

## **STUDIES ON THE ORCHIDS OF THE SHEVOROY AND KOLLI HILLS OF SOUTH INDIA**

A. A. ANSARI AND P. DWARAKAN

Indian Botanic Garden  
Botanical Survey of India, Howrah 711 103

### **A B S T R A C T**

The present paper reports the occurrence of 66 species of orchids from the Shevoroy and Kolli Hills of South India with their distribution in various localities of the areas. Many species have not been reported by earlier workers. These orchids are under severe pressure of their survival due to various biotic and ecological factors.

### **INTRODUCTION**

The Shevoroy hill range is situated near Salem in the north-east direction. The altitude ranges from 350 to 1450 m. Geologically the area is rich in archaean charnokites with few belts of granite gneiss. Along the slopes and foot hills the soil is red sandy loam with limestones (Matthew, 1983). The vegetation of the area is of mixed deciduous and evergreen types. Most of the area is under coffee cultivation. Sholas are found in few places. The temperature ranges from 11° to 30°C and the annual rainfall ranges from 830 to 1350 mm.

The Kolli hill range is situated about 86 km from Salem in south-east direction. The altitude ranges from 400 to 1650 m (Matthew, 1983). The vegetation of the area is of mixed deciduous and evergreen types. Sholas are more than the Shevoroy hills. The temperature ranges from 12° to 26°C and the annual rainfall from 1200 to 1400 mm.

The habitat of orchids is under severe threat due to coffee cultivation in Shevoroy hills and pineapple cultivation in Kolli hills. Grazing, forest fires and encroachments of forest land are other factors responsible for depletion of the population of orchids.

---

Received on 30th July, 2001; accepted on 1st January, 2002.

Some of the species reported to occur earlier in abundance are found to be rare and their population reduced e.g. *Acanthephippium bicolor*, *Calanthe* spp., *Dendrobium aqueum*, *Disperis neilgherrensis*, *Eulophia graminea*, *Eria polystachya*, *Flickingeria nodosa*, *Habenaria* spp., *Taprobanea spathulata*, etc. Ex-situ conservation measures are being taken up by the National Orchidarium and Experimental Garden, Botanical Survey of India, Yercaud. Natural as well as man made fire destroy vegetation thereby depleting the orchids. The destruction pattern can be understood by one example of a portion of Semmedu locality of Kolli hills having thickets of *Lantana* bushes along with patches of tall grasses and a few small trees here and there, from where *Taprobanea spathulata* was collected by us in good number for introduction in the National Orchidarium, Yercaud leaving the rest population of very good number, has now been completely burnt due to man made fire with little sign of vegetation there. Similarly, Ariyur Shola of Kolli hills and Kaka Shola of Shevoroy hills are slowly being converted into plantations, where orchids are found in abundance.

Many orchid species are found in semi-evergreen and evergreen forests in moist, shady places. A few species of *Habenaria*, *Geodorum*, *Eulophia* and *Vanda* are found along ghat road and foothills. Many species of *Habenaria* are found in open grass lands at higher altitudes. Species of *Arisaema*, *Commelina*, *Drosera*, *Eriocaulon*, *Hedychium*, *Impatiens*, *Iphigenia*, etc. are found with these orchids. Terrestrial orchids like *Calanthe* ssp., *Habenaria* ssp., *Eulophia* ssp., *Liparis* ssp., *Malaxis* ssp., *Nervilia* spp. have been found in patches in various places and *Acanthephippium bicolor*-*Calanthe masuca-Zeuxine longilabris* growing in association covering a wide area near a stream in Ariyur shola of Kolli hills. Associations of epiphytic orchids such as *Diplocentrum recurvum* - *Lusia* ssp., *Dendrobium* spp., *Eria* spp., *Gastrochilus acaulis* - *Oberonia* spp. *Polystachya concreta* and clumps of *Eria pauciflora*, *E. reticosa*, *Dendrobium aqueum*, *Bulbophyllum fischeri*, *Papilionanthe subulata*, *Vanda tessellata* are usually found on trees like *Artocarpus heterophyllus* Lam., *Bischofia javanica* Bl., *Pterocarpus marsupium* Roxb., *Pyrus communis* L., *Syzygium cumini* (L.) Skeels, *Terminalia chebula* Roxb., *Vaccinium neilgherrense* Wight, *Wendlandia thyrsoides* (Schultes) Steudel, etc.

