

The Limestone Hill Flora of Malaya IV*

S. C. CHIN

Botany Department, University of Malaya
Kuala Lumpur, Malaysia

Angiosperms—Monocotyledons cont.

GRAMINEAE

1. Inflorescence a series of successive nodal spikelet-clusters on a leafless axis. Bamboos	2
Inflorescence different, paniculate or spicate. Not bamboos	3
2. Leaves soft-hairy beneath	<i>Dendrocalamus elegans</i>
Leaves not soft-hairy beneath	<i>Dendrocalamus dumosus</i>
3. Inflorescence from the upper leaf-axis, female spikelets enclosed within a hard bead-like sheath	<i>Coix lacryma-jobi</i>
Inflorescence different, female spikelets with no bead-like sheath	4
4. Inflorescence of a single unbranched spike, usually at the end of the stem; or of 2 or more spikes radiating from or near the end of the stem; or the inflorescence compact and sparsely branched; all branches whorled	5
Inflorescence different; much branched, paniculate	21
5. Inflorescence of a single spike at the end of stem or upper leaf-axils; or compact and sparsely branched, branches whorled	6
Inflorescence of 2 or more unbranched spikes radiating from or close together at or near the end of the stem	15
6. Inflorescence hairy or bristly, the bristles from the base of spikelets or as awns from the glumes or lemmas	7
7. Inflorescence covered with fluffy hairs	<i>Imperata cylindrica</i> var. <i>major</i>
Inflorescence different	8
8. Spikelets, each with 2 awns	<i>Pogonatherum paniceum</i>
Spikelets, each with 1 awn, some without	9
9. Spikelets in pairs, 1 sessile and 1 pedicelled	10
Spikelets in groups of threes	12
10. Leaf-base narrowed gradually; lower glume of the pedicelled spikelet with a 3 point-tip	<i>Dichanthium mucronulatum</i>
Leaf-base subcordate; lower glume of the pedicelled spikelet truncate	11
11. Leaves usually less than 0.5 cm wide; spikelets imbricate; nodes of stem glabrous	<i>Dichanthium caricosum</i>
Leaves usually more than 0.5 cm wide; spikelets distantly spaced, axis visible; nodes of stem hairy	<i>Dichanthium annulatum</i>
12. Inflorescence a spike-like raceme; 1 spikelet of each group pedicelled, 2 sessile	<i>Polytrias amaura</i>
Inflorescence a small panicle, branches in whorls; 2 spikelets in each group pedicelled, 1 sessile	13

* This is the final part. Parts I, II and III appeared in the Gardens' Bulletin xxx (1977) 165-219, xxxii (1979) 64-203 and xxxv (1983) 137-190, respectively. The author expresses his profound thanks to Dr. Chang Kiaw Lan for her painstaking assistance.

13. Creeping grasses. Leaves to 5 cm long	<i>Chrysopogon aciculatus</i>	14
Erect grasses. Leaves more than 15 cm long		
14. Awns 2-3.5 cm long; leaves to 35 cm long; the joint beneath the 3 spikelets swollen	<i>Chrysopogon fulvus</i>	
Awns 4-5 cm long; leaves to 20 cm long; the joint beneath the 3 spikelets not swollen	<i>Chrysopogon orientalis</i>	
15. Spikelets with awns		16
Spikelets without awns		18
16. Leaves linear-acuminate, to 20 by 0.3 cm; base not cordate. Only from Langkawi	<i>Eulalia quadrinervis</i>	
Leaves shorter and broader, more than 0.6 cm wide; base cordate or not		17
17. Leaf bases gradually narrowed to the petiole; inflorescence of 2 often closely-opposed racemes	<i>Ischaemum timorense</i>	
Leaf bases cordate; inflorescence of 2-many racemes from the end of a common peduncle	<i>Arthraxon prionodes</i>	
18. Spikelets fringed with fine hairs (from the upper glume)	<i>Paspalum conjugatum</i>	19
Spikelets not fringed with hairs		
19. Spikelets flat, with 4-6 florets arranged alternately	<i>Eleusine indica</i>	
Spikelets not flat, florets 2		20
20. Inflorescence single, from the topmost leaf axil; lemma of the upper floret thin, margin flat	<i>Digitaria violascens</i>	
Inflorescence usually 2, from the topmost leaf axil; lemma of the upper floret thickened, margin inrolled	<i>Axonopus compressus</i>	
21. Inflorescence with fine silky hairs from the spikelets		22
Inflorescence with hairs not silky if present		23
22. Plant tall and reed-like; inflorescence much branched, 30-50 cm long. Florets 4-8, hairs from the lemmas	<i>Neyraudia reynaudiana</i>	
Plant not reed-like; inflorescence smaller, 10-15 cm long. Florets 2, hairs from all over the spikelets, often pinkish	<i>Rhynchelytrum repens</i>	
23. Leaves with fine longitudinal pleats	<i>Setaria palmifolia</i>	
Leaves not pleated		24
24. Leaves broad, 5 cm or more wide		
Leaves narrower		25
25. Leaves elliptic, usually 20-25 by 5-6.5 cm. Lemmas with 5 or more nerves. Plant to 1 m tall	<i>Leptaspis urceolata</i>	
Leaves lanceolate, usually 40-45 by 5-6.5 cm. Lemmas with 1-3 nerves. Plant to 3 m tall	<i>Thysanolaena maxima</i>	
26. Spikelets, all or some with awns		
Spikelets without awns, short bristle present or not		29
27. Tufted, coarse grass; leaves to 100 cm long	<i>Cymbopogon calcicola</i>	
Different; leaves shorter		28
28. Inflorescence of 3-7 spike-like racemes arranged alternately on the axis. Spikelets in pairs	<i>Oplismenus compositus</i>	
Inflorescence different. Spikelets in ultimate groups of threes	<i>Apluda mutica</i>	
29. Spikelets with prominent bristles or hairs. Culms tufted		
Spikelets without prominent bristles or hairs; glabrous or with inconspicuous bristles. Culms scrambling	<i>Panicum sarmentosum</i>	30
30. Leaves more than 1.5 cm wide. Spikelets with stiff, backward pointing hairs on the distal half of the lemma of the upper floret	<i>Centotheea lappacea</i>	
Leaves narrower, 0.2-0.9 cm wide. Spikelets with soft erect hairs all over the outer surface of the upper glume'	<i>Isachne langkawiensis</i>	

Apluda mutica L., Sp. Pl. (1753) 82; Gillil., Fl. Mal. 3 (1971) 273.

