

Wild Orchids of Sharavathi River Basin and Parts of Uttara Kannada

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INTRODUCTION

Orchids, more than any other plants, exert a mysterious fascination for most people, and all the wild orchids of tropical regions are highly puzzling and peculiar. These graceful plants belong to family Orchidaceae being one of the largest families of flowering plants. This family is represented by more than 17,000 known wild species in 750 genera in the world and the present figure of the hybrids among these touches around 80,000 (Rao T A., 1998). The Orchidaceae contains more species than almost any other flowering plant family, being rivaled only by Compositae or Asteraceae. The family is cosmopolitan but with many more species in the tropics than in the temperate regions. It has a varied range of life forms, including both green terrestrial species such as are familiar in temperate regions, and in addition a large number of epiphytes of great range of size, common in the tropics. Some orchids like *Vanilla* are lianas and many species of all life forms, including the large lianas, are achlorophyllous and are often regarded as saprophytic. The smallest orchids, *Cryptoanthemis slateri* and *Rhizanthella gardneri*, are completely subterranean including their flower buds and have a fresh weight of few grams at most; the largest orchid is said to weigh over a ton (J L Harley, 1983). Apart from the popular and some time bizarre flowers with complex pollination mechanisms, the orchids are remarkable for two characters: firstly their seeds are small, the largest is about 14 mg, and within them the embryo is little differentiated: secondly they are all mycorrhizal, living throughout life in association with fungi.

Nearly 410 species of flowering plants have been reported as endangered in Western Ghats, out of which 235 species are endemic. Among the 924 wild species of Orchids listed from the present boundaries of India ranging in about 132 genera nearly 287 species distributed over 71 genera are endemic (Rao T A., 1998). The high endemism in orchids is perhaps because of certain physiological adaptive syndrome of the family bringing greater constraints on their existence, spread and replenishment in any particular area, viz.,

- Their existence in specific niches within the fragile ecosystem.
- Insect pollination in most of the species, particularly needing specific vectors to visit

different species.

- Inability to achieve fertilization in maximum number of ovules for viable seeds due to the fact that each ovary of the orchid possesses millions of ovules.
- Presence of an unorganized embryo in the seed, also without any food storage and hence needing infection of a specific strain/race of mycorrhiza as a food supplier before germination.
- Suitability of the particular niche where the seed syndrome for the specific establishment has not been examined.
- Absence of corridors for orchid seedlings/propagules to pass through similar niches for establishment and dispersal.

Orchid literature in Karnataka

Robert Wight (1838) made extensive collection from the then known Madras presidency, which included some parts of the present day Karnataka State. This is followed by the work of Hooker (1890-94) who has included about 1200 species from the erstwhile British India. Cooke (1906) while carrying out work on the flora of Bombay presidency made collection chiefly from the then known North Kanara District. Fischer (1928) while completing the work of J S Gamble of the Flora of Presidency of Madras has described 191 species of orchids belongs to 60 genera. Santapau and Kapadia (1966) in their work on the orchids of Bombay have included 100 species from the Uttara Kannada. Saldanha and Nicolson (1976) have enumerated 95 species in 41 genera from Hassan district. This includes a new genus *Smithsonia* and 4 new species. Rao and Razi (1981) described 62 species belonging to 31 genera from the Mysore district while Arora et al (1981) described 4 species from south Kanara district. Yoganarasimhan et al (1981) recorded 38 species in 26 genera from Chickmagalur district. Sharma et al (1984) have included 173 species in 51 genera from the state while Singh (1981) has recorded 15 species in 6 genera from Eastern Karnataka districts. Keshava Murthy and Yoganarasimhan (1990) have recorded 62 species in 32 genera from Kodagu district. In conservation of wild Orchids of Kodagu in the Western Ghats, T Anand Rao (1998) has described 65 species of Orchids.

ORCHID- HABITAT

Based on vegetation types orchids are found in following types of vegetation in Uttara Kannada.

- Evergreen-semievergreen forests
- Moist deciduous forests
- Dry deciduous forests
- Various scrubs and scrub-savannas
- Grasslands
- Roadside avenue trees and plantations (such as teak).