During the period from 1989 to 1994 nine plant collection trips of several days duration to the different parts of Kolli hills and numerous one day collection trips to Shevoroy hills were undertaken and orchids were collected and brought under cultivation

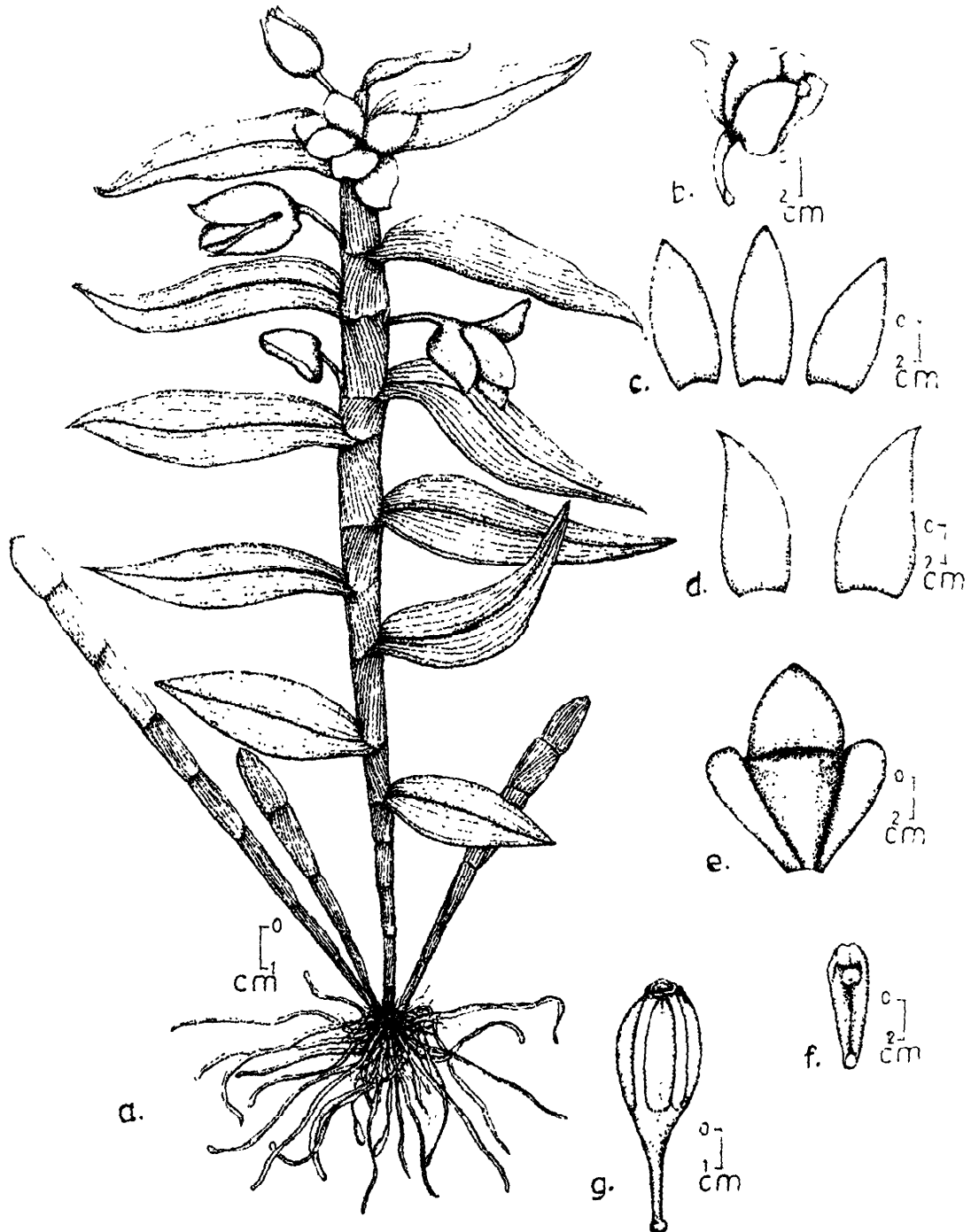


Fig.1 (a-g) : *Dendrobium aqueum* Lindl.

a. Habit; b. Flower; c. Sepals; d. Petals; e. Labellum with side petals; f. Column; g. Pollinia.