A. varia Hack. var. *intermedia* Hack., in DC., Monogr. Phan. 6 (1889) 196; Ridl., Mats. 3 (1907) 164; id., Fl. 5 (1925) 207; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86.

Slender grass, 1-2 m tall. Leaves pale bluish green, blade to 30 by 1.5 cm. Inflorescence as terminal panicle of numerous racemes with three spikelets each; the lowermost spikelet with an inflated joint.

Distributed in Ceylon, India and Australia. In Malaya, only from the northern half, not common but often on limestone.

Arthraxon prionodes (Steud.) Dandy, in Andrews, Fl. Pl. Sudan 3 (1956) 399; Gillil., Fl. Mal. 3 (1971) 287.

Andropogon prionodes Steud., Syn. Pl. Glum. 1 (1854) 383.

Slender decumbent grass, leafy almost to the inflorescence. Blades 3-6 by 0.8-1.5 cm, lanceolate with cordate base. Inflorescence of several slender racemes to 6 cm long. Spikelets paired, one sessile and the other pedicelled. Sessile spikelet 5.5 mm long; the lower glume lanceolate, the upper boat-shaped, both with a wide hyaline margin. Upper lemma with an awn 4.5 mm long. Stamens 3. Pedicelled spikelet awnless, with a short 2-lobed lemma.

Distributed in India. Recorded once from Malaya, from limestone crevices on the summit of Gunong Baling.

Axonopus compressus (Sw.) Beauv., Ess. Agrost. 12 (1812) 154, 167; Ridl., Fl. 5 (1925) 215; Burk., Dict. Econ. Prod. Mal. (1935) 276; Gillil., Fl. Mal. 3 (1971) 187.

Paspalum platycaulon Poir., Ridl., Mats. 3 (1907) 125.

Probably the commonest lawn and wayside grass in Malaya. Recorded from disturbed localities on limestone.

Centotheeca lappacea (L.) Desv. Nouv. Bull. Soc. Phil. Paris 2 (1810) 189; Ridl., Fl. 5 (1925) 253; Burk., Dict. Econ. Prod. Mal. (1935) 508; Gillil., Fl. Mal. 3 (1971) 53.

C. latifolia Trin., in Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86.

Cenchrus lappaceus L., Sp. Pl. ed. 2 (1763) 1488.

All over the secondary and disturbed forests. Recorded several times from limestone.

Chrysopogon aciculatus (Retz.) Trin., Fund. Agrost. (1820) 188; Ridl., Fl. 5 (1925) 207; Burk., Dict. Econ. Prod. Mal. (1935) 535; Gillil., Fl. Mal. 3 (1971) 236.

Andropogon aciculatus Retz., in Ridl., Mats. 3 (1907) 166.

Common all over Malaya, in lawns, by wayside and in cultivated area. Recorded once from the disturbed summit of Bukit Takun.

Chrysopogon fulvus (Spreng.) Chiov., Fl. Somalia 1 (1929) 327; Gillil., Fl. Mal. 3 (1971) 237.

C. collinus Ridl., Fl. 5 (1925) 208; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86.

Recorded twice in Malaya, once from Pulau Burong in Pahang (not limestone) on dry, sandy or stony soil and the other from limestone on Bukit Wang, Kedah (Haniff 649).

Chrysopogon orientalis (Desv.) A. Camus, in Lecomte, Fl. Gen. Indochine 7 (1922) 332; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86; Gillil., Fl. Mal. 3 (1971) 238.

C. wightianus (Nees ex Steud.) Thw., in Ridl., Fl. 5 (1925) 208.

Andropogon wightianus Nees ex Steud., in id., Mats. 3 (1907) 167.

Recorded in Malaya from limestone in Langkawi and from sandy coastal areas of the east coast. Like *C. fulvus*, this is a species of dry, well-drained, open localities.

Coix lacryma-jobi L., Sp. Pl. (1753) 972; Ridl., Fl. 5 (1925) 191; Burk., Dict. Econ. Prod. Mal. (1935) 629; Gillil., Fl. Mal., 3 (1971) 304.

Common in Malaya, in cultivation or in wasteland near villages. Recorded from limestone near the railway station at Merapoh in Pahang, probably an escape from nearby villages.

Cymbopogon calcicola Hubb., Kew Bull. Misc. Inf. (1941) 24; Gillil., Fl. Mal. 3 (1971) 297.

Culms tufted. Blades linear, to 100 by 1.5 cm. Inflorescence a much branched panicle, characterised by numerous brown spathes each subtending a pair of spike-like racemes.

Distributed in peninsular Thailand. Recorded in Malaya from Kedah and Pahang; abundant on the exposed rocky slope of Bukit Chintamani. Restricted to limestone. Faintly but distinctly scented.

Dendrocalamus dumosus (Ridl.) Holtt., Gard. Bull. S. 11 (1947) 296; id., 16 (1958) 96; Gillil., Fl. Mal. 3 (1971) 30.

Schizostachyum elegans Ridl., J. Str. Br. R. As. Soc. 73 (1916) 146; id., Fl. 5 (1925) 271.

Culms to 5 m long and 2.5 cm thick. Culm-sheaths to 18 cm long; auricles small, bristly; ligule 1.5 mm tall, toothed. Blades usually 18 by 1.8 cm, sometimes larger. Spikelets, 1-flowered, tufted at nodes of slender leafless branches. Palea 7 mm long, 7-veined, thin, not keeled. Stamens 3-6; ovary glabrous.

Distributed in the southern Thai islands. In Malaya from Langkawi and mainland Kedah, probably restricted to limestone. Resembles *D. elegans* (which see).