In all the above habitats except grasslands both terrestrial and epiphytic orchids are found. In Uttara Kannada district, though the altitude does not exceed 1300 m, it has 100 species, which is highest for the state. On the contrary, Kodagu and Chickmagalur districts have the altitudes ranging up to 2000 m but the number of orchids is 69 and 59 respectively (Rao T A.,1998).

Niche profile

Those orchids occupying the highest canopies of the emergent trees are xerophytic and tolerate long periods of high intensity of light that approximates steady state for their growth. However between crown canopy and crown base in the understory where rapid fluctuation of sun and shade often predominate, maximum numbers of orchids are found growing (Sciophytes). The third category of orchids is truly shade tolerant and occupies the tree trunk or stump portions of the understory (mesophytes). The orchids under the fourth ecological group are differentiated in their growth on soil either as an autophyte or saprophyte. The epiphyte is generally tolerant to changes or vagaries of climatic changes by their adaptive habits and specialized roots, in addition to waxy coatings and succulence of varying dimensions. These have made them tolerant to xerophytic amplitudes of varying degree including physiological drought condition as an excessive rainfall during monsoons especially, southwest monsoon. The heavy rainfall and high temperature prompt the atmosphere to reach saturation point. The optimum condition for good growth for orchids hovers around 25⁰ C which is the normal condition in the equatorial region with very little variation.

Flowering

As the south-west monsoon clouds the entire area with its insistent rain, most of the hilly slopes once dry is soon draped in the graceful velvet of green grassy blanks with dappled sprouting of terrestrial orchids such as the *Habenaria grandifloriformis*, *H.longicorniculata*, *H.heyneana* etc. Among the epiphytic orchids magnificent blooms of *Aerides sp .*, *Rhynchostylis retusa* , hangs out in the drizzling rain from their arboreal abodes of tree branches. Many smaller orchids such as *Eria dalzellii* bloom late in the rainy season from trees and bigger shrubs such as *Phyllanthus emblica*, *Careya arborea*, *Randia dumetorum* etc. As the rain calms down and the cold wind starts prevailing through valleys and hills, orchids such as *Dendrobium barbatulum*, *Oberonia brunoniana*, *Bulbophyllum neilgherrense* etc., blooms from their perched corners of the trees in their myriads of colours. Many small creatures including the scorpions safely make their homes in these highly colonized orchids. With the winter coming to a close and the valleys becoming more hotter, it is summer time and epiphytes like *Acampe praemorsa*, *Dendrobium lawnianum*, *D.macrostachyum*, *D.crepidatum*, *Cymbidium aloifolium* etc., starts flowering, becoming a cynosure to the eyes of the onlooker.

Orchid-fungal symbiosis

Orchids with all their gracefulness also share relation with many other organisms such as the endomycorrhizae so much that without absence of these fungus orchids cannot germinate in the wild. These fungal partners send their hyphae into the cells of the host plant and penetrate tissues. However these relations are mostly symbiotic i.e., beneficial to both partners, with endomycorrhizae supplying the orchid with carbohydrates and other nutrients.

STUDY AREA

Study area comprises of two districts parts of Uttara Kannada (Bhatkal, Honnavar, Joida, and Siddapur taluks) and Shimoga district (Sagar, Hosanagar and Thirthalli taluks).