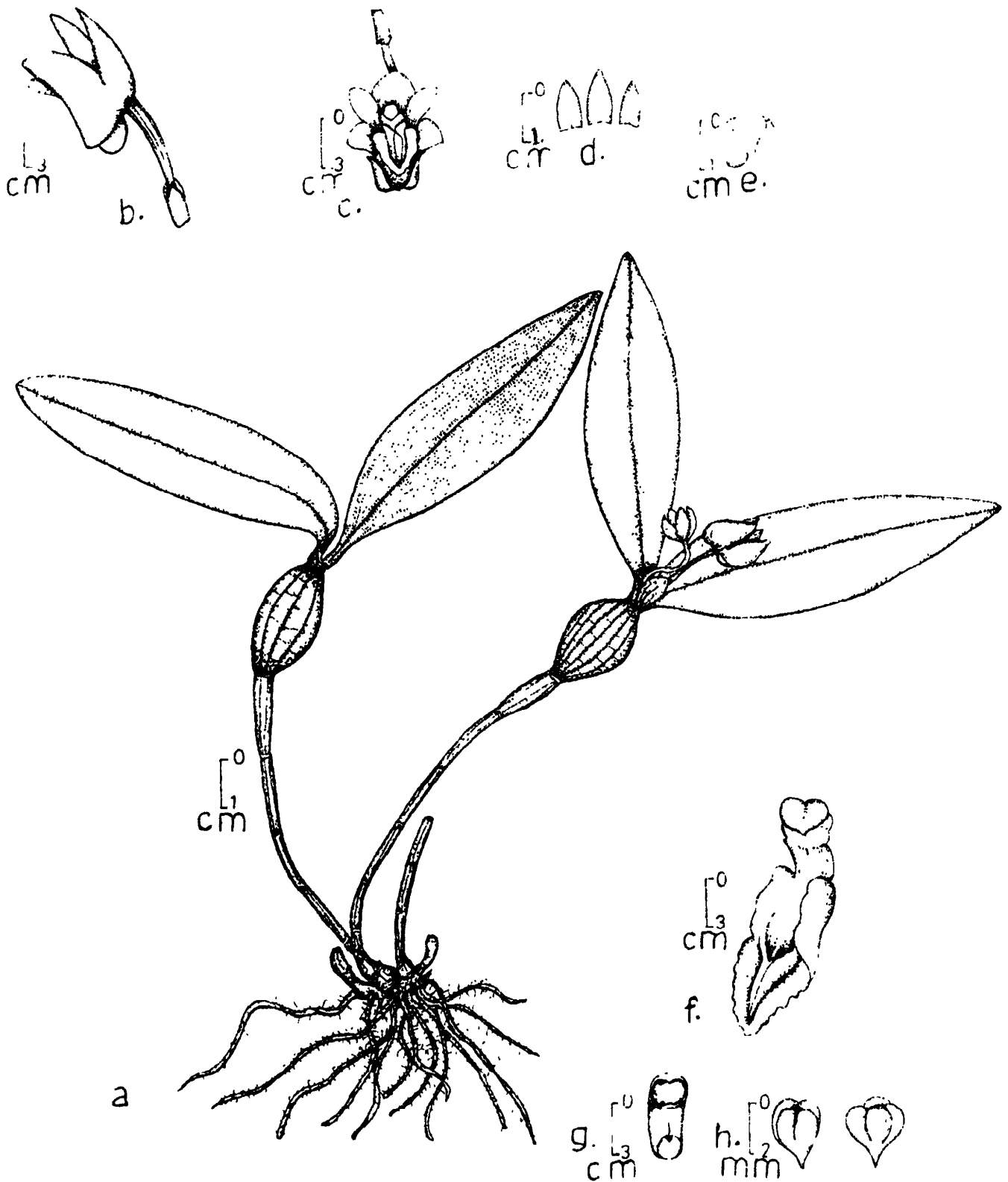


Fig.2 (a-h) : *Eria pauciflora* Wight

a. Habit; b. Flower-lateral view; c. Flower-front view; d. Sepals; e. Petals;  
f. Labellum with column; g. Column; h. Pollinia