Dendrocalamus elegans (Ridl.) Holtt., Gard. Bull. S. 11 (1947) 296; id., 16 (1958) 95; Gillil., Fl. Mal. 3 (1971) 30.

Schizostachyum elegans Ridl., J. Str. Br. R. As. Soc. 73 (1916) 146; id., Fl. 5 (1925) 271.

Culms to 6 m long and 2.5 m diameter. Internodes to 26 cm long; culm-sheaths not seen. Blades to 12 by 1.2 cm, lower surface densely short hairy. Auricle small; ligule short. Spikelets in dense tufts at nodes of inflorescence branches, about 8 mm

long, glabrous. Florets 1 or 2; lemma of upper floret 7 mm long. Palea of lower floret 2-keeled, short-hairy on the keels. Upper palea 4-veined. Anthers 6. Ovary smooth; style slender, stigma plumose.

So far known only from Langkawi and probably restricted to limestone. (The original plant from which the species was described is cultivated at the Penang Botanic Gardens, but with the source unknown. Subsequent collections have all been from limestone).

This species is very much like *D. dumosus* but differs in the hairy leaves, the 6 instead of 3-6 stamens, the glabrous upper half of the ovary and the frequent presence of 2 florets with the lower palea keeled and the upper with 4 instead of about 7 veins. However, in one specimen (*Chin 523*), the leaves are glabrous, the stamens number 3-6 and the upper palea has 4-7 veins, yet the upper half of the ovary is glabrous and there are 1-2 florets.

The position of these two species would be clearer if more specimens were examined; there is possibly a gradation of morphological characters from one species to the other.

Dichanthium annulatum (Forsk.) Stapf., in Prain, Fl. Trop. Af. 9 (1917) 178; Gillil., Fl. Mal. 3 (1971) 284.

Andropogon annulatus Forsk., Fl. Aegypt. -Arab. (1775) 173.

Slender, branched, erect grass to 1 m tall. Blades to 30 by 0.8 cm. Inflorescence 1-several spike-like racemes from almost every leaf-sheath.

Distributed in Africa, India, Burma and Borneo. In Malaya restricted to limestone and then only found in Kedah and Selangor; the note in Gilliland, l.c., that it has been recorded from Singapore is an error and could have been intended for *D. mucronulatum* (which see).

Dichanthium caricosum (L.) A. Camus, Bull. Mus. Hist. Nat. Paris 27 (1921) 549; Ridl., Fl. 5 (1925) 210; Gillil., Fl. Mal. 3 (1971) 284.

Andropogon caricosus L., Sp. Pl. ed. 2 (1763) 1480.

Dichanthium mucronulatum Jansen, Act. Bot. Neerl. 1 (1953) 474; Gillil., Fl. Mal. 3 (1971) 283.

Ischaemum beccarii sensu Ridl., Mats. 3 (1907) 160, non Hackel; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86.

Slender grass to 75 cm tall. Blades narrowly linear to 30 by 0.3 cm, glabrous. Inflorescence a terminal spike-like raceme about 2.5 cm long. Spikelets in pairs, one sessile, one pedicelled. Sessile spikelet with lower glume 7-nerved and margin inflexed, the upper glume 3-nerved. Pedicelled spikelet with the lower glume tipped with 3 points.

Endemic to limestone in Malaya. Ridley recorded that this species appeared in the Singapore Botanic Gardens, and, apart from this very unusual occurrence (details not available) this species has been recorded only from Pahang and Selangor. A plant of dry rocky and exposed or partially exposed places.

Digitaria violascens Link, Hort. Berol. 1 (1827) 229; Gillil., Fl. Mal. 3 (1971) 191.

D. chinensis sensu Ridley, Fl. 5 (1925) 215, non Hornem.

Pan-tropical. Found all over Malaya from the lowlands and hills to 1600 m. Recorded once from the disturbed summit of Bukit Takun, and according to Ridley from Gua Batu.

Eleusine indica (L.) Gaertn., Fruct. 1 (1788) 8; Ridl., Mats. 3 (1907) 174; id., Fl. 5 (1925) 250; Gillil., Fl. Mal. 3 (1971) 78.

Cynosurus indicus L., Sp. Pl. (1753) 72.

A common grass all over Malaya in open places and a weed of cultivation. Recorded once from the disturbed summit of Bukit Takun.

Eulalia quadrinervis (Hack.) Ktze, Rev. Gen. Pl. 2 (1891) 775; Gillil., Fl. Mal. 3 (1971) 244.

Pollinia quadrinervis Hack., DC., Monog. Phan. 6 (1889) 158.

Culms slender, densely tufted, 50-100 cm tall. Blades linear to 20 by 0.3 cm. Inflorescence of 3-6 racemes arranged subdigitately at the end of a peduncle.

Distributed in India, Burma, Thailand and China. (Restricted to the limestone in Langkawi, Malaysia.)

Imperata cylindrica (L.) Beauv., Ess. Agrost. (1812) 165; Gillil., Fl. Mal. 3 (1971) 220.

var. *major* (Nees) Hubb. ex Hubb. et Vaugh., Grass. Maur. (1914) 96; Gillil., op. cit. 220.

Widespread everywhere in Malaya, often on disturbed summits of limestone hills.

Isachne langkawiensis Jansen, Reinw. 2 (1953) 284; Gillil., Fl. Mal. 3 (1971) 120.

Tufted, slender grass to 40 cm tall. Blades 2-8 by 0.2-0.9 cm. Inflorescence a terminal panicle 5-12 by 4 cm, with many very fine branches. Spikelets ovate, upper glume with many rows of hairs with bulbous base.

Endemic to the limestone in Langkawi, often abundant in open places with little moisture and thin soil cover. Distinguished by the finely hairy leaves and the very finely bristled upper glume.

Ischaemum indicum (Holtt.) Merr., J. Arn. Arb. 19 (1938) 320; Gillil., Fl. Mal. 3 (1971) 263.

I. aristatum sensu Ridley, Fl. 5 (1925) 203; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86.

Ischaemum timorense Kunth, Rev. Gram. 1 (1830) 369; Ridl., Fl. 5 (1925) 203; Gillil., Fl. Mal. 3 (1971) 264.