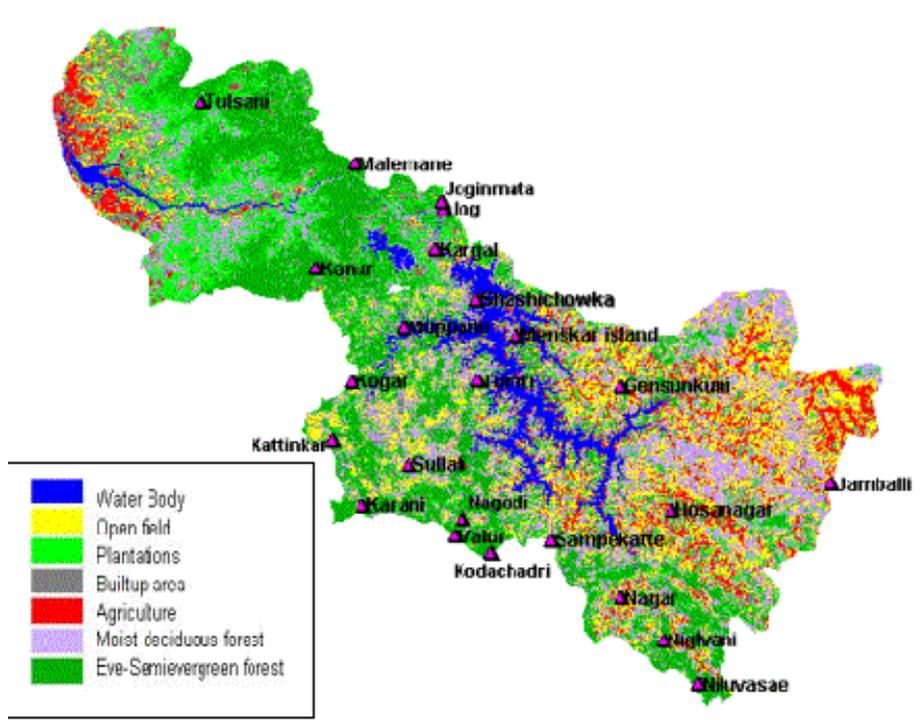


Figure 1: Study area satellite image with various land uses: Sharavathy river basin (Sagar, Hosanagar and Thirthahalli taluks) with orchid collection spots.



Figure 2: Study area-Uttara Kannada district with taluks and orchid collection spots.

ORCHIDS IN THE STUDY AREA

***Aerides maculosum*. Lindl.**

Monsoon brings lives to many orchids and this one is not an exception. They pleasantly bloom in the rain hanging out their panicles with rich collection of flowers. They are epiphytic growing on most of the taller trees in open places on *Terminalia paniculata*, *Ficus sp* . etc. Leaves size range from 15-24 x 1.5-4 cm, strap-shaped with apex unequally 2-lobed and midrib faintly channeled. Flowers group in showy rose coloured axillary racemes or panicles with peduncles as long as 35cm long. Sepals 3 and along with petals are spotted darker pink free. The large lower petal characteristic of orchids, known as lip or labellum, is main distinguishing point of the genus is darker pink, 3-lobed, spurred with incurved hook. The stamens and pistils of orchids are different from those of other plants and in this flower can be seen the 2 globular pollinia. Fruit is a capsule of 3x1 cm and strongly ribbed.

Habitat: Karni, Meniskar, Nigiloni etc. Generally found in open in moist and semievergreen forests

Fl. & Fr: June-July.

Distribution: South-West India.

Cottonia peduncularis (**Lindl**) **Reich.**

Vanda peduncularis Lindl.

Cottonia macrostachya Wight

Orchids have mystic appearance of their own and this plant flower, which resemble insects such as beetle. In the slightly shaded but open trees one can encounter this large epiphytic orchid somewhat rarely with elongate stem and channeled and bilobed leaves. Their inflorescences are long with 2-3-branched panicles and long peduncles. Flowers stalked, at tip of peduncled branches. Sepals and petals brown veined with red. Lip is sessile, fleshy and 3-lobed with midlobe dark purple. The lateral lobes are small with soft short hairs and yellowish.

Habitat: Meniskar islands , Genisinakuni etc., in semievergreen to moist deciduous forest in openings.

Fl. & Fr: March-Aug.

Distribution: South-West India, Sri Lanka.

Cymbidium bicolor Lindl.

These are robust tufted epiphytes with large pseudobulbs. Leaves are irregularly bilobed at apex. Flowers hang down the plant in long showy inflorescences with petals having a central prominent brown patch throughout with a narrow yellow margin in the middle and margins broadly yellow.

Habitat: Genasinakuni, Santeguli, Kogar etc., in semievergreen forests to moist deciduous forests.

