biology, orchids are excellent indicators of overall biodiversity in an area. Diminishing orchid population often signals long term deleterious environmental changes (Christenson, 2003). Complex interaction of orchids with mycorrhiza for their germination in nature and their dependence on pollinators for their survival makes them sensitive to environmental changes.

Information may be gained on the general health and condition of the ecosystem by measuring the health and responses of orchid populations.

### **Orchid – Biota interrelationship in the Ecosystem**

Orchids are a highly specialized group of plants. Their mycorrhizal associations and pollination methods ensure complex interactions within their environment. There are several classic instances where the mutualistic relationship with orchids and other biota in the ecosystem flourish and the processes may be incomplete without the assistance of each other. Few such instances will reveal how fine-tuned is the mechanism in nature.

Let us look into specific interrelationship of orchids with other biota in the ecosystem. Two main events in the life cycle of an orchid plant are germination and pollination. The interaction with pollinators specifically insects to enable pollination is well documented. The association of mycorrhiza for germination has evinced abundant interest among the scientific community and has resulted in extensive studies in this field. Noel Bernard's efforts of discovering symbiotic germination of orchid seeds has paved way for Dr. Lewis Knudson's asymbiotic germination which revolutionized orchid propagation. Despite all these, nature has its own associations, which, most of the times are mutual and enable this wonderful and diverse family to survive, thrive and multiply.

Orchid seeds are minute and contain only the embryo with little or no nutritive tissue. In nature colonization of a compatible fungal species is essential for the seed germination and early seedling development. However, after germination, although a majority of the orchids become photosynthetically active more than one hundred species of orchids are completely achlorophyllous and depend on fungal partners for nutrition throughout their lifetime. It was earlier thought that this mycorrhizal association is one sided with orchids being the sole beneficiary. However, studies of late have shown that both orchids and their fungal partners are benefitted through the interaction. Studies with *Goodyera repens* a ground orchid, has indicated that carbon flows to the fungal partner also. During the association, orchids are known to receive compounds other than carbon from the fungal partner such as Phosphorus and Nitrogen. Majority of these orchid mycobionts are basidiomycetes. It is also observed that fungal specificity is a common phenomenon in many orchids. There is a need for detail and in depth studies involving these fungal partners which are naturally occurring and also the host plants which nurture these for a holistic approach to *in situ* conservation strategy.

Protection of orchid populations and orchid-associated fungi is important in maintaining global biodiversity and has wide implications for overall health of the ecosystem.

The other major relationship orchids have with other components in the ecosystem is with the pollinators for their very survival. Orchids are considered to be an ideal study species in relation to pollinator services. Their occurrence and abundance and interaction helps in sustainability of orchid populations in nature. A habitat condition which supports the pollinators eventually also decides the orchid survival.

Orchid flowers are known to attain various shapes, sizes, and derive other mechanisms to entice the pollinating agents. Some flowers emit fragrance and some foul smell as in some *Bulbophyllum* spp. Use of nectar to lure pollinators is seen in *Scaphyglottis bidentata* which is pollinated by a humming bird. Another species *Anacamptis pyramidalis* attracts Burnet moths to enable pollination. Some orchids are more specific in the cadre of pollinators that repeatedly and successfully provide pollination. In the whole process, orchids may provide a reward to the pollinator.

Among the pollinators, orchids are known to have strong interactions with bees, in return the mutual benefit is in terms of nectar or oils. From the following examples it is evident that orchids and pollinators specifically insects as pollinators appears to have almost co evolved.

The success of pollination has been proposed as a measure of ecosystem health especially in highly fragmented landscapes. It has been reported that about 2000 orchid species are pollinated by *Euglossine* bees. Charles Darwin in 19th century wrote in his book “Various Contrivances by which Orchids are Fertilised by Insects”, the orchid *Angraecum sesquipedale* has a spur of one foot and it needs an insect with a proboscis of one foot to pollinate the flower. Later, 40 yrs after this prediction, *Xanthopan morgani praedicta* was the moth identified as the pollinator for this flower.

Fascinating pollination mechanism is observed in *Ophrys cretica* through pseudo copulation. This terrestrial Mediterranean orchid ensures deception involving smell, sight and touch. Flowers produce scent resembling the pheromone of the bee and also the flower resembles female species and attracts the male for copulation and in the process transfer of pollen takes place.