I. macrurum Stapf. ex Ridl., Fl. 5 (1925) 203.

Leptaspis urceolata (Roxb.) R. Br., in Benn., Pl. Java Rar. (1838) 23; Ridl., Fl. 5 (1925) 255; Gillil., Fl. Mal. 3 (1971) 47.

Pharus urceolatus Roxb., Fl. Ind. 3 (1832) 611.

Distributed in lowland and hill forest, recorded once from limestone (Gunong Pondok, Perak, Chin 886).

Neyraudia reynaudiana (Kunth) Keng ex Hitch., Amer. J. Bot. 21 (1934) 131; Gillil., Fl. Mal. 3 (1971) 61.

Triraphis madagascariensis sensu Ridley, Fl. 5 (1925) 251.

Common in the North as a grass of open wastelands. It has been collected as part of secondary vegetation on dry summits of limestone. On the top of Gua Musang, Kelantan, it was common (in 1971) about 1½ years after a fire had destroyed the original vegetation and on the Perak Cave Temple limestone (in 1971) it formed a prominent part of the vegetation in the disturbed areas. Though frequently recorded as a grass of damp ground it tolerates the dry conditions on limestone very well, growing in soil pockets amidst boulders.

Oplismenus compositus (L.) P. Beauv., Ess. Agrost. 54 (1812) 168, 169; Ridl., Fl. 5 (1925) 221; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 87, Gillil., Fl. Mal. 3 (1971) 171.

Panicum compositum L., Sp. Pl. (1753) 57.

A true forest grass of lightly shaded places; common in the northern part of Malaya and recorded from limestone in Langkawi, Kedah mainland and Perlis only.

Panicum sarmentosum Roxb., Fl. Ind. 1 (1820) 311; Ridl., Fl. 5 (1925) 227; Gillil., Fl. Mal. 3 (1971) 139.

Paspalum conjugatum Berg., Act. Helv. Phys. Math. 7 (1772) 129; Ridl., Fl. 5 (1925) 218; Gillil., Fl. Mal. 3 (1971) 180.

Widespread in lawns, waysides and cultivated ground. Recorded from disturbed areas on limestone.

Pogonatherum paniceum (Lamk.) Hack., Alg. Bot. Z. 12 (1906) 178; Gillil., Fl. Mal. 3 (1971) 251.

Saccharum paniceum Lamk., Encycl. Meth. Bot. 1 (1785) 595.

P. saccharoideum Beauv., in Ridl., Fl. 5 (1925) 195.

Common in Malaya by rocky streams, growing from rock crevices, on steep earth banks and other rocky places. Recorded several times from limestone.

Polytrias amaura (Buese) Ktze, Rev. Gen. Pl. (1891) 788; Gillil., Fl. Mal. 3 (1971) 244.

Andropogon amaurus Buese, in Miq., Pl. Jungh. (1854) 360.

Eulalia praemorse (Nees) Stapf. ex Ridl., Fl. 5 (1925) 197.

Rhynchelytrum repens (Willd.) Hubb., Kew Bull. Misc. Inf. (1934) 110; Gillil., Fl. Mal. 3 (1971) 150.

Saccharum repens Willd., Sp. Pl. 1 (1798) 322.

Tricholaena rosea Nees, in Ridl., Fl. 5 (1925) 235; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 87.

Setaria palmifolia (Koen.) Stapf., J. Linn. Soc. Bot. 42 (1914) 186; Gillil., Fl. Mal. 3 (1971) 157.

S. plicata sensu Ridl., Fl. 5 (1925) 236, non Cooke.

Stenotaphrum helferi Munro ex Hk.f., F.B.I. 7 (1896) 91; Ridl., Fl. 5 (1925) 220; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 87; Gillil., Fl. Mal. 3 (1971) 205.

Thysanolaena maxima (Roxb.) Ktze. Rev. Gen. Pl. 2 (1891) 794; Gillil., Fl. Mal. 3 (1971) 45.

Agrostis maxima Roxb., Fl. Ind. 1 (1820) 319.

T. agrostis Nees, in Ridl., Fl. 5 (1925) 241.

Dubious Record

Eulalia lanipes Ridl., J.F.M.S. Mus. 7 (1916) 56; id., Fl. 5 (1925) 196; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 86; Gillil., Fl. Mal. 3 (1971) 243.

An endemic species and according to both Ridley and Gilliland l.c., recorded only from Kedah Peak (not limestone). Henderson however, mentions that it is known from Langkawi limestone. I have not seen any specimens of this plant from limestone and believe that Henderson was mistaken.

NOTE

HYDROCHARITACEAE

Hydrilla verticillata (L.f.) Roy.

Widely distributed in the Old World tropics and the sub-tropics, common in most permanently wet places. Recorded from Tambun, Perak in a stream underlain by limestone.

HYPOXIDACEAE

Curculigo latifolia Dryand., in Ait., Hort. Kew. 2 (1811) 253; Hk.f., F.B.I. 6 (1894) 280; Ridl., Fl. 5 (1925) 300; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81.

LILIACEAE

- | | | |
|---|----------------------------------|---|
| 1. Plant scandent, stem long; leaves reduced to scales and with needle-like branches (cladodes) in the axils | <i>Asparagus racemosus</i> | 2 |
| Plant not so, stem short; leaves large, elliptic to lanceolate, cladodes absent | | |
| 2. Leaves slightly plicate with prominent longitudinally parallel veins, elliptic-lanceolate, to about 30 cm long, often less | | 3 |
| Leave not plicate, veins not so, lanceolate, usually about 60 cm long | | 4 |
| 3. Flowers greenish with shades of purple. Fairly common on limestone ... <i>Peliosanthes lurida</i> | | |
| Flowers deep purple. Rare on limestone | <i>Peliosanthes violacea</i> | |
| 4. Flowers pedicelled, white, perianth lobes linear-acuminate; inflorescence a raceme or panicle. Leaves about 60 by 5 cm; petioles not distinct | <i>Chlorophytum orchidastrum</i> | |
| Flowers sessile, dark purple, perianth lobes broad and short; inflorescence a spike. Leaves about 60 by 10-15 cm; with a long narrowly winged petiole | <i>Tupistra grandis</i> | |

Asparagus racemosus Willd., Sp. Pl. 2 (1799) 152; Ridl., Fl. 4 (1924) 331; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81.