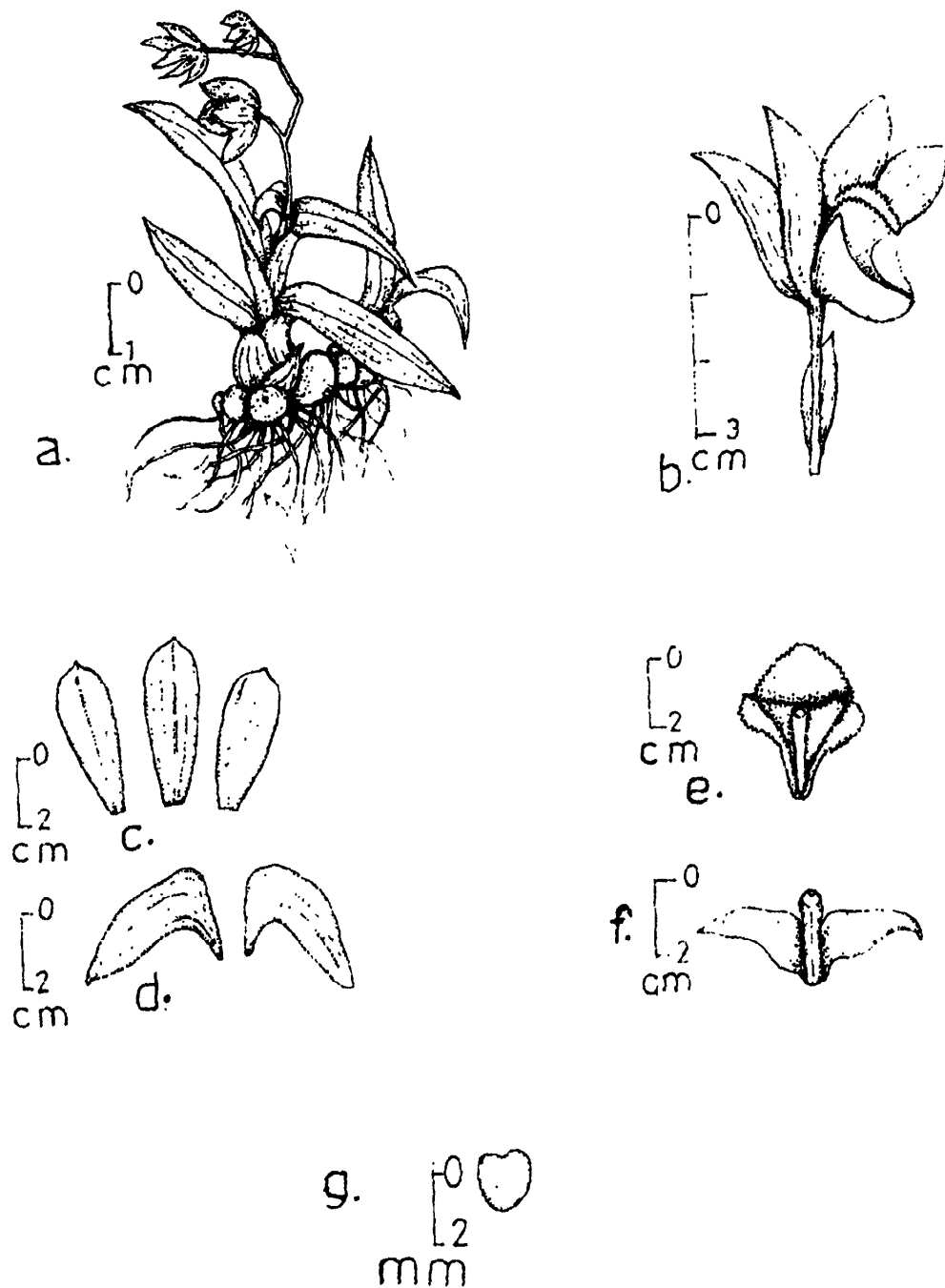


Fig.3 (a-g) : *Eria reticosa* Wight

a. Habit; b. Fruit; c. Sepals; d. Petals; e. Labellum with side petals & column;  
f. Column without petals; g. Pollinia.

