

STUDIES ON THE FLORA OF SINGAMPATTI RESERVE FOREST IN TIRUNELVELI DISTRICT, MADRAS STATE

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ABSTRACT

A detailed study of the flora of Singampatti Reserve Forest has not been made so far and four seasonal exploration trips were made for the collection of plants in the year 1957-58.

The vegetation of this region consists of the scrub jungle type which extends to a height of about 300 M, the deciduous and grassland regions lying between 300 M to 1000 M and the evergreen forests appearing at a height of about 1000 M. The evergreen forests, however, get changed into the monsoon type above 1500 M. The Kakachi region which forms the highest peak in this area is the typical monsoon forest.

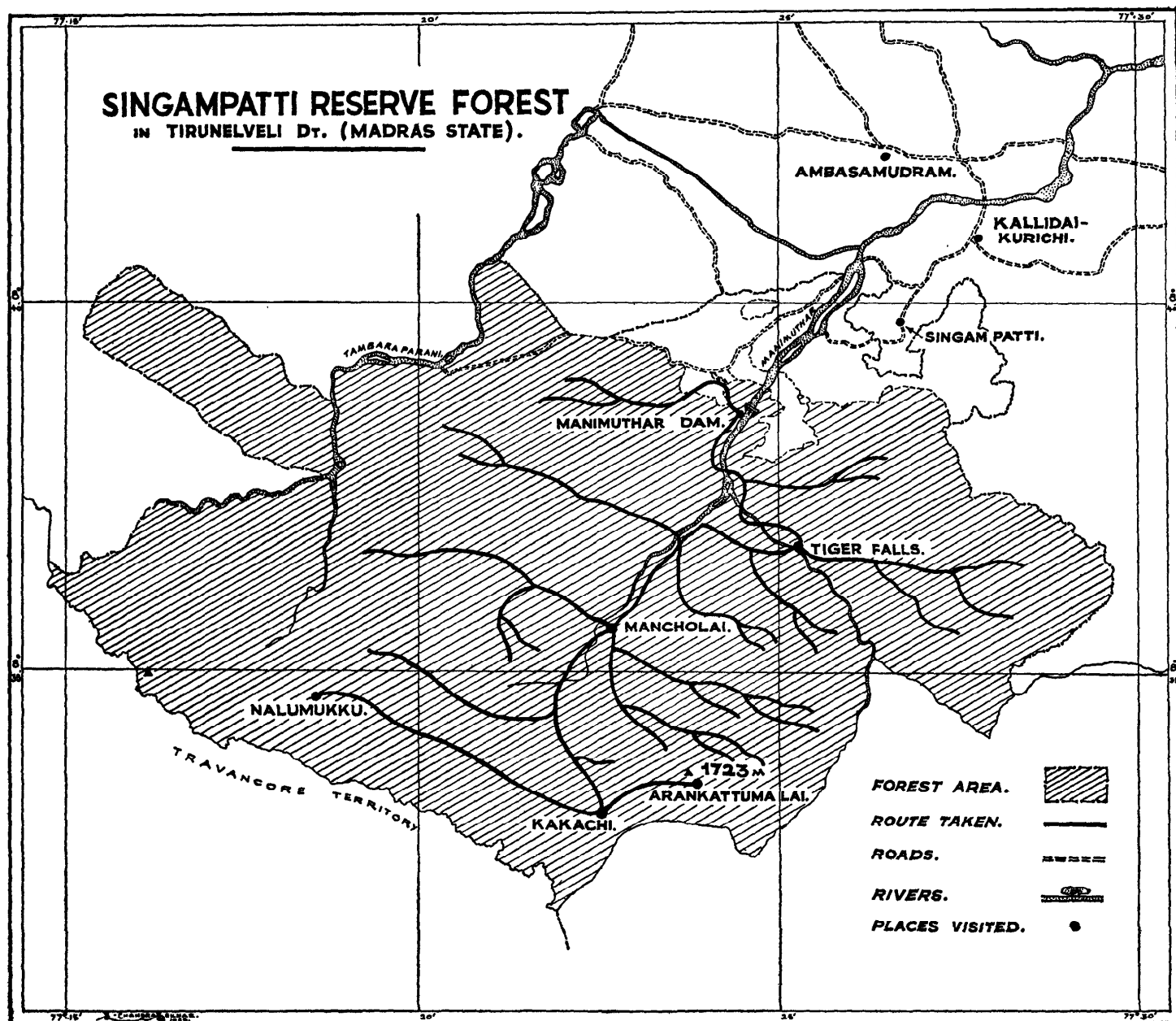
Plant collections were made at various places that had distinctly different ecological conditions and in all a total of 92 families represented by 320 genera, 432 species, native to or naturalized in the forest was found. The families with quite a large number of species are: Gramineae, Euphorbiaceae, Leguminosae, Acanthaceae, Cyperaceae, Compositae, Polypodiaceae (*sensu lato*), Rubiaceae, Labiatae and Verbenaceae. These ten families contain 54.4 per cent of the total flora of the forest. The collections include species which are endemic to this area.

Introduction

The Singampatti Reserve Forest was a private forest which belonged to the Zamindar of Singampatti and in recent years it was taken over by the Forest Department of the Madras State. It extends just over 425 sq. kms. in Tirunelveli District and lies between 77°15' and 77°30' E longitudes and 8°32' and 8°41' N latitudes. The altitude ranges from 67 M to 1733 M. A

detailed study of the flora of this region has not been made so far, though Beddome (1877), Lasrado (1936), Ramaswamy (1914), Rangachari (1919) and Mudaliar and Sundararaj (1954) have made contributions to the vegetation of the Tirunelveli district. Four seasonal exploration trips were made for the collection of plants, the itineraries of which are:

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| Exploration I: | 24- 6-1957 | Manimuthar Dam area. |
| | 25- 6-1957 | Mancholai and surrounding regions. |
| | 26- 6-1957 | Kizh-Manimuthar. |
| | 27- 6-1957 | Tiger Falls to Mancholai. |
| | 28- 6-1957 | Manimuthar Dam to Tiger Falls. |
| | 30- 6-1957 | The forests above Tiger Falls. |
| Exploration II: | 11-10-1957 | Tiger Falls to Mancholai. |
| | 12-10-1957 | Mancholai to Nalumukku. |
| | 13-10-1957 | Manimuthar Dam area. |
| | 14-10-1957 | Singampatti Valley. |
| | 15-10-1957 | Cardamom Forest, Kakachi. |
| | 17-10-1957 | Forests above Tiger Falls and way to Mancholai. |
| | 18-10-1957 | Manimuthar Dam to Tiger Falls. |
| Exploration III: | 28- 2-1958 | Tiger Falls to Mancholai. |
| | 1- 3-1958 | Mancholai and surrounding regions. |
| | 2- 3-1958 | Manimuthar Dam area. |
| | 3- 3-1958 | Singampatti Valley. |
| | 4- 3-1958 | Forest above Tiger Falls and way to Mancholai. |
| Exploration IV: | 7- 5-1958 | Arankattumalai, Kakachi. |
| | 8- 5-1958 | Cardamom Forest, Kakachi. |
| | 9- 5-1958 | Singampatti Valley. |
| | 10- 5-1958 | Way to Mancholai. |
| | 11- 5-1958 | Mancholai and surrounding regions. |
| | 12- 5-1958 | Forests above Tiger Falls. |
| | 13- 5-1958 | Manimuthar Dam area and Ambasamudrum. |



Soil

The principal underlying rocks throughout the ghat forests is a granitoid gneissic formation. The soils are "Red and Black". The reddish loamy soil is found along the foot of the mountain up to 1000 M. Above 1000 M. the soil is dark clayey and loamy which is highly fertile.