Fl. & Fr: April-May

Distribution: Indomalaysia

Dendrobium nanum J. Hooker

These are slightly smaller orchids growing on smaller trees and shrubs such as *Phyllanthus emblica* , and also on the lower branches of other trees in open places. These orchids have pseudobulbs, which are conically ovoid structures and leafy when in flower. Flowers are small with 0.7 cm length, white with green lip and column.

Habitat: Karni. Open forests.

Fl. & Fr: Sept-Oct

Distribution: South West India.

Dendrobium ovatum (L.) Kraenlin

D. barbatulum wt.

During the cold months when the cold winds howls through the valleys, these orchids bloom in an array of exquisite beauty of creamy flowers endorsing the surrounding landscape with any kind of shrubs in scrubs or roadside trees. These epiphytes with long stem, leafless when in flower are covered with scaly sheaths. Leaves are elliptic-oblong

and thin. Flowers are greenish-yellow, terminal, many flowered racemes. Sepals are sub-equal, oblong to egg shaped. Petals ovate-oblong with lip creamy-yellow, 3-lobed and midlobe rounded, less than twice the length of the lateral lobes.

Habitat: Valur, Kattinakar etc. Road cuts and forests edges along semievergreen forests.

Fl. & Fr: Nov-Dec

Distribution: South-West India.

***Eria dalzellii* (Dalz.) Lindl.**

These hidden small cutes are epiphytic herbs growing in the scrublands and other small trees in open areas having pseudobulbs. Pseudobulbs, which are tortoise shell like to look at, are 7-10 mm across, discoid, reticulate, nerves fan like. Inflorescence is a raceme, up to 10 cm long, arising between the leaves with pale yellowish-white flowers.

Habitat: Karni open scrubland

Fl.: Sept

Distribution: Western peninsular India.

***Habenaria crinifera* Lindl.**

These delicately chiseled flowers can really prove to be a magical moment for the first time lookers and will be wondering that any flower can be so much sculptured. These orchids, which bloom in whole groups in late rains, are tuberous orchids with both epiphytic and terrestrial habitats. Flowers are white with smooth edged petals. The lip white, 3 times as long as sepals, with a long claw, 3-lobed with side lobes some what wedge shaped, having the outer margins toothed and with a slender tail as long as itself produced from the inner margin. The midlobe is clawed, cleft into 2 lance shaped long tailed segments as long as side lobes. Spur is slender and incurved.

Habitat: Nilvase, Muppene etc., in forest openings of semievergreen forests and moist deciduous forests.

Fl. & Fr: Aug-Oct

Distribution: Western Ghats.

***Habenaria grandifloriformis* Blatter & McCann**

H. grandiflora Lindl.

In the sea of monotony of grasses in high altitude grasslands, these orchids enchantingly allure the onlookers with their pure white flowers dotting the sombre grasslands. The leaves 1-2, flat on ground, heart shaped and rounded lies flat to the ground. Flowers white in 1-5 bundles with bilobed petals. Lip with 3 narrow lobes having spur longer than the ovary.

Habitat: Grasslands of Sampekatte, Tumri, Menskar island etc.

Fl. & Fr: June-July

Distribution: Western-Peninsular India

***Habenaria longicorniculata* Grah.**

Habenaria longecalcarata A. Rich

Any one will be marveled at the snow-white flower of these orchids covering in a scattered crowd all along the rolling grasslands during the monsoon in higher elevations. These terrestrial, erect herbs grow to 40cm tall with tubers 1-2. Leaves 4-10 x 1.5-2 cm around 6 are clustered near the base of stem with an elliptic oblong or elliptic shape, base narrow, sheathing. Flowers 1-4, white, at the top of long, slender peduncle, covered by sheathing bracts. Floral bracts cover the ovary. Sepals 3, free, unequal, 5-7 nerved. Petals 1 x 0.4 cm, 3 nerved with 3 lobed lip to 1.6cms long, midlobe narrower than 2 lateral lobes, spur slender and long to 9 cm long, thickened below the middle, clavate at apex.

Habitat: Grassland along Bakod to Kodachari

Fl.: September

Distribution: Western peninsular (India)

***Malaxis acuminata* D. Don**

Microstylis wallichii Lindl.