Plant, scandent. Leaves reduced to scales. Racemes solitary or fascicled, sometimes branched. Flowers small, 0.2-0.3 cm across.

Distributed in Africa, across to India, SE Asia and southwards to Java and Australia. A very rare plant in Malaya, and so far known only from a single collection from Langkawi on the limestone. (*Curtis 1674*).

Chlorophytum orchidastrum Lindl., Trans. Hort. 6 (1825) 79; Ridl., Fl. 4 (1924) 327.

C. malayense Ridl., in Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81.

Peliosanthes lurida Ridl., J. R. As. Soc. S. Br. 31 (1898) 96; id., Fl. 4 (1924) 325; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81.

Endemic to Malayan, not uncommon in rocky forest and on limestone, usually in shaded spots.

Peliosanthes violacea Wall., Cat. (1831) 5084; Bak., J. Linn. Soc. Bot. 17 (1880) 502; Hk.f., F.B.I. 6 (1894) 266; Ridl., Fl. 4 (1924) 324.

Tupistra grandia Ridl., J. Bot. 38 (1900) 73; id., Fl. 4 (1924) 330; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81; Molesworth-Allen, M.N.J. 19 (1966) 303.

Endemic to Malaya and apparently quite rare. Molesworth-Allen reports that the inflorescence smells strongly of male cats! It has been collected twice from limestone (in Kedah and Kelantan).

LOWIACEAE

Orchidantha longiflora (Scort.) Ridl., Fl. 4 (1924) 292, *nomen tantum*; Keng, Gard. Bull. S. 24 (1969) 347.

Lowia longiflora Scort., Nuov. Giorn. Bot. Ital. 18 (1886) 308.

Orchidantha calcarea Hend., Gard. Bull. S.S. 7 (1933) 125; id., J. Mal. Br. R. As. Soc. 17 (1939) 80.

Endemic and uncommon; probably abundant locally, as in the forest at the University of Malaya Field Study Centre (270 m) at Gombak, off the 16th mile Gombak Road, Selangor. (Sporadic flowering late April and early May, 1972). Recorded once from limestone (*Henderson 26023*), Lenggong, Upper Perak.

MARANTACEAE

- Stemless. Petioles to more than 100 cm; flower pairs without bracteoles *Stachyphrynum cylindricum*
- Stems 200-300 cm. Petioles much shorter; flower pairs subtended by small bracteoles *Donax grandis*

Donax grandis Ridl., J. Str. Br. R. As. Soc. 32 (1899) 176; id., Fl. 4 (1924) 286; Holtt., Gard. Bull. S. 13 (1951) 268.

Stachyphrynum cylindricum (Ridl.) Schum., Pflanz. Marant. (1902) 49; Ridl., Fl. 4 (1924) 287; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80; Holtt., Gard. Bull. S. 13 (1951) 278.

Phrynum cylindricum Ridl., J. Str. Br. R. As. Soc. 32 (1899) 178.

Plants tufted; leaves from the base, at ground level; petioles to 120 cm long, blade to 60 by 20 cm. Inflorescence on an erect scape from the base of plant, spicate with 2 rows of overlapping bracts.

Endemic to limestone in Malaya, rare; recorded from Kelantan, Perak and Kedah.

MUSACEAE

Musa malaccensis Ridl., Trans. Linn. Soc. (ser. 2) 3 (1893) 383; id., Fl. 4 (1924) 294.

var. *minor* Ridl., J. Str. Br. R. As. Soc. 59 (1911) 205; id., Fl. 4 (1924) 294; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80.

This variety is recorded from limestone and is known only from Perlis; it is the only *Musa* collected from limestone.

Cheesman in Kew Bull. 3 (1948) 17-28, has reduced *M. malaccensis* Ridl., together with *M. truncata* Ridl., and *M. zebrina* Van Houtte ex Planch. to *M. acuminata* Colla. Used in this sense *M. acuminata* is a very widespread species in Malesia; it is then very variable, and as yet there are no attempts to subdivide it, apart from the original consideration of three species. *M. malaccensis* sensu stricto, on the other hand, occurs only in the forest of Malacca, Selangor and Perak in Malaya where it is common. The var. *minor* Ridl. however, could be specifically distinct, but this needs more study.

M. acuminata sensu lato is, however, not to be found on precipitous cliffs or on the pinnacled domes of hills though it has been frequently seen on the bases of hills in partly shaded localities with accumulation of some soil and debris.

ORCHIDACEAE

An introductory key is provided. The numbers on the right hand side refer to the ones in the main key with which one should continue.

In the main key at lead 5 a little difficulty may be experienced in deciding whether to go on to No. 6, "plant terrestrial or on rocks; not with a climbing stem", or to No. 38, "plant epiphytic or with a climbing stem"

Plants with a climbing stem pose no problems, however plants without a distinctive climbing stem may prove difficult, as epiphytes have been frequently found growing on rocks and roots at ground level, this being especially so on hill tops with a dense herbaceous and mossy ground flora. However, if such plants are also commonly found as epiphytes on the limestone hills and tend to be epiphytic outside the limestone field according to past records, then they are included under lead No. 38.

There are some plants which are generally regarded as epiphytes or rockplants; however, if on the limestone they are more frequently found on rocks, then they are included under lead No. 6. *Coelogyne asperata* and *Coelogyne pandurata* form very good examples in this category.

Finally there are those plants usually epiphytic which are very rare on the limestone, having been collected only once or twice; and if they are recorded from the limestone only as growing on rocks and roots at ground level, then, of course, they have been included under lead No. 6.