*Cottonia peduncularis* from W.Ghats

Another interesting and exclusive association is that of *Pterygodium pentherianum* and *P. schelpei*, from South Africa and Madagascar. These two species grow side by side. A long legged bee *Rediviva longimanus* inspects the oil secreting *P. pentherianum*, and in the process takes its pollen in front of its legs, and takes the pollen of *P. schelpei* on the abdomen thereby not mixing the pollen of these two different species. This highlights the dependence and association of orchids and pollinators where a single bee can carry pollen of two different species without mixing it.

Similarly several orchids depend on insects for their pollination and survival. Terete Vandas in Malaysia and Singapore are pollinated by large carpenter bees and the Malaysian Bulbohyllums are pollinated by Blue bottle flies. The other deception adopted by orchids is mimicking the

insects on which other insects predate. An orchid *Epipactis consimilis* resembles aphids in shape and color and gets attacked by hoverflies which feed on these aphids.

A new form of deception involves production of compounds by orchids similar to that of insects. In the classic case of relationship between *Dendrobium sinense* and the hornet *Vespa bicolor*, a compound, Z-11-eicosen-1-ol, which is a rarity even in the insect world, is produced and hornets frequent these flowers. The insects exhibit a peculiar behaviour wherein rather than landing and pausing on the flowers, the hornets pounce on the red centre of the flower as if it is attacking a prey.

The conventional conservation approaches such as in situ and ex situ forms the basis of the approach, however, there is a need to rethink and focus on not only conservation of orchids and its habitat but also the related biota. Sustainable conservation requires the preservation of conditions that enable the species to carry through its entire life cycle. The conservational concern should also involve species of other organisms that are associated during a critical life stage, such as a pollinator during flowering, or a symbiotic fungus during seed germination (Zettler *et al.* 2003). The entire life history is important in conservation of orchid species. Fungi that assist in germination are essential. Fungi involved in the various life phases need to be identified and their contribution to growth of the orchid assessed, be it brief or lasting, high or low.

Decay in the ecosystem has led to a “pollination crisis” caused by disruptions in pollination systems. Since the Orchidaceae is a rapidly evolving, pollinator-oriented family, disturbance to pollination systems will not only affect their long-term survival but also evolutionary potential. Sexual reproductive events are an important stage in their lifecycle that underpins successful conservation. It is very evident that the conservation approach has to be a ‘package’ comprising of all interrelated biota rather than in bits and pieces.

#### **References:**

1. Cribb, P.J., Dixon, K.W., Kell, S.P., & Barrett, R.L., 2003. Orchid Conservation. Pp 1-24, Natural History Publications, Kota Kinabalu, Sabah.
2. Dressler, R. 1993. Physiology & Classification of the orchid family. Cambridge Univ. Press. Cambridge
3. Mabberley, D.J. 1997. The Plant book. Cambridge Univ. Press, Cambridge
4. USDA Floriculture Crops 2010, 7, 42
5. Zettler, L.W., Sharma, J., Rasmussen, F.N., 2003. Mycorrhizal Diversity. Pp 205-226 in Cribb, P.J., Dixon, K.W., Kell, S.P., & Barrett, R.L., 2003. Orchid Conservation. Pp 1-24, Natural History Publications, Kota Kinabalu, Sabah.

## Watching *Habenaria roxburghii*

Ravee Bhat

On a Sunday morning in early September 2015, a few interested members of TOSKAR (The Orchid Society of Karnataka) decided to make a short visit to a place which is closer to Bangalore. The plan was to observe blooming of a terrestrial orchid *Habenaria roxburghii* Nicolson first hand.

As planned many of the members gathered in the early hours. The place of visit was Turahalli forest. This is a typical dryland forest with many patches of open grassland. Which makes the habitat favourable for this species to thrive.

After a brief exchange of introductory notes, as the members started walking around looking for the plants among the open grassy slopes of the forest, they were rewarded with numerous sightings. The weather was delightful and the early morning Sun of September was quite refreshing making the walking most enjoyable. Many plants were in full bloom. It was noted that some plants had finished flowering and had fruits nicely setting in, which made everyone wonder about the possible pollinator. It was also noted that presence of capsules meant presence of pollinator as well. This is good news for the healthy population of the species as well as the health of the habitat in whole!

As everyone walked around looking for more plants and they could count more than a hundred plants in varying sizes. Some were even noted to be as tall as 15 inches.