Malaxis wallichii Deb.

These are terrestrial, robust herbs, up to 25 cm high. Stem tending to be pseudobulbous at base. Leaves 3-5, elliptic acuminate, sheathing at base. Flower deep pink in crowded, terminal dense to lax racemes, bracts deflexed.

Habitat: Sullali in Semievergreen forests

Fl. & Fr: Aug-Sep

Distribution: India, Nepal, and Kampuchea

Note : Has medicinal properties. The species is therapeutically important since the dried pseudobulbs are an important ingredient of 'Ashtavarga' drugs used in preparation of Ayurvedic tonic 'Chyavanprash'.

***Malaxis rheedii* Sw**

M.versicolor (Lindl.) Abeywick.

Microstylis versicolor Lindl.

M.rheedii Wt.

These exquisite terrestrial orchids seen in semievergreen to scrub forests in shady places have a swollen stem base, and membranous sheath around with attractive tinges of purple and red. However populations with green stem are also observed. Leaves grow to 10 x 3 cm, elliptic-lanceolate, base narrowed into a sheath, 7-nerved. Flowers are maroon coloured, terminal racemes. Petals lip yellow, crowning the flower.

Habitat: Nagodi, Halkar etc., in semievergreen to scrub.

Fl. & Fr: May-Oct

Distribution: India and Sri Lanka

***Oberonia santapau* Kapadia**

O.lindleyana Wt.

Malaxis lingleyana (Wt.) Reicherb

These orchids, which look like dangling inverted green swords from tree trunks, are pendulous epiphytes. Leaves are green and succulent. Flower orange coloured in dense gland-dotted racemes, longer than leaves. Sepals subequal, broadly ovate, acute. Petals equaling sepals, narrowly linear, lip 3-lobed, orange colored, midlobes 2-lobed, a semilunar nectary is present at the base of the lip, pollinia 4, in 2 pairs.

Habitat: Sampekatte, Sashichowk etc., in semievergreen forests.

Fl. & Fr: Aug to Dec.

Distribution: South India.

***Peristylus aristatus* Lindl.**

Habenaria aristata (Lindl.) Hook.

Slender erect terrestrial orchids growing to 60 cm tall with 2 tubers. Leaves 4-6, clustered near the middle, 5-8.5 x 1-2.2 cm, faintly 5 nerved with lower part of stem naked. Flowers few, greenish, in terminal lax spike. Sepals 3 and free. Petals 7 x 0.5 mm with lip 3-lobed, lateral lobes slender, long coiled. Spur 1-1.2 cm long

Habitat: Rare, collected in Nilvase hilltop-semievergreen forest.

Fl. & Fr: Sept

Distribution: India, Sri Lanka

***Peristylus secundus* (Lindl.) Rathak**

Coeloglossum secundum Lindl.

Peristylis lancifolius A. Rich.

Habenaria rabustior (Wt.) Hook

This is an erect, slender, terrestrial orchid, 25-30cm tall with a small tuber. Leaves 5-7, spiral, each 4.5-6 x 0.4-0.6 cm linear-lanceolate. Flowers are very peculiar with bull's

head shape having two horns and face very similar to *P.spiralis*. Petals as long as or slightly shorter than sepals, lip 3-lobed. Lateral lobes 3-3.5 mm long, narrow arching, longer than the short, broad midlobe. Spur 5 mm long, saccate (sac like) towards apex.

Habitat: Karni. In grassy hill slopes.

Fl.: Sept

Distribution: South India

***Pholidota pallida* Lindl.**

P.imbricate sensu lindl.

Epiphytic herbs with large pseudobulbs; pseudobulb 3-5cm long, furrowed, enveloped by membranous sheaths around. Leaves up to 30 x 6 cm, solitary on the top of pseudobulbs, elliptic or oblanceolate, tapering at base. Flowers to 1cm long, light pink, in long graceful drooping racemes on 30-35cm long slender peduncle. Sepals 3, 3-nerved. Lip deeply sac like, 3-lobed, column broad, winged.

Habitat: Kargal, Jog etc. on roadside and other trees in openings.