in the National Orchidarium and Experimental Garden, Yercaud. Identification was done with the help of experienced staff members of the orchidarium and by studying the live plants. Floras like Abraham & Vatsala (1981), Henry & al. (1989), Joseph (1987), Matthew (1983), etc. were mainly consulted for this purpose. Thereafter for further confirming their identity, these plants were matched with the authentic specimens in the herbarium of Botanical Survey of India, Yercaud and Coimbatore (MH). Those recorded new were confirmed with the help of floras and experts. The present paper reports the occurrence of 66 species of orchids from these areas (Map) with their distribution and population studies in various localities and presented in Table 1. Uncommon localities have been named in the column alongwith the '+' sign. Very few species are found scarcely and are marked with an asterisk(\*), the rest are found in good number and are abundant in some localities. Majority of these orchids are under cultivation in the National Orchidarium, Yercaud. Herbarium specimens were made in few cases and are deposited in the herbarium of Botanical Survey of India at Yercaud and Coimbatore (MH). Herbarium specimens of other collectors from these localities in the aforesaid herbaria alongwith our collections have been mentioned against the respective species.

Sixteen species have not been reported by Matthew (1983). Senthil Kumar & Krishnamurthy (1993) recorded *Habenaria grandifloriformis* from Shevoroy hills. The other fifteen species are *Bulbophyllum fuscopurpureum*, *Cheirostylis parviflora*, *Calanthe masuca*, *Dendrobium macrostachyum*, *Epipogium roseum*, *Eulophia epidendrea*, *E. nuda* var. *andersonii*, *Habenaria crinifera*, *Liparis atropurpurea*, *Luisia abrahamii*, *L. trichorhiza*, *Malaxis densiflora*, *Nervilia aragoana*, *Oberonia ensiformis* and *Schoenorchis nivea*.

*Epipogium roseum*, a rare orchid has been a new record for Salem District (Ansari & Dwarakan, 1995). *Taeniophyllum alwisii* reported based on a single doubtful specimen by Matthew (1983), has been collected by us in good number and is being successfully grown in the National Orchidarium (Ansari & al. 1994). Twelve species recorded by Matthew (1983) could not be collected by us; these are *Acampe praemorsa* (Roxb.) Blatter & McCann, *Aerides ringens* (Lindl.) Fischer, *Chrysoglossum maculatum* (Thw.) Hook.f., *Dendrobium anamalyanum* Chandrb., Chandrasek. & Nair, *D. herbaceum* Lindl., *D. wightii* Hawkes & Heller, *Eria polystachya* A. Rich, *Habenaria digitata* Lindl., *Liparis viridiflora* (Blume) Lindl., *Malaxis acuminata* D. Don, *Schoenorchis*