Climate

The climate on the plains and on the lower foot hills upto an elevation of 500 M. is generally hot and dry. The temperature falls rapidly as the altitude increases and becomes cold at the top of the mountain. The hottest months are May and June. The following table shows the monthly maximum and minimum temperature recorded at Ambasamudrum for 1950 to 1955.

TABLE I

*Temperature (in °C)

Month	1950		1951		1952		1953		1954		1955	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
January	31	21	30	22	31	26	32	22	31	22	30	22
February	33	21	33	20	33	27	32	21	34	24	31	22
March	34	24	35	24	36	28	36	24	34	23	36	23
April	36	25	35	25	36	29	36	25	36	26	36	25
May	38	28	37	27	37	26	39	28	38	28	34	26
June	33	26	32	26	33	27	36	28	34	27	32	26
July	32	26	32	26	32	26	32	26	32	26	33	26
August	32	25	33	26	33	26	33	26	32	25	32	26
September	32	24	33	25	35	24	34	24	33	25	33	25
October	33	24	34	25	34	24	34	24	33	24	34	25
November	31	22	31	24	33	23	33	23	32	23	32	23
December	31	22	33	22	32	23	31	22	31	23	30	22

The rainfall is mostly due to the South west and the North east monsoons occurring during July-August and October-December respectively, the maximum being received during the North east monsoon. The average

annual rainfall is 150 cms. on the hills and much less in the plains, where the minimum is 50 cms. The following table shows the monthly rainfall recorded at Ambasamudrum for 1950-1955.

TABLE II

*Rainfall (in cm.)

Month	1950	1951	1952	1953	1954	1955
January	0.25	10.08	8.9	3.8	19.33	12.28
February	16.13	Nil	2.33	5.28	2.45	Nil
March	4.5	3.2	0.75	4.25	21.1	3.48
April	1.98	13.25	14.9	9.58	2.73	12.55
May	6.5	7.28	1.65	1.45	0.55	6.68
June	2.25	5.6	0.95	2.48	0.65	3.68
July	1.88	2.3	0.45	8.43	1.83	0.6
August	1.13	Nil	Nil	0.6	1.05	Nil
September	3.25	15.7	0.25	1.03	1.68	7.73
October	12.5	5.58	9.5	22.98	20.15	1.55
November	16.73	29.48	7.35	29.6	6.73	32.05
December	35.83	1.95	4.7	10.65	17.7	8.1

Vegetation

The vegetation of this region consists of the scrub jungle type, the deciduous forest interspersed by open grasslands, the evergreen and the monsoon forest types.

The scrub jungle which extends to a height of about 300 M is composed mainly of thorny shrubs and climbers. The characteristic feature of this vegetation is

the dominant population of the following species: *Barleria cuspidata*, *B. noctiflora*, *Cissampelos pareira*, *Dyschoriste littoralis*, *Hugonia mystax*, *Securinega leucopyrus*, *Solanum pubescens*, *Strobilanthes cuspidatus* and *Zizyphus xylopyrus*. In some portions of this area *Tectona grandis* is cultivated by the Forest Department and it does not grow well.

* Data from the Agricultural Meteorologist, Agricultural College & Research Institute, Coimbatore.

The deciduous and grassland regions lie between 300 M to 1000 M. The vegetation is characterised by the following species: *Anogeissus latifolia*, *Careya arborea*, *Combretum ovalifolium*, *Commiphora caudata* and *Terminalia bellerica*. The open grasslands, however, show dominant populations of *Cymbopogon flexuosus*, *Digitaria marginata*, *Eragrostis tenuifolia* and *Phoenix humilis* var. *pedunculata*. *Cycas circinalis* also occurs in this region.

The evergreen forests appear at the height of about 1000 M to 1500 M. The trees here are small in size with thick undergrowths of shrubs, herbs and climbers. The flora mainly consists of the following species: *Dendrocalamus strictus*, *Gnetum ula*, *Mallotus philippensis*, *Osbeckia minor* and *Rubus niveus*.

The evergreen forests, however, get changed into the monsoon type above 1500 M. The Kakachi region which forms the highest peak in this area is the typical monsoon forest. The vegetation shows, tall trees like *Areca catachu*, *Artocarpus heterophylla*, *Cullenia rosayroana* and an undergrowth consisting of *Begonia malabarica*, *Curculigo orchoides*, *Elettaria cardamomum*, *Impatiens grandis*, *I. uncinata*, *Piper brachystachyum* and *Sonerila tinneveli*ensis. Under the shades of the large trees and along the streams a number of ferns like *Angiopteris evecta*, *Cyathea spinulosa*, *Diplazium sylvaticum*, *Marattia fraxinea*, *Nephrolepis cordifolia*, *Pteris quadriaurita* and *P. quadriaurita* var. *argentea* grow very luxuriantly.

A noteworthy feature in the Kakachi region is the rare occurrence of *Sarcandra irvingbaileyi*, a vesselless dicotyledon.

Observations

As already stated collections were made at various places that had distinctly different ecological conditions so that as many different species as possible could be found. The plants which are enumerated have been carefully observed in the field and collected on the spot. They are identified after comparing with the specimens in the Southern Circle Herbarium of the Botanical Survey of India. The classification of Bentham and Hooker is followed and the species under each family are arranged in an alphabetical order. The following data are given for each species: locality, frequency, flowering or fruiting stage, date of collection, altitude and finally the collection number. Every attempt has been made to bring the nomenclature up-to-date (Holtum, 1955; Raizada, 1958, 1959; Santapau, 1953).

In all a total of 92 families represented by 320 genera, 432 species, native to or naturalized in the forest was found. The families with the largest number of species in each are Gramineae 39, Euphorbiaceae 36, Leguminosae 30, Acanthaceae 23, Cyperaceae 22, Compositae 21, Polypodiaceae (*sensu lato*) 19, Rubiaceae 18, Labiatae 14 and Verbenaceae 13. These ten families contain 54.4 per cent of the total flora of the forest.

Enumeration of Plants

LYCOPODIACEAE

Lycopodium cernuum Linn.—On rocks, Kakachi, Mancholai, few, cone present (8-5-1958), 1700 M, 5837.

L. setaceum Haines—On rocks, Kakachi, Mancholai, common, cone present (8-5-1958), 1700 M, 5846.

SELAGINELLACEAE

Selaginella inaequalifolia Spreng.—Cardamom Forest, Kakachi, Mancholai, Common, cone present (15-10-1957), 1666 M, 4476.

S. plumosa Baker—Cardamom Forest, Kakachi, Mancholai, cone present (15-10-1957), 1666 M, 4469.

MARATTIACEAE

Angiopteris evecta Hoffm.—By the side of a stream, Kakachi, Mancholai, few, in sorus (8-5-1958), 1700 M, 5832.

Marattia fraxinea Smith—By the side of a stream, Kakachi, Mancholai, rare, in sorus (8-5-1956), 1500 M, 5828.

CYATHEACEAE

Cyathea spinulosa Wall.—Cardamom Forest, Kakachi, Mancholai, few, in sorus (15-10-1957), 1666 M, 4500.