INTRODUCTORY KEY

1. Plant with a single leaf or leaflets	2
	<i>Corybas, Taeniophyllum</i>
1. Plant different	
2. Plant terrestrial or on rocks; not with a climbing stem	
3. Lip with a large pouch	6
	<i>Paphiopedilum niveum</i>
3. Lip not so	
4. Plant with a prominent tuber and erect leafy stem	8
	<i>Habenaria</i>
4. No tuber; pseudobulbs may be present	
5. Pseudobulbs absent; growth not regularly sympodial	12
	<i>Eria vestita, Vandopsis gigantea, Thunia alba, Goodyera hispida, Corymborchis, Malaxis</i>
5. Pseudobulbs present or not; growth sympodial	
6. One leaf on each shoot of the sympodium	23
6. Two or more leaves on each shoots of the sympodium	
7. Shoots forming long leafy stems	26
	<i>Tropidia curculigoides, Dendrobium salaccense</i>
7. Shoots not forming long leafy stems	
8. Leaves about 1 cm wide	28
	<i>Eulophia keithii, Cymbidium dayanum</i>
8. Leaves more than 1 cm wide	29
	<i>Calanthe, Coelogyne, Spathoglottis harzingiana, Geodorum citrinum, Cymbidium finlaysonianum</i>
2. Plant epiphytic or with a climbing stem	
9. Plant monopodial	
10. Leaves closely 2-ranked with overlapping bases	39
	<i>Dipodium pictum</i>
10. Plant different	
11. Stem short, leaves close, laterally flattened	41
	<i>Microsaccus</i>
11. Plant different	
12. Flowers lasting 1 day; producing one or a few at a time	44
	<i>Pteroceras, Thrixspermum, Ascochilopsis myosurus</i>

12. Flowers lasting longer; usually many opening together		
13. Leaves terete	50	
13. Leaves not terete		<i>Sarcanthus</i>
14. Upper sepal more than 2 cm long	52	<i>Arachnis flos-aeris, Staurochilus fasciatus</i>
14. Upper sepal 2 cm long or less		
15. Flowers with lip at the top; on erect inflorescences	54	<i>Acampe longifolia, Camarotis apiculata,</i>
		<i>Pomatocalpa</i>
15. Flowers with lip at the bottom if inflorescence erect		
16. Inflorescence producing 1-4 flowers	61	<i>Adenoncos, Uncifera tenuicaulis,</i>
		<i>Trichoglottis</i>
16. Inflorescence producing more than 4 flowers	67	<i>Aerides odoratum, Renanthera, Phalaenopsis,</i>
		<i>Sarcanthus, Schoenorchis micrantha,</i>
		<i>Abdominea minimiflora, Pomatocalpa</i>
		<i>spicatum, Malleola</i>
9. Plant sympodial		
17. Pseudobulbs or stems with 1 leaf		
18. Inflorescence from the top of pseudobulbs	82	<i>Ceratostylis pendula, Dendrobium,</i>
		<i>Pholidota pallida, Liparis</i>
18. Inflorescence from the side or base of pseudobulbs or from the rhizome	87	<i>Thecostele alata, Bulbophyllum, Thelasis</i>
17. Pseudobulbs with 2 or more leaves		
19. Pseudobulbs with 2 leaves		
20. Flowers solitary from the pseudobulbs, or opening singly, or 2-3 from an inflorescence	98	
20. Flowers more than 3 opening together	102	
19. Pseudobulbs with more than 2 leaves		
21. Stem and leaves laterally flattened	104	<i>Hippeophyllum scortechinii, Oberonia,</i>
		<i>Dendrobium</i>
21. Stem and leaves not laterally flattened.		
22. Leaves terete	117	
		<i>Dendrobium setifolium</i>
22. Leaves not terete		
23. Stems with a swollen base of 2 internodes, the rest slender	118	
		<i>Dendrobium planibulbe</i>
23. Stems not so		
24. Stems with leaves at apex only, lower part long and bare	120	
24. Stems not so		
25. Stems over 5 cm long		
26. Inflorescence a terminal dense head	123	
		<i>Agrostophyllum majus</i>
26. Inflorescence different		

27. Lip with 1-2 appendages near its base	125
<i>Podochilus, Appendicula, Dendrobium</i>	
27. Lip with no appendages	
28. Inflorescence terminal or subterminal	134
<i>Eria citrina, Agrostophyllum</i>	
28. Inflorescence lateral	136
<i>Poaephylgium pauciflorum, Eria</i>	
25. Stems under 5 cm long	138
<i>Paphiopedilum lowii, Polystachya</i>	
<i>flavescens, Phreatia secunda, Thelasis</i>	

ORCHIDACEAE - MAIN KEY

1. Plants with a single leaf or without leaves	2
Plants with more than one leaf	5
2. Leaf present, single, heart-shaped to 2 cm long	<i>Corybas mucronatus</i>
Leaves absent, or reduced to tiny brown scales; stem very short, roots, green, long and spreading. Epiphytes	
3. Bracts in 2 ranks	<i>Taeniophyllum culiciferum</i>
Bracts not in 2 ranks, facing all ways, scape to 3 cm long	
4. Anther with a short beak; lip not lobed	<i>Taeniophyllum obtusum</i>
Anther with a long beak; lip slightly lobed	<i>Taeniophyllum filiforme</i>
5. Plants terrestrial or on rocks, not with a climbing stem	6
Plants epiphytic or with a climbing stem, sometimes terrestrial	38
6. Lip with a large pouch, lateral sepals united. From the extreme north. A slipper orchid	
<i>Paphiopedilum niveum</i>	
Not so	7
7. Plant with a prominent root-tuber, erect leafy stem and terminal inflorescence	8
No tuber; but may have a prominent pseudobulb (stem structure, with scale leaves or their scars)	11
8. Spur of lip shorter than sepals and petals. Only from Langkawi	
<i>Habenaria goodyeroides</i>	
Spur of lip longer than sepals and petals	9
9. Side lobes of lip nearly as broad as long. Only from Langkawi	
<i>Habenaria carneae</i>	
Side lobes of lip very narrow	10
10. Upper edge of lateral sepals 6 mm wide. Only from Perak	
<i>Habenaria kingii</i>	
Upper edge of lateral sepals 8-10 mm wide	
<i>Habenaria reflexa</i>	
11. Pseudobulbs absent; growth not regularly sympodial	12
Pseudobulbs present, growth sympodial, or plant with underground rhizome bearing a succession of leaves and inflorescences	22
12. Plant to 200 cm tall; covered by red brown hairs, upper sepal over 2 cm long	
<i>Eria vestita</i>	
(Other <i>Eria</i> spp. are chiefly collected as epiphytes)	
Plant not so	13
13. Stems very fleshy, leaves strap-shaped or stems close together, to 60 cm tall, with many thin leaves 20 by 5 cm	14
Stems not fleshy, if fleshy not tall and erect, not with many thin leaves	15
14. Leaves very fleshy, 35 by 6 cm. Stem very stout, erect, short or to 30 cm; sepals and petals 2.5-3 cm, fleshy. On rocks from Langkawi	
<i>Vandopsis gigantea</i>	
Leaves thin 20 by 5 cm, stem fleshy, erect to 60 cm tall; flowers at the end of stems. Only from Setul, and peninsular Thailand	
<i>Thunia alba</i>	