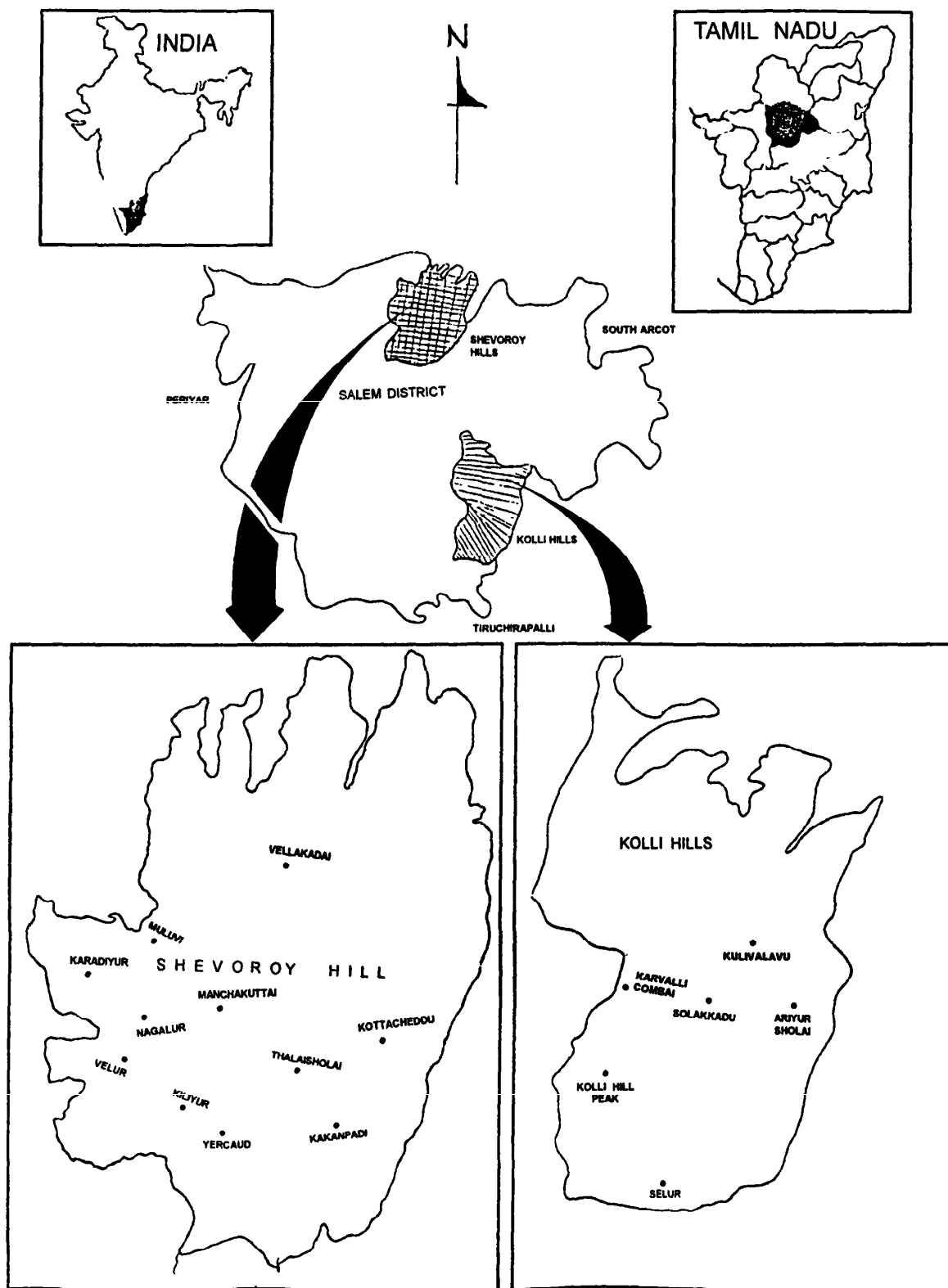
1. *Peristylus goodyeroides* (D. Don) Lindl.

2. *Acanthephippium bicolor* Lindl.

3. *Taeniophyllum alwisii* Lindl. - Leafless orchid.

4. *Papilionanthe subulata* (Koen.) Garay

5. *Taprobaenia spathulata* (L.) Christ



Location map of Shevoroy &amp; Kolli hills

Table - I : List of Orchids of Shevoroy &amp; Kolli hills

Name of species	Kolli hills							Shevoroy hills								
	Arappaleswar Temple-water falls	Ariyur Shola	Ghat Road	Kulivalauv	Peria Shola	Semmedu	Solakkadu	Vasalur-patti-old mines	Ghat Road	Kaka Shola	Kiliyur falls	Manjakuttai	Mines area- Shevoroy temple	Pattipadi-Mulvi	Sanyasimalai- Nagalur	Vasambadi- Gundur
<i>Acanthephippium bicolor</i> Lindl. (P.D. 156; AVNR 23069)		+		+	+	+	+		+	+	+	+	+	+	+	+
<i>Anoectochilus elatus</i> Lindl. (P.D. 441)		+		+	+											
<i>Bulbophyllum fischeri</i> Seidenf. (P.D. 212; AAA 97011)	+	+		+		+				+			+		+	+
<i>B. fuscopurpureum</i> Wight			+		+	+									+	
<i>B. kaitense</i> Reichb.f.	+								+							
<i>B. neilgherrense</i> Wight		+		+		+								+		
<i>Chierostylis parviflora</i> Lindl. Wight (P.D. 478)				+											+	
<i>Calanthe masuca</i> (D. Don ) Lindl.		+														
<i>C. triplicata</i> (Willemet) Ames (P.D. 488)		+														
<i>Coelogyne breviscapa</i> Lindl. (P.D. 614)	+														+	
<i>Cymbidium aloifolium</i> (L.) Sw. (P.D. 692; VC 47735)	+				+		+				+	+				