POLYPODIACEAE (*Sensu lato*)

Adiantum hispidulum Swartz—Mancholai, common, in sorus (11-5-1958), 1260 M, 5864.

Asplenium lunulatum Sw., var. *trapeziforme* Bedd.—Mancholai, common, in sorus (11-5-1958), 1260 M, 5874.

Blechnum orientale Linn.—Way to Mancholai, common, in sorus (25-6-1957), 1000 M, 3583.

Cheilanthes mysorensis Wall.—Near Manimuthar Dam, common, in sorus (18-10-1957), 300 M, 4532.

Diplazium sylvaticum Presl—Mancholai, common, in sorus (1-3-1958), 1068 M, 5455.

Histiopteris incisa (Thunb.) J. Sm.—Cardamom Forest, Kakachi, Mancholai, common, in sorus (15-10-1957), 1666 M, 4472.

Lastrea tenericaulis Wall.—On the way to Mancholai, common, in sorus (25-6-1957), 966 M, 3647.

Leptochilus decurrens Blume—By the side of a stream, Mancholai, common, in sorus (11-5-1958), 1260 M, 5873.

Nephrodium arbuscula Desv.—Mancholai, common, in sorus (12-10-1957), 1300 M, 4387.

Nephrodium molle Desv.—Manchola, common, in sorus (12-10-1957), 1300 M, 4395.

Nephrolepis cordifolia (Linn.) Pr. Arankattumalai near Kakachi, Manchola, common, in sorus (7-5-1958), 1723 M, 5815.

N. exaltata Schott.—Manchola, common, in sorus (12-10-1957), 1300 m, 4398.

Pellaea boivini Hook.—Cardamom Forest, Kakachi, Manchola, common, in sorus (15-10-1957), 1666 M, 4499.

P. concolor Lang. & Fisch.—Manchola, common, in sorus (1-3-1958), 1068 M, 5456.

Polystichopsis aristata (Forst.) Holtt. comb. nov. Manchola, common, in sorus (25-6-1957), 1000 M, 3611.

Pteris quadriaurita Retz.—Cardamom Forest, Kakachi, Manchola, common, in sorus (15-10-1957), 1666 M, 4492.

P. quadriaurita Retz. var. *argentea* Bedd.—Kakachi, Manchola, few, in sorus (8-5-1958), 1700 M, 5840.

Schizoloma ensifolium (Sw.) J. Sm.—On the way to Manchola, common, in sorus (25-6-1957), 1000 M, 3585.

Sphenomeris chusana (Linn.) Copel.—On the way to Manchola, common, in sorus (25-6-1957), 1000 M, 3582.

RANUNCULACEAE

Naravelia zeylanica DC.—On the way to Manchola, common, in flower (28-2-1958), 833 M, 5445.

MENISPERMACEAE

Cissampelos pareira Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3705.

Stephania japonica Miers—Manchola, common, in flower (12-10-1957), 1300 M, 4396.

Tiliacora acuminata Miers—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3674.

NYMPHAEACEAE

Nelumbo nucifera Gaertn.—In a pond, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5501.

CAPPARIDACEAE

Cadaba trifoliata Wight & Arn.—Near Manimuthar Dam, common, in flower (18-10-1957), 300 M, 4537.

Capparis heyneana Wall.—On the way to Manchola, few, in flower (25-6-1957), 966 M, 3640.

C. olacifolia Hook.f. & Thoms.—Near Tiger Falls, way to Manchola, few, in flower (12-5-1958), 500 M, 5882.

C. sepiaria Linn.—Near Ambasamudrum, common, in flower (13-5-1958), 400 M, 5904.

Cleome viscosa Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3699.

Maerua arenaria Hook.f. & Thoms.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3702.

BIXACEAE

Scolopia crenata Clos.—Way to Manchola, few, in flower (11-5-1958), 1000 M, 5881.

POLYGALACEAE

Polygala arillata Ham.—Kakachi division, Manchola, common, in flower (12-10-1957), 1333 M, 4420.

P. elongata Klein.—Near Tiger Falls, way to Manchola, few, in flower (4-3-1958), 400 M, 5504.

P. javana DC.—Cardamom Forest, Kakachi, Manchola, common, in flower (15-10-1957), 1666 M, 4479.

Xanthophyllum flavescens Roxb.—Manchola, common, in flower (1-3-1958), 1068 M, 5448.

CARYOPHYLLACEAE

Polycarpaea corymbosa Lam.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3560.

DIPTEROCARPACEAE

Hopea utilis (Bedd.) Bole.—Way to Manchola, few, in flower (8-5-1958), 1000 M, 5845.

MALVACEAE

Abutilon indicum Don.—On the way to Manchola, common, in flower (25-6-1957), 966 M, 3618.

Hibiscus micranthus Linn.f.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3552.

Pavonia odorata Willd.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3672.

P. zeylanica Cav.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4453.

Sida veronicaefolia Lam.—Near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5470.

Urena lobata Linn.—Kakachi division, Manchola, common, in flower (12-10-1957), 1333 M, 4425.

STERCULIACEAE

Melochia corchorifolia Linn.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4461.

Waltheria indica Linn.—Near Tiger Falls, way to Manchola, common, in flower (4-3-1958), 400 M, 5518.

TILIACEAE

Grewia rotundifolia Juss.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3720.

G. tiliaefolia Vahl—On the way to Mancholai, common, in flower (11-10-1957), 666 M, 4376.

Triumfetta pilosa Roth—On the way to Mancholai, common, in flower (28-2-1958), 833 M, 5420.

LINACEAE

Erythroxylum monogynum Roxb.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3553.

Hugonia mystax Linn.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3669.

MALPIGHIACEAE

Hiptage benghalensis (Linn.) Kurz—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3673.

ZYGOPHYLLACEAE

Tribulus terrestris Linn.—Near Manimuthar Dam, abundant, in flower (2-3-1958), 300 M, 5479.

GERANIACEAE

Impatiens grandis Heyne—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4465 ; 4527.

I. maculata Wight—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5821.

I. uncinata Wight—By the side of a stream, Kakachi, Mancholai, common, in flower (8-5-1958), 1700 M, 5835.

Oxalis corniculata Linn.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3596.

RUTACEAE

Acronychia pedunculata (Linn.) Miq.—On the way to Mancholai, common, in flower (17-11-1957), 1066 M, 4524.

Aegle marmelos Corr.—Singampatti valley, common, in flower (9-5-1958), 200 M, 5852.

Atalantia wightii Tan.—Way to Mancholai, common, in flower (17-11-1957), 1066 M, 4525.

Clausena indica Oliv.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3637.

BURSERACEAE

Commiphora caudata (Wight & Arn.) Engl.—Near Tiger Falls, way to Mancholai, few, in flower (12-5-1958), 500 M, 5887.

MELIACEAE

Chloroxylon swietenia DC.—Near Ambasamudrum, few, in flower (13-5-1958), 400 M, 5907.

Heynea trijuga Roxb.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3598.

ICACINACEAE (= OLACINEAE B.H.)

Gomphandra coriacea Wight—Kakachi, Mancholai, few, in flower (8-5-1958), 1700 M, 5843.

CELASTRACEAE

Euonymus crenulatus Wall.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4484.

RHAMNACEAE

Gouania microcarpa DC.—On the way to Mancholai, common, in flower (11-10-1957), 666 M, 4379.

Ventilago maderaspatana Gaertn.—Tiger falls, way to Mancholai, common, in flower (4-3-1958), 333 M, 5524.