Scientific name: *Habenaria roxburghii* Nicolson

The genus *Habenaria* Willd., belonging to Orchidoideae subfamily of the plant family Orchidaceae, takes the name from Latin for rein or strap referring to the strap like spur about 3-4cm in length. The spur which is part of the labellum is also the nectary. Moths with long proboscis visit the flowers for the nectar thereby assisting in the pollination. This genus of terrestrial orchids is one of the genera having largest number of species.

Named after William Roxburgh, a Scottish surgeon and botanist who was in charge of the Calcutta Botanical Gardens, this white flowered terrestrial orchid usually blooms in the months of August-September, with the plant growing up to a height of 12 to 15 inches.

Ethnobotanical publications as also many Ayurveda Treatises such a Materia Medica mention *Habenaria* as one of the eight of the Ashtavarga plants. A decoction made from the tubers (corms) of *Habenaria roxburghii* along with garlic and pepper is used as a cure for snake bites. If eaten before breakfast the corms are known to control diabetes.

The typical habitat to find this beautiful plant is grassy slopes of hillocks. The leaves, usually 2-3 appear before flowering and disappear after the flowering season only to appear in the next season. Leaves are fleshy and lie flat on the ground. The plant stays dormant till then surviving through its underground tubers (corms). *Habenaria* propagates both vegetatively (developing new corms every season and new shoots sprouting out) and through seed dispersal. Flowers are pure white and many in number. Flowers usually last 2-3 weeks once they open.



Watching *Habenaria roxburghii* in-situ



*Habenaria roxburghii* inflorescence



*Habenaria roxburghii* plant surrounded by grass

## **Holiday at Kumarakom, Kerala**

**Savitha Suresh**

It was a Monday morning chaos as usual for me after the daughters left for college and an uninterrupted flow of cooking instructions to my maid. As my husband and I were preparing to leave for work, he exclaimed he had already booked our Holiday at Kerala.

As I heard the word Kerala, two things came to my mind, banana chips and orchids. Instantly I decided to make best use of the holiday.

Kumarakom situated about 10 miles away from Kottayam is a serenely beautiful and scenic backwater destination, a charming peninsula jutting into the ever-effervescent Vembanad Lake which is the largest freshwater lake in Kerala. This backwater spot is abundant with flora and fauna, being especially rich in marine life.

The weather at Kumarakom was hot and humid, typical of Kerala. One thing I observed in our drive from the airport to the resort where we stayed, Vivanta by Taj, is that the tiny village is full of greenery. We get to see more of the green cover than the concrete structures. In fact the resort has probably 30% of concrete and the remaining 70% is green cover.

As we stepped into the resort, my eyes caught the epiphytic flowering orchid at the reception lobby. Needless to say, a few photographs in all angles filled my mobile phone album space. I looked around and realised the same orchid species was found abundantly on all the trees around the resort, but none was flowering except the one at the main entrance.

I made an enquiry with the hotel staff about the orchid and if they have a plant nursery at the resort. Seeing my interest in orchids, the manager said Kottayam which is about 13 Kms away from Kumarakom is the place for nurseries selling orchid plants. He even offered to send a local person with us if we decided to go to Kottayam but the humid weather was too much for me to bear and I let the offer pass. I was just thrilled as much to possess the plant at the resort

All the plants looked extremely healthy and they were hanging from the tree in bunches. The root system was very dense and looked woven into the tree trunk. A small plant had an intense root system that lay coiled to the tree trunk almost up to the base of the tree.

I sought permission from the resort management if I could pick up a few plants and they gave me a go ahead signal. Although it was easy to lay my hands on the plants, it was quite a challenging task to pull the roots out of the tree trunk. It was a feeling of achievement for me as I have always purchased flowering orchid plants from a nursery and this plant is the first I collected from its natural habitat in my very small collection of orchid plants.

I gathered information on this species from my fellow members at TOSKAR that this is *Acampe praemorsa*. It is also known as the brittle tiger orchid perhaps because of the horizontal stripes on the petals resembling the stripes of a tiger.



*Acampe praemorsa* inflorescence

*Acampe praemorsa* is also of medicinal importance. The leaf juice is used to cure ear ache and also abdominal pain. And also in the healing of fractures the whole plant is crushed with egg

albumin and mixed with a paste of calcium and the mixture is applied to repair fractured bones by the tribals. It is also used in treating rheumatism.