Name of species	Kolli hills							Shevoroy hills								
	Arappaleswar Temple-water falls	Ariyur Shola	Ghat Road	Kulivalauv	Peria Shola	Semmedu	Solakkadu	Vasalur-patti-old mines	Ghat Road	Kaka Shola	Kiliyur falls	Manjakuttai	Mines area- Shevoroy temple	Pattipadi-Mulvi	Sanyasimalai- Nagalur	Vasambadi- Gundur
<i>Eulophia epidendraea</i> (Koen.) Schltr. (AAA 94217)	Karavalli					+			Kuruvampatti, Valavandi							
<i>E. graminea</i> Lindl.									Kuruvampatti							
<i>E. pulchra</i> (Thou.) Lindl. (P.D. 900)						+			Kuruvampatti							
* <i>E. nuda</i> var. <i>andersonii</i> Hook.f. Seidenf.									Kuruvampatti							
* <i>Flickingeria nodosa</i> (Dalz.) Seidenf. (AVNR 26916)										+						
<i>Gastrochilus acaulis</i> (Lindl.) Ktze. (PD 869; AAA 97121)		+		+			+			+	+	+	+	+		
<i>Geodorum densiflorum</i> (Lam.)Schultr. (P. D. 92; SK 41438)		+			+	+			+	Kuruvampatti					+	+
<i>Habenaria crinifera</i> Lindl. (PD 930)			+			+				Kuruvampatti					+	
<i>H. grandifloriformis</i> Blatt. & McCann (PD 679; AVNR 26783)						+	+			+		+	+		+	
<i>H. heyneana</i> Lindl. (AAA 97019; AVNR 18265)													+			
<i>H. longicorniculata</i> Grah. (PD 712; AAA 97070; RA 47796)		+		+	+	+	+			+		+	+	+		
<i>H. longicornu</i> Lindl. (AVNR: 18260)	Karavalli			+	+		+		Kuruvampatti		+		+	+		

[illegible]

Name of species	Kolli hills							Shevoroy hills								
	Arappaleswar Temple-water falls	Ariyur Shola	Ghat Road	Kulivalauv	Peria Shola	Semmedu	Solakkadu	Vasalur-patti-old mines	Ghat Road	Kaka Shola	Kiliyur falls	Manjakuttai	Mines area- Shevoroy temple	Pattipadi-Mulvi	Sanyasimalai- Nagalur	Vasambadi- Gundur
<i>Nervilia prainiana</i> (King & Pantl.) Seidenf. (AAA 97016; PD 773)				+												
<i>Oberonia brunoniana</i> Wight (AAA 97018)				+									+			
<i>O. ensiformis</i> (J. E. Smith) Lindl. (PD 11077)					+											
<i>O. proudlockii</i> King & Pantl.				+									+	+		
<i>O. santapaui</i> Kapadia (AAA 97168)				+									+	+		
<i>O. verticillata</i> Wight (AVNR 47968)									" Kutaru; Vaniaru							
<i>O. wightiana</i> Lindl. (PD 556)				+									+			
<i>Papilionanthe subulata</i> (Koen.) Garay				+		+				+		+	+		+	
<i>Peristylus goodyeroides</i> (D. Don) Lindl.					+					+		+	+			
<i>Pholidota pallida</i> Lindl. (PD 553)	+	+														+
<i>Polystachya concerta</i> (Jacq.) Garay & Sweet (AAA 97136; AVNR 23060)					+		+					+	+		+	

Name of species	Kolli hills								Shevoroy hills							
	Arappaleswar Temple-water falls	Ariyur Shola	Ghat Road	Kulivaluv	Peria Shola	Semmedu	Solakkadu	Vasalur-patti-old mines	Ghat Road	Kaka Shola	Kiliyur falls	Manjakuttai	Mines area- Shevoroy temple	Patipadi-Mulvi	Sanyasimalai- Nagalur	Vasambadi- Gundur
<i>Porpax reticulata</i> Lindl. (AAA 97002; 97285)		+		+									+			
* <i>Satyrium nepalense</i> D. Don													+			
<i>Schoenorchis nivea</i> (Lindl.) Schltr.				+												
<i>Spiranthes sinensis</i> (Pers.) Ames (AAA 97041)				+									+			
<i>Taeniophyllum alwisii</i> Lindl. (AAA 97050, 97051, 97054; PD 878)				+						+					+	
<i>Taprobanea spathulata</i> (L.) Christ.					+	+		+								
<i>Vanda tessellata</i> (Roxb.) Hook. (AAA 94269; PD 979; SK 41439)			+	Karavalli					+	Kuruvampatti						
<i>V. testacea</i> (Lindl.) Reichb.			+	+					+			+		+	+	+
* <i>Vanilla walkeriae</i> Wight (PD 819)		+														
* <i>Zeuxine longilabris</i> (Lindl.) Trimen		+		+	+					+	+				+	+