Zizyphus xylopyrus Willd.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3559.

VITACEAE (= AMPELIDEAE B.H.)

Ampelocissus latifolia Planch.—Near Manimuthar Dam, common, in flower (17-10-1957), 300 M, 4512.

Cayratia tenuifolia Gagn.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5822.

Cissus vitiginea Linn.—Near Manimuthar Dam, common, in flower (18-10-1957), 300 M, 4533.

SAPINDACEAE

Filicium decipiens Thw.—On the way to Mancholai, common, in vegetative condition (25-6-1957), 1000 M, 3610.

CONNARACEAE

Connarus sclerocarpus Schl.—Way to Mancholai, few, in flower (11-5-1958), 1000 M, 5880.

LEGUMINOSAE (LOTOIDEAE)

Canavalia virosa Wight & Arn.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3650.

Crotalaria quinquefolia Linn.—Mancholai, common, in flower (12-10-1957), 1300 M, 4394.

C. striata DC.—Way to Mancholai, common, in flower (25-6-1957), 966 M, 3644.

C. subperfoliata Wight—Tiger Falls, way to Mancholai, common, in flower (27-6-1957), 333 M, 3688.

Crotalaria tecta Roth.—Near Manimuthar Dam, common, in flower (23-3-1958), 300 M, 5480.

Dalbergia lanceolaria Linn. f.—Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3715.

D. spinosa Roxb.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5519.

Derris scandens Benth.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4442; 4511.

Dolichos falcatus Klein.—Near Tiger Falls, way to Mancholai, common, in flower (12-5-1958), 450 M, 5893.

Dunbaria ferruginea Wight & Arn.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3617.

Erythrina lithosperma Miq.—Mancholai, cultivated, in flower (12-10-1957), 1300 M, 4390.

Indigofera aspalathoides Vahl.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3544.

I. glandulosa Willd.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5520.

I. hirsuta Linn.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4456.

I. uniflora Buch.-Ham.—Near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5469.

I. viscosa Lam.—Way to Mancholai, few, in flower (28-2-1958), 833 M, 5442.

Millettia rubiginosa Wight & Arn.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3609.

Mucuna atropurpurea DC.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5446.

Mundulea sericea (Willd.) A. Cheval.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3604.

Rhynchosia rufescens DC.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3722.

Sesbania sesban (Linn.) Merr.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3710.

Tephrosia purpurea Pers.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3556.

LEGUMINOSAE (CAESALPINIOIDEAE)

Cassia mimosoides Linn.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4452.

C. obtusa Roxb.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3709.

C. senna Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3708.

Parkinsonia aculeata Linn.—Singampatti Valley, abundant, in flower (3-3-1958), 200 M, 5495.

Tamarindus indica Linn.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3728.

LEGUMINOSAE (MIMOSOIDEAE)

Acacia dealbata Link.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4410.

Dichrostachys cinerea Wight & Arn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3712.

Mimosa pudica Linn.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3592.

ROSACEAE

Rubus niveus Thunb.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4414.

RHIZOPHORACEAE

Weihea zeylanica Baill.—Near Manimuthar Dam, few, in flower (18-10-1957), 300 M, 4535.

COMBRETACEAE

Anogeissus latifolia Wall.—On the way to Mancholai, common, in flower (11-10-1957), 666 M, 4377.

Combretum ovalifolium Roxb.—Near Tiger Falls, way to Mancholai, few, in flower (12-5-1958), 450 M, 5891.

Terminalia arjuna Wight & Arn.—Near Amabásamudrum, few, in flower (13-5-1958), 250 M, 5903.

T. bellerica Roxb.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3619.

T. travancorensis Wight & Arn.—By the side of a stream, Mancholai, common, in flower (11-5-1958), 1260 M, 5876.

MYRTACEAE

Jambosa mundagam Gamble n.c.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3607.

Syzygium cumini (Linn.) Skeels—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3605.

**S. rubicundum* Wight & Arn.—Near Manimuthar Dam, common, in flower (13-10-1959), 333 M, 4439.

LECYTHIDACEAE (=MYRTACEAE B.H.)

Careya arborea Roxb.—Way to Mancholai, common, in flower (10-5-1958), 900 M, 5855.

MELASTOMACEAE

Memecylon edule Roxb.—Near Tiger Falls, way to Mancholai, few, in flower (12-5-1958), 400 M, 5899.

Osbeckia aspera Blume—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4416.

O. minor Triana—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3595.

Sonerila tinneveliis C.E.C. Fisch.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4467.

LYTHRACEAE

Ammannia baccifera Linn.—In wet places near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3545.

Lawsonia inermis Linn.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3731.

Rotala indica Koehne—In wet places near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5476.

R. verticillaris Linn.—In wet places, Singampatti valley, common, in flower (3-3-1958), 200 M, 5502.

ONAGRACEAE

Jussiaea suffruticosa Linn.—Near Tiger Falls, way to Mancholai, common, in flower (11-10-1957), 333 M, 4368.

Ludwigia parviflora Roxb.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4459.

CUCURBITACEAE

Citrullus colocynthis Schrad.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3549.

Coccinia cordifolia (Linn.) Cogn.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3721.

Melothria heterophylla Cogn.—Near Tiger Falls, way to Mancholai, common, in flower (12-5-1958), 400 M, 5895.

BEGONIACEAE

Begonia floccifera Bedd.—Mancholai, common, in flower (12-10-1957), 1300 M, 4399.

B. malabarica Lam.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4483.

AIZOACEAE (=FICOIDEAE B.H.)

Glsekia pharnaceoides Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3694.

Glinus oppositifolius (Linn.) A. DC.—In paddy fields, Singampatti Valley, common, in flower and fruit (9-5-1958), 200 M, 5848.

Mollugo cerviana Ser.—Near Manimuthar Dam, common, in flower (28-6-1957), 3000 M, 3701.

UMBELLIFERAE

Hydrocotyle conferta Wight—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4490.

ARALIACEAE

Polyscias acuminata Seem.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5819.

CAPRIFOLIACEAE

Viburnum coriaceum Blume—Mancholai, common, in flower (1-3-1958), 1068 M, 5450.

RUBIACEAE

**Acranthera grandiflora* Bedd.—Arankattumalai near Kakachi, Mancholai, few, in flower (7-5-1958), 1723 M, 5823.

Adina cordifolia Hook.f.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3681.

Anotis leschenaultiana Benth. & Hook.f.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4411 ; 4423.

Borreria hispida (Linn.) K. Schum.—Near Manimuthar Dam, common, in fruit (24-6-1957), 300 M, 3578.

Gardenia resinifera Roth—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3677.

Ixora nigricans R. Br.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3608.

Knoxia heyneana DC.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5424.

Mitragyna parvifolia Korth.—Near Manimuthar Dam, few, in flower (28-6-1957), 300 M, 3696.

Mussaenda glabrata Hutch.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3602.

Neurocalyx wightii Arn.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4487.

**Oldenlandia albo-nervia* Gamble n.c.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4503.

**O. purpurascens* Kuntze—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4412.

- O. umbellata* Linn.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3561.
- Ophiorrhiza brunosis* Wight & Arn.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5820.
- O. grandiflora* Wight—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5824.
- O. mungos* Linn.—Mancholai, common, in flower (12-10-1957), 1300 M, 4402.
- Randia dumetorum* Lam.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3680.
- Rubia cordifolia* Linn.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5438.