Fl. & Fr: July-Sept

Distribution: Indomalaysia

***Plantanthera susane* (L.) Lindl.**

Orchis sussane (L.)

Habenaria sussane (L.) R. Brown ex sprengel.

Pecteilis sussane (L.) Rafin.

In the ditches and along the grasslands these stand out of the place among the lowly grasses and other smaller plants. These are robust to 125 cm. Flowers are magnificent with size up to 6 x 7.5 cm, white suffused with green and scented. Dorsal sepal rhomboid; lateral twisted. Petals linear. Lip with highly dissected lateral lobes and narrow entire midlobe with narrow spur.

Habitat: Kattinkar. Along grassy slopes.

Fl. & Fr: Sept-Oct

Distribution: Indomalaysia

***Polystachya flavescens* (Bl.) Sm**

Onychium flavescens Bl.

Polystachya perpurea Wight

Polystachya wightii Reichb.

These epiphytic orchids are rather smaller with 3-4 leaves. Inflorescence is simple or branched. Flowers are yellow, not resupinate. Lateral sepals are broadly and obliquely

ovate-triangular. Lateral lobes of lips small, narrow triangular, acute; midlobe broadly oblong, deflexed at tip, covered with mealy loose, round cells.

Habitat: Hosanagar. Epiphytic on roadside trees, in open forest etc.

Fl. & Fr: July-Aug

Distribution: Indomalaysia

***Rhynchostylis retusa* (L.) Blume, Bijdr.**

Epidendrum retusum L.

This highly ornamental bushy cattail like flowered orchids is a common thing to see along the roadside in the rainy seasons. Many local children wear this as a hair ornament. These epiphytes are simple stemmed or branched but can grow in large profusion and can turn whole of the host tree region of their growth into flower garlands. Inflorescences are lateral, with densely flowered, pendulous racemes. Sepals and petals white, dotted with pink. Lip pink, laterally compressed, and hairy inside.

Habitat: Meniskar, Nilvase, Nagar etc. Common in open moist deciduous and scrub-savannas and along roadside trees.

Fl. & Fr: May-June

Distribution: Indomalaysia

***Aphyllorchis montana* Reichb.f.**

Terrestrial leafless saprophytes with stem purplish, erect slender, unbranched, with tubular sheaths are very rarely seen in the shrubs and undergrowth of the dense evergreen to semievergreen forests. Flowers are small, brownish purple in racemes, with bracts, few flowered with sepals and petals not equal. Lip short, sessile, shortly clawed, oblong, entire, claw with 2 triangular, acute auricles.

Habitat: Kanur. In semievergreen forests.

Fl. & Fr: July-Sept

Distribution: Western Ghats.

***Cleisostoma tenuifolium* (L.) Garay**

Sarcanthus pauciflora Wt.

More common in the shaded semievergreen to evergreen forests than any other orchids and are pendulous epiphytes. Leaves about 12 x 0.8 cm, linear-oblong, apex unequally 2-lobed or not. Flowers are pale yellow, marginally with red longitudinal bands; lip 3-lobed, spurred; midlobe spatulate, white with violet streaks; spur faintly bilobed at tip.

Habitat: Kanur, Malemane etc. In evergreen to semievergreen forests.

Fl. & Fr: May-Sept.

Distribution: Western Ghats

***Dendrobium mabelae* Gammie**

These small epiphytic orchids are pseudobulbous and leafy when in flower. Raceme terminal. Flower 0.7 cm, white. Lip narrowed and pinkish at base, obscurely 3-lobed, broadened into a green orbicular apex with two rows of hairs along margin with disc fleshy, bifid, at tip.

Habitat: Castle rock. In Scrub-savanna.

Fl. & Fr: Sept-Oct

Distribution: S W India.

***Dendrobium macrostachyum* Lindl.**

Perching on the trunks of tall trees these orchids flowers on leafless twigs. Flowers fascicled, lemon to brownish. Lip to 1.7 cm, orange, convolute; midlobe subquadrately oblong, minutely fimbriate or dissected.

Habitat: Tulsani, Hosanagar etc. On large trees in forest edges.