15.	Flowers with lip at the bottom	16
	Flowers with lip at the top	19
16.	Herbaceous, less than 20 cm tall. Leaves small, flushed with pink	<i>Goodyera hispida</i>
	Woody; more than 50 cm tall. Leaves larger, green	17
17.	Plants to 60 cm tall; column about 8 mm long. Very rare, endemic	<i>Corymborchis brevistylis</i>
	Plants more than 120 cm tall; column more than 2 cm long	18
18.	Sepals and petals about 2.5 cm long; column about 2 cm long	<i>Corymborchis rhytidocarpa</i>
	Sepals and petals 3-5 cm long; column about 3-4 cm long	<i>Corymborchis veratrifolia</i>
19.	Lip without auricles	<i>Malaxis latifolia</i>
	Lip with auricles	20
20.	Apex of lip not toothed. Endemic and very rare, only from Perlis	<i>Malaxis reniloba</i>
	Apex of lip toothed	21
21.	Teeth, only 2	<i>Malaxis calophylla</i>
	Teeth, 4-6. Once from Pahang	<i>Malaxis micrantha</i>
22.	One leaf on each shoot of the sympodium	23
	Leaves 2 or more on each shoot of the sympodium	25
23.	Bracts in 2 close opposite ranks	24
	Bracts not in 2 close opposite ranks	<i>Liparis caespitosa</i>
24.	Leaf to 35 by 3 cm; lip 1 cm wide. Doubtfully from Kelantan	<i>Liparis compressa</i>
	Leaf to 20 by 0.8 cm; lip 3.5 mm wide. Common in Pahang and Kelantan	<i>Liparis gibbosa</i>
25.	Shoots forming long leafy stems	26
	Shoots not forming long leafy stems	27
26.	Inflorescence of more than 2 flowers; leaves 14-22 by 2.5-5 cm	<i>Tropidia curculigoides</i>
	Inflorescence of 2 flowers; leaves narrower; plant grass-like	<i>Dendrobium salaccense</i>
27.	Leaves about 1 cm wide. Only from the extreme north	28
	Leaves more than 1 cm wide	29
28.	Pseudobulbs prominent, about 10 cm long, ovoid, green and shining	<i>Eulophia keithii</i>
	Pseudobulbs not obvious	<i>Cymbidium dayanum</i>
29.	Lip with a prominent spur	30
	Lip without a prominent spur; spur sometimes not developed at all	33
30.	Plant flowering when leafless	31
	Plant never leafless	32
31.	Flowers white, midlobe of lip as broad as the width of the side lobes	<i>Calanthe vestita</i>
	Flowers pink, midlobe of lip much narrower than the width of the side lobes	<i>Calanthe rubens</i>
32.	Spur less than 3 cm long; leaf blade to 50 cm long. The most common species of <i>Calanthe</i> on limestone	<i>Calanthe triplicata</i>
	Spur 3-5 cm long; leaf blade about 30 cm long. On limestone, only from Pahang	<i>Calanthe ceciliae</i>
33.	Leaves 2 to each pseudobulb	34
	Leaves more than 2 to each pseudobulb	36
34.	Leaves less than 20 cm long. Once from limestone in Selangor	<i>Coelogyne pallens</i>
	Leaves more than 20 cm long, usually more than 40 cm long	35

35. Flowers creamy white, with brown markings. From limestone in Kelantan	<i>Coelogyné asperata</i>	
Flowers greenish with black markings	<i>Coelogyné pandurata</i>	
36. Leaves to about 15 cm long, pseudobulbs, small, rounded	<i>Spathoglottis hardingiana</i>	
Leaves larger, to 30 cm long and 7-10 cm wide, or longer and narrower		37
37. Leaves to 30 cm long and 7-10 cm wide; pseudobulbs rounded, subterranean. On limestone only from Langkawi	<i>Geodorum citrinum</i>	
Leaves more than 50 cm long, about 4 cm wide; thick and fleshy; pseudobulbs long and completely hidden by the sheathing leaf bases	<i>Cymbidium finlaysonianum</i>	
38. Plants monopodial, apical growth of stem continuing indefinitely		39
Plants sympodial, apical growth of stem not continuing indefinitely, ending in a pseudobulb with leaves or flowers or both		80
39. Leaves to 25 by 2 cm, closely 2-ranked, with overlapping bases, blades curved outwards; sepals and petals with crimson blotches on the outside. Once from limestone, Pahang	<i>Dipodium pictum</i>	
Plant different		40
40. Stem short, leaves close, fleshy and laterally flattened; flowers small, in pairs		41
Plant not so		43
41. Stem with leaves about 1 cm across; from Selangor and Pahang	<i>Microsaccus brevifolius</i>	
Stem with leaves 1.8 cm or more across		42
42. Lip much narrower than spur, petals wider than sepals; on limestone from Pahang	<i>Microsaccus ampullaceus</i>	
Lip not much narrower than spur, petals about as wide as sepals; common on Bukit Takun, Selangor	<i>Microsaccus javensis</i>	
43. Flowers short-lived, lasting one day, produced one or few at a time at the end of the inflorescence		44
Flowers lasting longer, usually many opening together		49
44. Lip loosely hinged, movable, distinct from the column foot		45
Lip not so; immovable, not distinct from the column foot		47
45. Inflorescence-scape glabrous, to 10 cm. On limestone in Kelantan and Pahang	<i>Pteroceras hirsutum</i>	
Inflorescence-scape minutely prickly, 2-4 cm long		46
46. Sepals and petals spotted crimson, sepals prominently hairy	<i>Pteroceras hirsutum</i>	
Sepals and petals not spotted, not hairy	<i>Pteroceras ciliatum</i>	
47. Bracts 2-ranked, alternating; rachis to 10 cm. On limestone only from Perlis	<i>Thrixspermum amplexicaule</i>	
Bracts not 2-ranked; rachis shorter		48
48. Scapes to 15 cm long, bracts 3-4 mm long, acute	<i>Thrixspermum album</i>	
Scapes 2-5 cm long, bracts minute, on a thick rachis bearing very small flowers	<i>Ascochilopsis myosurus</i>	
49. Leaves circular in transverse section		50
Leaves not circular in transverse section, not terete		51
50. Leaves grooved; midlobe of lip 6 mm wide at the base	<i>Sarcanthus machadonis</i>	
Leaves not grooved; midlobe of lip narrower. Only from the extreme north	<i>Sarcanthus sacculatus</i>	
51. Upper sepal more than 2 cm long; plant with a long climbing stem		52
Upper sepal 2 cm long or less		53
52. Lip loosely hinged, freely movable; leaves to 17 by 5 cm. The scorpion orchid	<i>Arachnis flos-aeris</i>	
Lip not so movable; leaves to 12 by 2.5 cm. Only from the extreme north	<i>Staurochilus fasciatus</i>	