COMPOSITAE

- Acanthospermum hispidum* DC.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3634.
- Adenostemma lavenia* Kuntze—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4496.
- Bidens pilosa* Linn.—Mancholai, common, in flower (1-3-1958), 1068 M, 5466.
- Blumea obliquea* (Linn.) Druce.—In cultivated fields, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5498.
- Crepis japonica* Benth.—Kakachi, Mancholai, common, in flower (8-5-1958), 1700 M, 5842.
- Elephantopus scaber* Linn.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5422.
- Emilia scabra* DC.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3676.
- Epaltes divaricata* Cass.—In wet places near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5473.
- Erigeron mucronatus* DC.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3587.
- Gynura nitida* DC.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5812.
- Notonia grandiflora* DC.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3682.
- Pulicaria wightiana* Clarke—Near Manimuthar Dam, common, in flower, (28-2-1958), 300 M, 5417.
- Sonchus arvensis* Linn.—Near Estate gate, Mancholai, common, in flower (25-2-1958), 833 M, 5435.
- Sphaeranthus indicus* Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3689.
- Synedrella nodiflora* Gaertn.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3652.

- Tridax procumbens* Linn.—Kizh-Manimuthar, common, in flower (26-6-1957), 3656.
- Vernonia cinerea* Less.—Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5517.
- V. comorinensis* W. W. Sm.—Kakachi Division, Mancholai, common, in flower (12-10-1957), 1333 M, 4409.
- V. conyzoides* Wight—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5825.
- V. gossypina* Gamble—Near Estate Gate, Mancholai, common, in flower (28-2-1958), 833 M, 5433.
- Vicoa indica* DC.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3553.

MYRSINACEAE

- Ardisia littoralis* Andr.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4438.
- Maesa perrottetiana* DC.—Mancholai, common, in flower (12-10-1957), 1300 M, 4393.

SAPOTACEAE

- Isonandra lanceolata* Wight—Way to Mancholai, few, in flower (25-6-1957), 1000 M, 3591.

OLEACEAE

- Jasminum angustifolium* Vahl—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4445.
- J. malabaricum* Wight—Way to Mancholai, common, in flower (10-5-1958), 1000 M, 5859

APOCYNACEAE

- Alstonia venenata* R. Br.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3645.
- Ichnocarpus frutescens* R. Br.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4430.
- Rauvolfia densiflora* Benth.—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4504.
- Vallis solanacea* Kuntze—Singampatti Valley, few, in flower (9-5-1958), 200 M, 5854.
- Wrightia tinctoria* R. Br. var. *rothii* Hook.f.—Near Tiger Falls, way to Mancholai, few, in flower (12-5-1957), 400 M, 5901.

ASCLEPIADACEAE

- Calotropis gigantea* R. Br.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3565.
- Gymnema sylvestre* R. Br.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4432.

Sarcostemma acidum (Roxb.) Voigt.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4441.

Tylophora capparidifolia Wight & Arn.—Way to Mancholai, common, in flower (17-11-1957), 1066 M, 4529.

T. tenuis Blume.—Way to Mancholai, common, in flower (17-11-1957), 1066 M, 4528.

GENTIANACEAE

Canscora sessiliflora Roem. & Schult.—In cultivated fields, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5486.

C. wallichii Clarke.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5522.

HYDROPHYLLACEAE

Hydrolea zeylanica Vahl.—In wet places near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5481.

BORAGINACEAE

Cordia monoica Roxb.—Way to Kannikatti, common, in flower (13-5-1958), 400 M, 5906.

Cynoglossum furcatum Wall.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5444.

Ehretia laevis Roxb.—Near Manimuthar Dam, common, in flower (18-10-1957), 300 M, 4538.

Trichodesma indicum R. Br.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3695.

CONVOLVULACEAE

Evolvulus alsinoides Linn.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3554.

Ipomoea hederacea Jacq.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5516.

I. obscura Ker.—Near Tiger Falls, way to Mancholai, common, in flower (12-5-1958), 400 M, 5897.

I. pes-caprae Sweet.—Near Manimuthar Dam, abundant, in flower (2-3-1958), 300 M, 5468.

SOLANACEAE

Lycopersicon esculentum Mill.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3670.

Solanum ferox Linn.—Mancholai, common, in flower and fruit (11-5-1958), 1260 M, 5869.

S. laeve Dun.—Kakachi, Mancholai, in common, in flower and fruit (8-5-1958), 1700 M, 5836.

S. torvum Swartz.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3625.

S. vagum Heyne.—Near Tiger Falls, way to Mancholai, common, in flower and fruit (12-5-1957), 400 M, 5898.

S. verbascifolium Linn.—On the way to Mancholai, common, in flower (25-6-1957), 977 M, 3615.

S. xanthocarpum Schrad. & Wendl.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3550.

SCROPHULARIACEAE

Bacopa monnieri (Linn.) Pennell.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3548.

Sopubia delphinifolia Don.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4451.

Torenia bicolor Dalz.—On the way to Mancholai, common, in flower (17-10-1957), 1066 M, 4516.

Vandellia scabra Benth.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4464.

LENTIBULARIACEAE

Utricularia flexuosa Vahl.—In a pond, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5503.

BIGNONIACEAE

Stereospermum personatum (Hassk.) Chatt.—Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3714.

PEDALIACEAE

Pedaliium murex Linn.—Singampatti Valley, common, in flower (3-3-1958), 2000 M, 5493.

ACANTHACEAE

Andrographis paniculata Nees.—Way to Mancholai, common, in flower (11-5-1958), 1000 M, 5878.

A. rothii Clarke.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5515.

Asteracantha longifolia Nees.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4463.

Barleria courtallica Nees.—Mancholai, common, in flower (1-3-1958), 1068 M, 5457.

B. cuspidata Heyne.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3546.

B. involucrata Nees var. *elata* Clarke.—Mancholai, common, in flower (11-5-1958), 1260 M, 5868.

B. nitida Nees—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5521.

B. noctiflora Linn. f.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3732.

**Diotacanthus albiflorus* Benth.—Mancholai, common, in flower (1-3-1958), 1068 M, 5452.

**D. grandis* Benth.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4419.

Dyschoriste littoralis Nees—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3543.

Ecbolium viride (Forsk.) Alston—Near Tiger Falls, on the way to Mancholai, common, in flower (12-5-1958), 500 M, 5885.

Gymnostachyum canescens T. Anders.—Mancholai, common, in flower (1-3-1958), 1068 M, 5453.

Justicia betonica Linn.—Tiger falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3716.

J. gendarussa Linn. f.—Tiger Falls, on the way to Mancholai, common, in flower (11-10-1957), 333 M, 4359.

J. glauca Rottl.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5505.

Lepidagathis pungens Nees—In wet places near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5482.

Rostellularia procumbens (Linn.) Nees—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4422.

Rungia wightiana Nees—By the side of a stream, Kakachi, Mancholai, in flower (8-5-1958), 1700 M, 5829.

Stenosiphonium confertum Nees—Near Estate gate, Mancholai, in flower (28-2-1958), 833 M, 5428.

S. russellianum Nees—Mancholai, common, in flower (1-3-1958), 1068 M, 5459.

Strobilanthes cuspidatus T. Anders.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3654.

Thunbergia alata Bojer—Mancholai, common, in flower (1-3-1958), 1068 M, 5454.

VERBENACEAE

Bouchea hyderabadensis Walp.—Way to Mancholai, common, in flower (11-5-1958), 1000 M, 5879.