Fl. & Fr: Apr-May.

Distribution: India, Sri Lanka

***Epipogium roseum* (D.Don) Lindl.**

Limodorum roseum D. Don

Epipogium nutans Reichb.

Podanthera pallida Wight.

Walking through the dense forests one will be truly stunned by these marvelous saprophytic, perennial, leafless, achlorophyllous, herbs with horizontal fleshy, tuberous rhizome; plants more or less straw coloured. Inflorescence in lax racemes. Flowers are beautiful transparent white speckled with pink.

Habitat: Kanur. In semievergreen forests.

Fl. & Fr: Dec-May

Distribution: West Africa, Indomalaysia.

***Oberonia brunoniana* Wt.**

Erect or pendulous epiphytes. Leaves linear-oblong, fleshy, somewhat bent short sword shape, olive-brown in colour. Scape longer than leaves, 2-angled with a small leaf-like bract just below the inflorescence. Flowers in dense, erect or recurved, flattened, spike,

brown in colour, joined with upper lip. Petals reflexed, linear, narrower than sepals, pale yellow with lip 3-lobed, densely gland-dotted within the large concave disc.

Habitat: Thorne. On trees in forest openings.

Fl. & Fr: July-Sept.

Distribution: S W India.

Porpax reticulata

Many times these curious small orchids go unnoticed growing on tree trunks on trees such as *Vitex ultissima* etc. Pseudobulbs are aggregated. Leaves obovate, green, falling off early. Flowers are solitary, lateral, and brick-red. Lip glabrous outside, hairy inside, and 3-lobed.

Habitat: Castle rock. On isolated trees near streams in evergreen to semievergreen forests.

Fl. & Fr: Apr-Aug

Distribution: S W India.

Porpax jerdoniana (Wight) Rolfe

Lichenora jerdoniana Wight

Epiphytes with depressed, sub rotund pseudobulbs (like *P. reticulata*), covered by reticulate, lace like sheaths. Leaves only two, ovate with blotched markings on it. Flowers 1-3, terminal, light brown. Sepals joint only in the lower half with dorsal sepal free in the upper half and the laterals united, boat shaped, brownish-short hairs outside.

Habitat: Nagolli. In evergreen to semievergreen forests.

Fl. & Fr: Aug-Oct

Distribution: S W India.

Zeuxine longilabris (Lindl.) Benth. Ex. Hook.f.

Often along road cuttings one can encounter these saprophytic terrestrial, slender, rhizomatous, often achlorophyllous herbs. Leaves are basal often becoming paper like on drying, ovate-lanceolate. Flowers are greenish-white, terminal, erect, spicate racemes. Sepals are not equal, brownish-green, 1-nerved, with lip white, sac like at base, sac 2-spurred within, dilating into a deeply 2-lobed obovate midlobe.

Habitat: Jog Ghat. Along road cuttings, among foliage and shade

Fl. & Fr: Dec-Mar

Distribution: S W India.

Zeuxine gracilis (Breda) Bl.

These are terrestrial, saprophytic rhizomatous herbs. Flowers are yellow, in terminal spicate racemes, pedicels and axis glandular, lip similar to *Z.longilabris* except for the lobules which are orbicular and entire; pollinia 2, pyriform, sessile on an oblong gland.

Habitat: Sashiguli. Under tree shade among leaves in forest edges.

Fl. & Fr: Feb-Mar

Distribution: S W India.

***Acampe praemorsa* (Roxb.) Blatt. and McC.**

These are epiphytic orchids with stems covered by persistent leaf bases. Leaves are alternate with unequally cleft at apex. From the leaf opposed corymbose panicles pleasantly scented, fleshy flowers are borne. Lip is fleshy with cream yellow and striated on the midlobe and shortly toothed along the margins with slender spur at the base.

Habitat: Badal Ghat, Devimane Ghat, etc., in shady perches in moist deciduous to semievergreen forests and roadside trees.