Abbreviation used : AAA - A. A. Ansari; AVNR - A. V. N. Rao; JSG - J. S. Gamble; RA - R. Ansari;  
SK S. Karthikeyan; PD P. Dwarakan; VC V. Chandrasekaran; VJN V. J. Nair.

*jerdoniana* (Wight) Garay & *Rhynchostylis retusa* (L.) Blume. Senthil Kumar & Krishnamurthy (1993) reported from Shevoroy hills, the occurrence of *Acampe praemorsa*, *Calanthe triplicata*, *Dendrobium anamalyanum*, *Eria polystachya*, *Habenaria digitata*, *Liparis viridiflora*, *Malaxis acuminata* in wild, whereas *Dendrobium herbaceum* and *Rhynchostylis retusa* as exotic, cultivated or introduced but we could not collect them from Shevoroy hills. The following nineteen species are addition to the flora of Shevoroy hills (Senthil Kumar & Krishnamurthy, 1993) *Bulbophyllum fuscopurpureum*, *B. neilgherrense*, *B. fischeri*, *Cheirostylis parviflora*, *Dendrobium macrostachyum*, *Epipogium roseum*, *Eulophia epidendrea*, *E. graminea*, *E. nuda* var. *andersonii*, *Habenaria crinifera*, *Liparis atropurpurea*, *Luisia abrahami*, *L. trichorhiza*, *Malaxis densiflora*, *Nervilia aragona*, *Oberonia proudlockii*, *Pholidota pallida*, *Porpax reticulata* and *Zeuxine longilabris*.

#### ACKNOWLEDGEMENTS

The authors are thankful to the Deputy Director, Botanical Survey of India, Southern Circle, Coimbatore for providing facilities. Grateful thanks are due to S/Shri C. Allimuthu, M. Andi and M. Chinnaswamy, N.O. & E.G., BSI, Yercaud for their help in the field.

#### REFERENCES

- ABRAHAM, A. AND P. VATSALA. Introduction to Orchids. TBGRI, Trivandrum. 1981.
- ANSARI, A.A., P.G. DIWAKAR AND P. DWARAKAN. Occurrence of *Teaniophyllum alwisii* Lindl. A tiny rare and little known species from Shevoroy & Kolli hills of Tamil Nadu. *Indian J. Forestry* 17(3): 260-261. 1994.
- ANSARI, A.A., P.G. DIWAKAR AND P. DWARAKAN. Two interesting orchids from Southern India. *J. Orchid Soc. India* 9(1-2): 19-21. 1995.
- ANSARI, A.A. AND P. G. DIWAKAR. *Epipogium roseum* (D. Don) Lindl. A rare saprophytic orchid and new record from Salem Dist. *J. Econ. Tax. Bot. Add. Series No.11* : 127-128. 1995.
- ANSARI, A.A. AND P. DWARAKAN. *Luisia abrahamii* (Orchidaceae) A new record for Tamil Nadu, *J. Econ. Tax. Bot. Add. Series No.II* : 143-144. 1995.

HENRY, A.N., V. CHITHRA AND N. P. BALAKRISHNAN. Flora of Tamil Nadu, Vol.III, BSI, Coimbatore. 1989.

JOSEPH, J. Orchids of Nilgiris, BSI, Kolkata. 1987.

MATTHEW, K.M. The Flora of Tamil Nadu Carnatic Vol.3(2), The Rapinat Herbarium, Tiruchirapalli. 1983.

SENTHIL KUMAR, T. AND K.V. KRISHNAMURTHY. Flora of Shevoroy Hills of Eastern Ghats. *J. Econ. Tax. Bot.* 17(3): 729-748. 1993.