Callicarpa tomentosa (Linn.) Murray—Near Estate gate, Mancholai, common, in flower (28-2-1958), 833 M, 5430.

Clerodendrum inerme Gaertn.—Near Manimuthar Dam, common, in flower (30-6-1957), 300 M, 3733.

C. infortunatum Linn.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3594.

C. serratum Spreng.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3627.

Gmelina asiatica Linn.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3655.

Lantana crenulata Otto. & Dietr.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3622.

Phyla nodiflora (Linn.) Greene—In wet places near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3574.

Premna latifolia Roxb.—Tiger Falls, way to Mancholai, common, in flower (27-6-1957), 333 M, 3685.

Stachytarpheta urticaefolia (Salisb.) Sims.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3590.

Tectona grandis Linn. f.—Near Manimuthar Dam, cultivated, in flower (13-10-1957), 333 M, 4444.

Vitex altissima Linn. f.—On the way to Mancholai, common, in flower (25-6-1957), 1000 M, 3614.

V. negundo Linn.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3567.

LABIATAE

**Anisochilus robustus* Hook. f.—Kakachi, Mancholai, common, in flower (7-5-1958), 1700 M, 5827.

**A. scaber* Benth.—In the crevices of rocks near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3566.

Anisomeles malabarica R. Br.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3668.

Coleus amboinicus Lour.—Way to Kannikatti, common, in flower (13-5-1958), 400 M, 5905.

C. malabaricus Benth.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4421.

Geniosporum prostratum Benth.—In cultivated fields, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5489.

Leucas biflora R. Br. var. *procumbens* Gamble—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5447.

Ocimum adscendens Willd.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4454.

**Orthosiphon comosus* Wight—Mancholai, abundant, in flower (1-3-1958), 1068 M, 5449.

O. glabratus Benth.—Mancholiai, common, in flower (11-5-1958), 1260 M, 5871.

O. viscosus Benth.—On the way to Mancholiai, common, in flower (25-6-1957), 966 M, 3632.

Plectranthus walkeri Arn.—Kakachi, Mancholiai, common, in flower (8-5-1958), 1700 M, 5834.

Pogostemon heyneanus Benth.—On the way to Mancholiai, common, in flower (17-10-1957), 1066 M, 4517.

Scutellaria violacea Heyne ex Wall.—On the way to Mancholiai, common, in flower (25-6-1957), 1000 M, 3588.

NYCTAGINACEAE

Boerhaavia diffusa Linn.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3579.

AMARANTHACEAE

Aerva lanata Juss.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3577.

Allmania nodiflora R. Br.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3576.

A. nodiflora R. Br. var. *aspera* Hook. f.—Near Manimuthar Dam, common, in flower (28-7-1957), 300 M, 3700.

Amaranthus gracilis Desf.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3660.

Celosia polygonoides Retz.—On the way to Mancholiai, common, in flower (25-6-1957), 966 M, 3623.

Gomphrena decumbens Jacq.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4458.

Ptilotrichum nudum Moq.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3671.

POLYGONACEAE

Polygonum barbatum Linn.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4440.

P. chinense Linn.—Kakachi division, Mancholiai, common, in flower (12-10-1957), 1333 M, 4424.

PIPERACEAE

Heckeria subpeltata Kunth—By the side of stream, Mancholiai, common, in flower (11-5-1958), 1260 M, 5872.

Peperomia dindigulensis Miq.—Mancholiai, common, in flower (12-10-1957), 1300 M, 4392.

Piper brachystachyum Wall.—Cardamom Forest, Kakachi, Mancholiai, common, in flower and fruit (15-10-1957), 1666 M, 4466.

P. hymenophyllum Miq.—Mancholiai, common, in flower (1-3-1958), 1068 M, 5458.

P. nigrum Linn.—Way to Mancholiai, common, in flower (11-5-1958), 1260 M, 5877.

CHLORANTHACEAE

Sarcandra irvingbaileyi Swamy—Kakachi, Mancholiai, few, in flower (8-5-1958), 1700 M, 5838.

MYRISTICACEAE

Myristica beddomei King—Near Estate gate, Mancholiai, few, in flower (28-2-1958), 833 M, 5426.

LAURACEAE

Neolitsea zeylanica Merr.—Arankattumalai near Kakachi, Mancholiai, common, in bud (7-5-1958), 1723 M, 5817.

LORANTHACEAE

Dendrophthoe falcata (Linn. f.) Etting.—Kizh-Manimuthar, few, in flower (26-6-1957), 300 M, 3651.

Scurrula philippensis (Cham. & Sch.) Don—On the way to Mancholiai, common, in flower (11-10-1957), 666 M, 4378.

Taxillus tomentosus (Roth.) Van Tieghem—On the way to Mancholiai, common, in flower (25-6-1957), 1000 M, 3601.

Viscum articulatum Burm.—Near Tiger Falls, way to Mancholiai, common, in flower (30-6-1957), 333 M, 3730.

V. articulatum Burm. var. *dichotomum* Kurz—Near Tiger Falls, way to Mancholiai, common, in flower (11-10-1957), 466 M, 4372.

V. monoicum Roxb.—Near Tiger Falls, way to Mancholiai, common, in flower (11-10-1957), 466 M, 4371 ; 4530.

V. ramosissimum Wall.—Near Tiger Falls, way to Mancholiai, common, in flower (30-6-1957), 333 M, 3729.

EUPHORBIACEAE

Acalypha fruticosa Forsk.—Tiger Falls, way to Mancholiai, common, in bud (27-6-1957), 333 M, 3687.

Actephila excelsa Muell.-Arg.—Near Tiger Falls, way to Mancholiai, common, in flower (4-3-1958), 400 M, 5511.

Aleurites montana E. H. Wills.—Near Estate gate, Mancholiai, common, in flower (28-2-1958), 833 M, 5431.

Blachia calycina Benth.—Near Tiger Falls, way to Mancholiai, common, in flower and fruit (12-5-1958), 500 M, 5884.

B. umbellata Baill.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3675.

Bridelia scandens Gehrum.—Near Estate gate, Mancholai, common, in flower (28-2-1958), 833 M, 5436.

Croton bonplandianum Baill.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3564.

C. klotzschianus Thw.—Near Manimuthar Dam, common, in bud (18-10-1957), 300 M, 4534.

C. lacciferus Linn.—Arankattumalai near Kakachi, Mancholai, few, in flower (7-5-1958), 1723 M, 5811.

C. malabaricus Bedd.—On the way to Mancholai, common, in flower (28-2-1958), 833 M, 5421.

Embelica officinalis Gaertn.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3616.

Euphorbia hirta Linn.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3575.

E. thymifolia Linn.—Near Tiger Falls, way to Mancholai, common, in flower (12-5-1958), 450 M, 5890, 3547.

Excoecaria crenulata Wight—Way to Mancholai, common, in flower (17-11-1957), 1066 M, 4521.

Gelonium lanceolatum Willd.—Way to Mancholai, common, in flower (17-11-1957), 1066 M, 4523.

Givotia rottleriformis Griff.—Tiger Falls, way to Mancholai, common, in flower (27-6-1957), 333 M, 3686.

Glochidion ellipticum Wight—On the way to Mancholai, common, in flower (17-10-1957), 1066 M, 4519.

G. zeylanicum A. Juss.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4431.

Jatropha gossypifolia Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3690.