Fl. & Fr: Apr-June

Distribution: India, Myanmar, and Sri Lanka

***Bulbophyllum neilgherrense* Wight**

These are robust and highly spreading and creeping herbs with conical yellowish-green pseudobulbs measuring up to 4 cm with a terminal leaflet. In between these bulbs, densely flowered drooping racemes arise at the base of the pseudobulb. Flowers are brown turning purple. Lip red with 2 basal ridges in between the lateral lobes.

Habitat : Ullurmata, Morse, Santeguli etc., in semievergreen forests and river or streamside trees.

Fl. & Fr : July-Sept

Distribution : South India

***Flickingeria nodosa* (Dalz.) Seidenf.**

Dendrobium nodosum Delz.

Desmotrichum fimbriatum auct. non Bl

This is a highly valued medicinal plant for many sweet preparation are prepared with medicinal value. This plant is called as Ratanpurusha. These are epiphytic herbs with suberect stems, with yellowish, shining, pseudobulbs, the terminal ending in a solitary leaf with creeping rhizomes. Flowers generally solitary, axillary, arising basally, whiter with maroon dots near the lip. Petals similar to sepal. Lip and foot are attached to each other, reflexed in the middle, trilobed, midlobe trilobed at the top and diverging.

Habitat: Hosanagar. Semievergreen to moist deciduous forests.

Fl. & Fr: June-Oct

Distribution: India Sri Lanka

***Habenaria heyneana* Lindl.**

Gastrichilus dasypogon auct. non(Rees) O.Ktze

With the fall of luxuriant rainfall on the rolling grasslands of the hills and valleys one can behold magnificent white spikes jetting out throughout the grassland gently swaying in the monsoon breeze along with *H.longicorniculata* and *H.grandifloformis* . These terrestrial tuberous herbs have almost linear leaves. 5-6 or more white flowers are neatly arranged one above the other on the terminal spikes. Lip is 3-lobed, linear and oval midlobe.

Habitat: Sampekatte, Kodachadri etc., in high altitude grasslands

Fl. & Fr: June-Oct

Distribution: South India in Western Ghats

***Nervilia prainiana* (King and Pantling) Seidenfaden and Smitin**

Among the fallen dry leaves in the moist deciduous forests and also in the plantations such as *Acacia auriculiformis* one will be astonished to see reniform-heart shaped leaves lying flat on the ground. More astonishing will be to recognize this as an orchid, only if one beholds any flower. These have a solitary flowers with yellow sepals and petals with lip purple, 3-lobed and midlobe fimbriate.

Habitat: Hosanagar, Nagar etc., in shady areas in timber plantations and moist deciduous forests

Fl. & Fr: Jan-Jul

Distribution: India

***Dendrobium crepidatum* Lindl.**

During the summer if one walks through the open forest or scrub Savanna in between the evergreen to semievergreen forest, rarely one beholds the marvelous assemblage of these rather large flowers perching on some small trees or even shrubs beating the scorching sun. During flowering these are totally devoid of any leaves only with 1-few fascicled, white, with yellowish rounded, short hairy lipped flowers. Many have observed cleistogamy in these plants wherein many flowers pass from bud to fruiting stage without blooming.

Habitat: Vaddi Ghat in open areas in scrub-savanna and semievergreen forests.

Fl. & Fr: Mar-Jun

Distribution: South and North East India

***Dendrobium lawianum* Lindl.**

Dendrochilum roseum Dalzell

Dendrobium roseum Sw.

These very much resemble the orchid *Dendrobium crepidatum* except for its white flowers with a tinge of pink. These also share the same habitat as above orchid but more common.

Habitat: Vaddi Ghat in open areas in scrub-savanna and semievergreen forests.

Fl. & Fr: Mar-June

Distribution: South West India

***Diplozentrum congestum* Wight**

These curiously stunted looking orchids are more stunted in scrub areas having leaves with are recurved, which are unequally bilobed at the apex. Flowers are pinkish-white in axillary racemes with sepals and petals pale green with dark pink streaks in the center. Lip is tongue-like, waxy pink slightly reflexed and cut at the ends and 2-spurred at the base.

Habitat: Karni, Sampekatte etc., on road side trees, scrub savanna and open forest.

Fl.: June

Distribution: South West India

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