The staff at the resort were extremely helpful in the information they provided on anything about Kerala specially Kumarakom. At the start up level they are mostly locals. They hold pride in their tradition and customs and the evenings at the resort were well spent watching the art forms and traditional dances of Kerala. The holiday was a pleasant stay with the best of the Kerala cuisine.

**Editor's note:**

“Although she did take the permission of the concerned authorities to uproot the orchid from its natural habitat, as people who are committed to conservation practices, TOSKAR members may please do not indulge in such practices.”

## The Bog Orchids

Dr Chandan

Commonly called the bog orchid, *Habenaria* is a large genus with approximately 800 -1000 species native to every continent except Antarctica. *Habenaria* is abundant both in the tropical and temperate zones.

The plants have small to large underground corms like Gladioli. The corms undergo dormancy after flowering and become active after first rains, erect stems of 20 to 80 cm (8 to 31 in) in length emerge. Leaves are lanceolate or ovate, and are borne either along the stem (cauline) or only at the base (basal). When basal, the leaves lie flat on the ground. Flowers are mostly green, white, yellow and green, or white and green, but a few exceptions have brilliant red flowers. The column is frequently complicated, with long organs sticking out of it (stigma processes, lateral rostellum arms, anther canals). The plant is a perennial deciduous, with the entire above-ground part of the plant dying back each year.

**Cultivation** – *Habenaria* are rarely found in collections of living plants. It is one of the difficult orchids to grow unless the sequence of cultural operations is followed strictly.

**Potting** – Plants are best grown in deep pots (e.g. 20 cm depth, place tubers at 10 cm depth) in a well drained medium consisting of 50% river sand, 30% compost and 20% perlite. Plants are best grown in cool conditions with 50-70% shading and excellent ventilation.

**Watering** –The plant should be kept continuously moist during the growing period and till the last flower has fallen off. Regular watering during the growing season from March to September is key to better culture. As soon as the flowering is completed and leaves start falling off, reduce watering to once every two weeks. Continue to water the plant but allow it to dry slightly between watering. This will enable the plant to produce new corms for next year. With the complete shedding of leaves, stop watering and repot in a dry mix and keep the media sparingly moist so that the tuber does not shrivel. During cold winter months do not water. It is, however, vital to watch that the medium does not dehydrate completely. To prevent this, drench the pot occasionally and allow to dry. Do not keep the medium damp. Only after new shoots emerge at the end of winter commence with watering once every two weeks for the spring season and once or twice a week as required for the summer season.

**Fertilizer** – A complete balanced fertiliser such as 19:19:19 can be applied after the emergence of new shoots during March.

**Pests** – Among the pests aphids can be a problem and should be watched for and eliminated with contact insecticides such as monocrotophos@ 2ml / liter.

***Habenaria crinifera* Lindl.** Commonly known as the Doll Orchid is a beautiful species found in Asia, India (Western Ghats) and in Sri Lanka. A rare epiphytic orchid found on moss covered

stems of old trees in evergreen forests. These orchids, which bloom in whole groups in late rains, are tuberous orchids with both epiphytic and terrestrial habitats.

**Plant** – They are about 10-20 cm tall, leafy at base; leaves 2-3, oblong, 5-15 cm. Flowers are white with smooth edged petals in short racemes 5-8 cm long on peduncles 10-20 cm long. Bracts 1 cm. Capsules 3-4 cm. The lip white, 3 times as long as sepals, with a long claw, 3-lobed with side lobes somewhat wedge shaped, having the outer margins toothed and with a slender tail as long as itself produced from the inner margin. The mid lobe is clawed; cleft into 2 lance shaped long tailed segments as long as side lobes. Spur is slender and incurved. Possibly the only species of the genus that is epiphytic (at least in NW Ghats), the rest being terrestrial.