Kirganelia reticulata Baill.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3569.

Macaranga peltata Muell-Arg.—Way to Mancholai, few, in flower (25-6-1957), 966 M, 3624.

Mallotus aureo-punctatus Muell-Arg.—Mancholai, common, in flower (1-3-1958), 1068 M, 5461.

M. philippensis Muell-Arg.—On the way to Mancholai, common, in flower (25-6-1957), 966M, 3648.

Melanthesa rhamnoides (Retz.) Blume—Way to Mancholai, common, in flower (17-10-1957), 1066 M, 4526.

M. turbinata (Koen. ex Roxb.) Oken.—Way to Mancholai, common, in flower (25-6-1957), 1000 M, 3581.

Micrococca beddomei Prain—Cardamom Forest, Kakachi, Mancholai, common, in flower (15-10-1957), 1666 M, 4468.

Phyllanthus gardnerianus Baill.—Kakachi Division, Mancholai, common, in flower (12-10-1957), 1333 M, 4418.

P. maderaspatensis Linn.—In wet places near Manimuthar Dam, common, in flower (2-3-1958), 300 M, 5484.

P. polyphyllus Willd.—Near Manimuthar Dam, common, in flower (13-10-1957), 333 M, 4436.

P. simplex Retz.—Cardamom Forest, Kakachi, Mancholai, common, in flower and fruit (15-10-1957), 1666M, 4505.

P. urinaria Linn.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3697.

Reidia bailloniana Gamble n.c.—Mancholai, common, in flower (1-3-1958), 1068 M, 5467.

Sauropus androgynus Merr.—Kakachi, Mancholai, few, in flower and fruit (8-5-1957), 1700 M, 5839.

Sebastiania chamaelea Muell-Arg.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3633.

Securinega leucopyrus (Willd.) Muell-Arg.—Near Tiger Falls, way to Mancholai, common, in flower (18-10-1957), 333 M, 4540.

S. virosa (Roxb. ex Willd.) Pax. & Hoffm.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3626.

ULMACEAE (=URTICACEAE B.H.)

Celtis wightii Planch.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5507.

MORACEAE (=URTICACEAE B.H.)

Dorstenia indica Wight—Kakachi, Mancholai, common, in flower and fruit (15-10-1957), 1666 M, 4489.

Ficus hispida Linn. f.—Mancholai, common, in flower (12-10-1957), 1300 M, 4397.

F. retusa Linn.—Near Tiger Falls, way to Mancholai, few, in flower (30-6-1957), 333 M, 3727.

F. tjakela Burm.—Near Tiger Falls, way to Mancholai, few, in flower (30-6-1957), 333 M, 3723.

F. tomentosa Roxb.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5508.

Plecosperrum spinosum Tréc.—Near Tiger Falls, way to Mancholai, few, in flower (12-5-1957), 400 M, 5900.

Streblus asper Lour.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3707.

URTICACEAE

Boehmeria platyphylla Don var. *longissima* Hook.f.—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4471.

Debregeasia longifolia (Burm.) Wedd.—Manchohai, common, in flower (12-10-1957), 1300 M, 4383.

Elatostema lineolatum Wight—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4482.

E. lineolatum Wight var. *falcigera* Thw.—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4485.

E. lineolatum Wight var. *linearis* Thw.—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4478.

Pouzolzia wightii Benn.—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4507.

GNETACEAE

Gnetum ula Brogn.—On the way to Manchohai, rare, ovule present (25-6-1957), 966 M, 3639.

CYCADACEAE

Cycas circinalis Linn.—On the way to Manchohai, few, in vegetative condition (17-10-1957), 500 M, 4531.

ORCHIDACEAE

Luisia teretifolia Gaud.—Arankattumalai near Kakachi, Manchohai, few, in flower and fruit (7-5-1958), 1723 M, 5816.

Zeuxine longilabris Benth.—Kakachi, Manchohai, few, in flower (8-5-1958), 1700 M, 5844.

MUSACEAE (= SCITAMINEAE B.H.)

Musa acuminata Colla.—Cardamom Forest, Kakachi, Manchohai, common, in vegetative condition (15-10-1957), 1666 M, 4473.

AMARYLLIDACEAE

Crinum latifolium Linn.—Near Manimuthar Dam, common, in flower (17-10-1957), 300 M, 4513.

Curculigo orchiioides Gaertn.—Cardamom Forest, Kakachi, Manchohai, common, in flower (15-10-1957), 1666 M, 4493.

DIOSCOREACEAE

Dioscorea oppositifolia Linn.—Near Estate gate, Manchohai, common, in fruit (28-2-1958), 833 M, 5439.

LILIACEAE

Asparagus racemosus Willd.—On the way to Manchohai, common, in flower (11-10-1957), 666 M, 4382.

Dianella ensifolia Red.—Cardamom Forest, Kakachi, Manchohai, few, in flower (15-10-1957), 1666 M, 4509.

Dracaena terniflora Roxb.—On the way to Manchohai, common, in flower (25-6-1957), 1000 M, 3612.

PONTEDERIACEAE

Monochoria vaginalis Presl.—In a small puddle at Singampatti Valley, common, in flower (14-10-1957), 300 M, 4446.

COMMELINACEAE

Aneilema montanum Wight—On the way to Manchohai, common, in flower (25-6-57), 966 M, 3646.

Commelina ensifolia R. Br.—On the way to Manchohai, common, in flower (17-10-1957), 1066 M, 4518.

Cyanotis axillaris Roem. & Schult.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4460.

Murdannia koenigii (Wall.) Bruck.—In cultivated fields, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5490.

M. zeylanicum (Clarke) Bruck. var. *longicapsa* (Clarke) Raizada com. nov.—Manchohai, common, in flower (12-10-1957), 1300 M, 4388.

PALMACEAE

Phoenix humilis Royle. var. *pedunculata* Becc.—On the way to Manchohai, common, in fruit (11-10-1957), 666 M, 4381.

PANDANACEAE

Pandanus tectorius Soland.—Manchohai, few, in fruit (1-3-1958), 1067 M, 5451.

TYPHACEAE

Typha angustata Bory. & Chaub.—In a pond, Singampatti Valley, common, in flower (3-3-1958), 200 M, 5500.

ARACEAE

Lagenandra meeboldii C. Fisch.—Kizh-Manimuthar, rare, in flower (26-6-1957), 300 M, 3683.

LEMNACEAE

Lemna paucicostata Hegelm.—in a tank near Singampatti Village, common, in vegetative condition (9-5-1958), 200 M, 5853.

ERIOCAULACEAE

Eriocaulon brownianum Mart. var. *nilagirens* Fyson
—In wet places at Kakachi division, Mancholai,
common, in flower (12-10-1957), 1333 M, 4428.

E. cinereum R. Br.—In wet places, Singampatti
Valley, common, in flower (3-3-1958), 200 M,
5496.

E. quinquangulare Linn.—In cultivated fields, Singam-
patti Valley, common, in flower (3-3-1958), 200 M,
5488.

CYPERACEAE

Bulbostylis capillaris Kunth var. *trifida* Clarke—
Near Manimuthar Dam, common, in flower
(13-10-1957), 333 M, 4435.

Carex filicina Nees—Cardamom Forest, Kakachi,
Mancholai, common, in flower (15-10-1957), 1666
M, 4510.

C. leucantha Arn.—Mancholai, common, in flower
(11-5-1958), 1260 M, 5863.

Courtoisia cyperoides Nees—Kakachi division, Man-
cholai, common, in flower (12-10-1957), 1333 M,
4405.

Cyperus globosus Allion.—Kakachi division, Man-
cholai, common, in flower (12-10-1957), 1333 M,
4406; 4514.

C. haspan Linn.—Near Manimuthar Dam, common,
in flower (13-10-1957), 333 M, 4433.

C. kyllingia Endl.—In paddy fields, Singampatti
Valley, common, in flower (9-5-1958), 200 M, 5850.

C. pilosus Vahl—Kakachi, Mancholai, common, in
flower (12-10-1957), 1333 M, 4403.

C. pumilus Linn.—In wet places near Manimuthar
Dam, common, in flower (2-3-1958), 300 M, 5478.

C. rotundus Linn.—In paddy fields, Singampatti
Valley, common, in flower (9-5-1958), 200 M, 5847.

C. tenuispica Steud.—In wet places near Manimuthar
Dam, common, in flower (2-3-1958), 300 M, 5471.

Fimbristylis argentea Vahl—Near Tiger Falls, way to
Mancholai, common, in flower (12-5-1958), 400 M,
5894.

F. complanata Link.—In cultivated fields, Singampatti
Valley, common, in flower (3-3-1958), 200 M, 5491.

F. dichotoma Vahl—Near Tiger Falls, way to Man-
cholai, common, in flower (11-10-1957), 333 M,
4369; 4386.

F. tetragona R. Br.—In wet places near Manimuthar
Dam, common, in flower (2-3-1958), 300 M, 5474.

Kyllinga melanosperma Nees—Mancholai, common,
in flower (12-10-1957), 1300 M, 4384.

Mariscus dubius Kük.—Mancholai, common, in
flower (12-10-1957), 1300 M, 4391.

Scirpus mucronatus Linn.—Kakachi division, Man-
cholai, common, in flower (12-10-1957), 1333 M,
4404.

S. squarrosus Linn.—In wet places near Manimuthar
Dam, common, in flower (2-3-1958), 300 M, 5472.

S. supinus Linn.—In wet places near Manimuthar
Dam, common, in flower (2-3-1958), 300 M, 5477.

Scleria hebecarpa Nees—Kakachi division, Man-
cholai, common, in flower (12-10-1957), 1333 M,
4426.

S. lithosperma Sw. var. *roxburghii* Thw.—On the way
to Mancholai, common, in flower (25-6-1957), 1000
M, 3599.

GRAMINEAE

Alloteropsis cimicina Stapf—Singampatti Valley,
common, in flower (14-10-1957), 300 M, 4448.

Apluda mutica Linn. var. *aristata* (Linn.) Pilger—
Near Tiger Falls, way to Mancholai, common, in
flower and fruit (12-5-1958), 500 M, 5886.

Aristida depressa Retz.—Near Manimuthar Dam,
common, in fruit (28-6-1957), 300 M, 3698.

A. setacea Retz.—Near Manimuthar Dam, common,
in flower (24-6-1957), 300 M, 3573.

Arundinella setosa Trin.—Kizh-Manimuthar, com-
mon, in flower (26-6-1957), 300 M, 3668.

Axonopus compressus Beauv.—Arankattumalai near
Kakachi, Mancholai, common, in flower (7-5-1958),
1723 M, 5807.

Chloris inflata Link.—Kizh-Manimuthar, common, in
flower (26-6-1957), 300 M, 3662.

Cymbopogon flexuosus Wats.—Near Tiger Falls, way
to Mancholai, common, in flower (30-6-1957),
333 M, 3725.

Cyrtococcum radicans Stapf—Mancholai, common,
in flower (1-3-1958), 1068 M, 5460.

Dactyloctenium aegyptium Beauv.—Near Mani-
muthar Dam, common, in flower (24-6-1957),
300 M, 3571.

Dichanthium annulatum Stapf—Way to Mancholai,
common, in flower (28-2-1958), 833 M, 5441.

Digitaria longiflora Pers.—Singampatti Valley, com-
mon, in flower (14-10-1957), 300 M, 4447.

D. marginata Link.—Arankattumalai near Kakachi,
Mancholai, common, in flower and fruit (7-5-1958),
1723 M, 5809.

Echinochloa colona Link.—Singampatti Valley, common, in flower (14-10-1957), 300 M, 4450.

Eleusine indica Gaertn.—Near Tiger Falls, way to Mancholai, common, in flower (12-5-1958), 500 M, 5888.

Eragrostiella bifaria (Vahl) Bor.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5443.

Eragrostis chariis (Schult.) Hitch.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3665.

E. interrupta (Lam.) Beauv.—Singampatti Valley, common, in flower (3-3-1958), 200 M, 5494.

E. pilosa Beauv.—Arankattumalai near Kakachi, Mancholai, in flower (7-5-1958), 1733 M, 5808.

E. tenella (Linn.) Beauv. ex Roem. & Schult.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3663, 4449.

E. poaeoides Beauv.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3621.

Heteropogon contortus Beauv. ex Roem. & Schult.—Kizh-Manimuthar, common, in flower (26-6-1957), 300 M, 3664.

Imperata cylindrica Beauv. var. *koenigii* Dur.—Near Manimuthar Dam, common, in flower (28-6-1957), 300 M, 3692.

Isachne dispar Trin.—On the way to Mancholai, common, in flower (17-10-1957), 1066 M, 4515.

I. kunthiana Nees ex Steud.—Kakachi division, Mancholai, common, in flower (12-10-1957), 1333 M, 4407.

Ischaemum indicum (Houtt.) Merr.—Kakachi, Mancholai, common, in flower (15-10-1957) 1666 M, 4498.

Leersia hexandra Sw.—In cultivated fields, Singampatti Valley, common, in flower (3-5-1958), 200 M, 5499.

Manisuris myurus Linn.—Near Tiger Falls, way to Mancholai, common, in flower (4-3-1958), 400 M, 5514.

Panicum maximum Jacq.—Mancholai, common, in flower (11-5-1958), 1233 M, 5862.

P. psilopodium Trin.—Near Tiger Falls, way to Mancholai, common, in flower (30-6-1958), 300 M, 3724.

Pespalum dilatatum Poir.—Kakachi, Mancholai, common, in flower (7-5-1958), 1733 M, 5908.

Perotis indica Kuntze.—Near Manimuthar Dam, common, in flower (24-6-1957), 300 M, 3570.

Phragmites karka Trin. ex Steud.—Tiger Falls, way to Mancholai, common, in flower (30-6-1957), 333 M, 3719.

Rhynchelytrum roseum Stapf et Hubb.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5810.

Sorghum nitidum Pers.—Way to Mancholai, common, in flower (28-2-1958), 833 M, 5423.

Sporobolus diander Beauv.—Kizh-Manimuthar, common in flower (26-6-1957), 300 M, 3666.

Sporobolus wallichii Munro.—Near Tiger Falls, on the way to Mancholai, common, in flower (11-10-1957), 333 M, 4364.

Themeda cymbaria Hack.—On the way to Mancholai, common, in flower (25-6-1957), 966 M, 3629.

Zenkeria elegans Trin.—Arankattumalai near Kakachi, Mancholai, common, in flower (7-5-1958), 1723 M, 5818.

NOTE:

* Species marked with an asterisk are known to be endemic to this area (Chatterjee, 1939) i.e. occurring only in the Tirunelveli hills and the adjoining portion of the Travancore hill.

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