#### References:

1. "**Genus *Habenaria***". *Taxonomy*. UniProt. Retrieved 2010-05-22.
2. "*Habenaria* Willd.". *Germplasm Resources Information Network*. United States Department of Agriculture. 2003-10-01. Retrieved 2010-07-09.
3. Kew World Checklist of Selected Plant Families
4. *Habenaria floribunda* Lindl. PLANTS Profile at *USDA PLANTS Database*
5. "*Habenaria*". Integrated Taxonomic Information System. Retrieved 22 May 2010.
6. "Species Records of *Habenaria*". *Germplasm Resources Information Network*. United States Department of Agriculture. Retrieved 2010-07-09.
7. Wikipedia.org
8. Indiabiodiversity.org
9. Dr. Ananda Rao, Orchids of Western Ghats

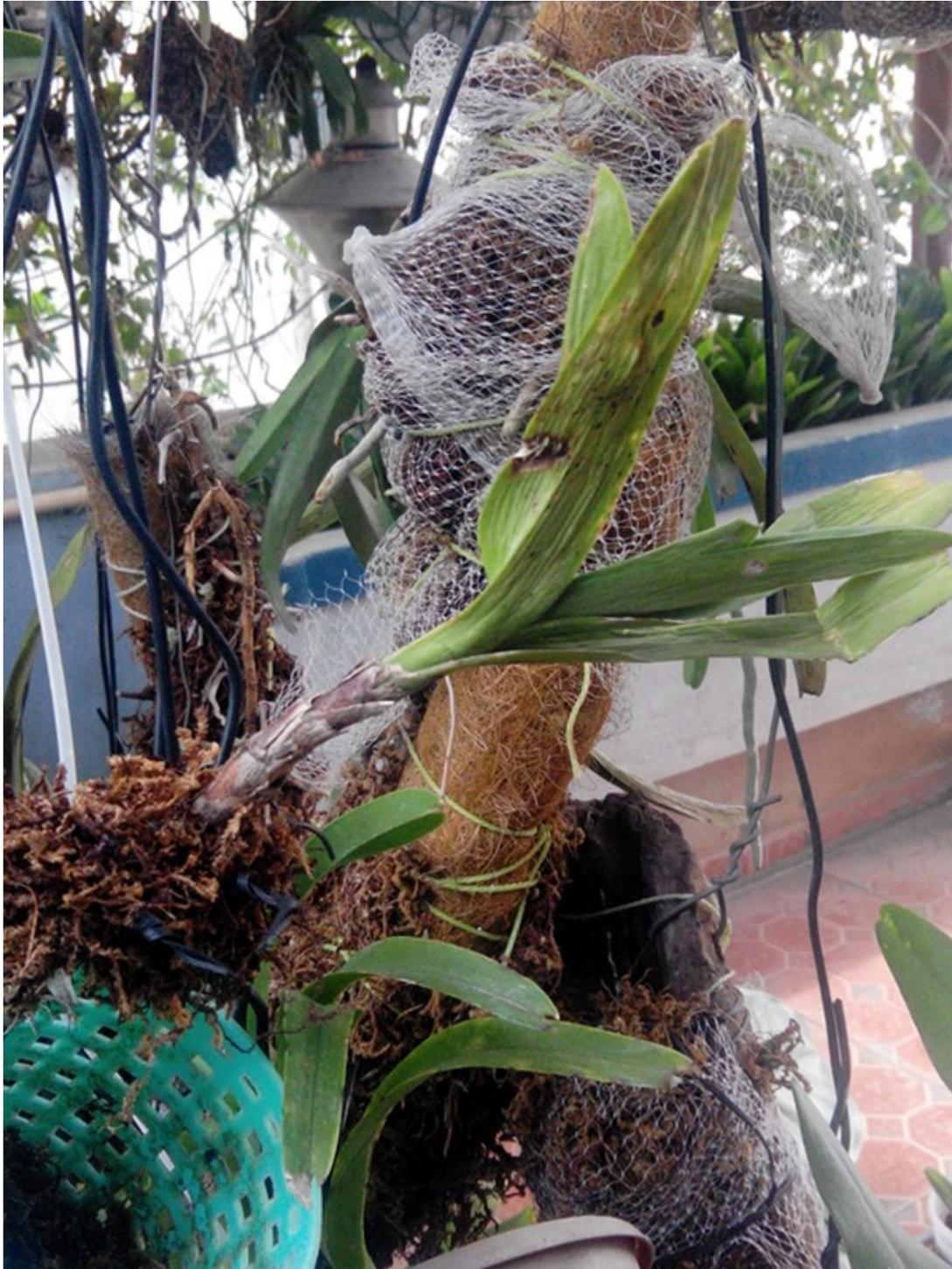
## **HOW I SAVED A VANDA ORCHID FROM DYING**

**Suresh Babu Donthi**

I had a Vanda Orchid which had lost most of its roots and the leaves were pleated, turning brown and drying and the plant was on the verge of dying. Many orchid hobbyists suggested to discard the plant but I was determined to save the Vanda from dying. I googled the web and found that Bag and Sphag method would be the most suitable method for the orchids which have lost most of their roots and I wanted to give a try of this method.

Under this method the Vanda orchid was placed in a transparent polythene bag with a layer of water-soaked Sphagnum moss at the bottom. The Vanda Orchid was placed in the bag without actually touching the moss and the bag opening was sealed with a rubber band. Few Small holes were punched in the polythene bag for air circulation and the bag with the Vanda orchid was placed in a bright place with indirect sun light (avoiding direct sun light) for about two weeks. Occasionally - once in three days - sprayed the Vanda with water. The polythene bag with soaked moss and occasional spraying helped in increasing the moisture around the plant. Gradually the plant started to turn green, signs of new root growth started in about two weeks and I continued the treatment for another two weeks. By then the new roots were almost about an inch long. The Vanda was removed from the bag and was placed where morning sun light will fall on the Vanda; moisture around the plant was increased by placing a big tray with pebbles and water and by hanging the Vanda orchid directly above the tray. I placed pads of water-soaked sphagnum moss around the new roots and also sprayed water on the Vanda at least two to three times a day. In about three months the Vanda had three to four healthy roots about six inches in length and started to put new growth and had about four new leaves. The Vanda is about two feet tall, healthy and has plenty of healthy long roots now. It is almost more than two years after the treatment. The Vanda plant has matured and I am expecting a flower spike shortly.

Some illustrations of the technique are below,



The *Vanda* plant in distress, the plant with pleated leaves and very few roots & the leaves are turning brown



The entire plant put in polythene bag with some water soaked moss for increasing the moisture



The recovered Vanda after treatment , see plenty healthy roots

## Upcoming Events

### Bi-monthly meeting of the Society – September 2015

The Orchid Society of Karnataka (TOSKAR) welcomes its members for the Bi Monthly Orchid Training and Interactive Program on Saturday, 26, September, 2015 from 1400 – 1700 hrs at Smriti Nandan Culture Center, Nandadeep, 15/3, Palace Road, Bangalore – 52. All the members of TOSKAR are requested to participate and interact in the said meeting.

#### **Following is the agenda:**

1400 hrs: Members shall assemble in the hall and have Informal interaction.

1415 hrs: Opening Remarks by the President TOSKAR.

Review of the minutes of the Bi Monthly meeting held in January, 2015 by Vice President

1430 hrs: About the Annual Orchid Show 2015. Briefing about the show – Shashidhar, Nalini, Ramkumar, Gayatri Rao and Kalyanpur

Members' views and responses

1515 hrs: Brief talk on Community pots and its maintenance – Dr. K.S.Shashidhar

Followed by experience of those members who have been growing seedlings in CP

1600 hrs: Any other issues with the permission of the chair

Lucky draw for regular attendance

Exchange of plants by members

1615 hrs: Coffee and dispersal

Please note members are requested to bring plants in bloom for display during the meeting and it is also requested to label the same (minimum to genus level). Members are also requested to bring plants with problems.

AS NO VEHICLES WILL BE ALLOWED IN THE ROAD LEADING TO THE HALL, MEMBERS ARE REQUESTED TO MAKE ALTERNATE ARRANGEMENTS FOR PARKING ON THEIR OWN OR MAKE USE OF OTHER MODES OF CONVEYANCE. INCONVENIENCE IS REGRETTED IN ADVANCE.

**Upcoming Events  
Orchid Show 2015**



4th Edition

**ORCHID SHOW 2015**

The Orchid Society of Karnataka (TOSKAR)



**31ST OCTOBER & 1ST NOVEMBER 2015, 10 AM TO 5 PM**  
**DR. M. H. MARIGOWDA HALL, LALBAGH, BENGALURU**  
**ENTRY FEE: 50 RS**



**Two day orchid show, training and demonstration featuring:**

Display of indigenous, exotic species and range of hybrid orchids.  
Stalls selling orchids, orchid accessories and books.  
Training and demonstration on aspects of orchid growing.

For further details visit [www.toskar.org](http://www.toskar.org) , write to us at [toskar2008@gmail.com](mailto:toskar2008@gmail.com)  
or call us at: 944-835-1170, 994-518-0018, 988-600-0161