53. Flowers with the lip at the top, on erect inflorescences	54
Flowers with the lip at the bottom, if inflorescence is erect	60
54. Stem stout, often branching, leaves thick and stiffly ascending to 20 by 3.5 cm. Inflorescence-scape stout. Lip of flower not spurred. Only from Langkawi	<i>Acampe longifolia</i>
Plant different; lip deeply saccate or spurred	55
55. Spur with a 2-lobed callus attached below the midlobe; rostellum with a long beak; leaves to 9 by 1 cm	<i>Camarotis apiculata</i>
Spur without calluses; back wall of spur with an erect tongue	56
56. Stem short, internodes under 1 cm long	57
Stem long-climbing, internodes 2-3 cm long	59
57. Flowers pinkish, inflorescence minutely hairy	<i>Pamatocalpa kunstleri</i>
Flowers yellowish, inflorescence not hairy	58
58. Sepals and petals with a red margin	<i>Pomatocalpa latifolium</i>
Sepals and petals without a red margin. From limestone of the extreme north, in peninsular Thailand	<i>Pomatocalpa setulense</i>
59. Sepals and petals with a red margin; leaves usually 2.5-4 cm wide	<i>Pomatocalpa latifolium</i>
Sepals and petals without a red margin; leaves usually 1.5-2.5 wide	<i>Pomatocalpa naevatum</i>
60. Inflorescence producing 1-4 flowers	61
Inflorescence producing more than 4 flowers	67
61. Lip shallowly saccate at the base, papillose or with a callus	62
Lip deeply saccate or spurred, entrance to the spur often hairy	64
62. Rachis of inflorescence zigzag, to 8 mm long, bearing 3-4 flowers	<i>Adenoncos sumatrana</i>
Rachis of inflorescence not so, very short, bearing 1-2 flowers	63
63. Leaves to 7 by 1 cm; slightly constricted near the acute tip; upper sepal to 5 mm long	<i>Adenoncos major</i>
Leaves and flowers smaller. Only from Selangor, at Gua Batu	<i>Adenoncos parviflora</i>
64. Lip, upper half of midlobe turned up, the tip with 2 small lobes	<i>Uncifera tenuicaulis</i>
Lip, midlobe simple or 3 lobed; never 2-lobed	65
65. Midlobe of lip 3-lobed	<i>Trichogolottis winkleri</i>
Midlobe of lip simple	66
66. Midlobe hairy, 9 mm long. Common	<i>Trichoglottis retusa</i>
Midlobe not hairy, 5 mm long. Only in the very North	<i>Trichoglottis misera</i>
67. Spur turned up in front like a horn, flowers with purple markings, upper sepal about 1.2 cm long	<i>Aerides odoratum</i>
Spur if present not so, usually saccate	68
68. Flowers red or yellow with red spot	69
Flowers not so coloured	70
69. Column slender, curved; leaves fleshy, stiff and sharply pointed	<i>Renanthera histrionica</i>
Column short; leaves bilobed at the tip. Only once from limestone, in Kedah	<i>Renanthera elongata</i>
70. Lip not spurred, sometimes slightly saccate, with a forked appendage	71
Lip spurred or saccate, with no forked appendages	72
71. Flowers alternate, 2 ranked; rachis of inflorescence flattened; upper sepal 1.6-2 cm long	<i>Phalaenopsis cornu-cervi</i>
Flowers not so, facing all ways; rachis not flattened; upper sepal 6.5-8.5 mm long	<i>Phalaenopsis decumbens</i>
72. Callus present, closing the entrance to the spur of lip	73
No such callus	76

73. Stem to 30 cm or more long; leaves well spaced	74
Stem much shorter, leaves close together	75
74. Leaves to 30 by 1.5 cm, fleshy, constricted at about 2.5 cm from the tip	
Leaves shorter and broader, constricted at about 1 cm from the tip	<i>Sarcanthus subulatus</i>
75. Inflorescence pendulous, to 25 cm long; stem to 6 cm long, stout. Only from Perak	
Inflorescence short to 1.5 cm long; stem to 15 cm long, slender. Only from Kelantan	<i>Sarcanthus termissus</i>
76. Inflorescence erect or horizontal	77
Inflorescence drooping or pendulous	78
77. Leaves 5 mm wide or less. Stem to 15 cm long, much branched, tufted. Only from Gua Batu	
Leaves more than 1 cm wide. Stem very short	<i>Schoenorchis micrantha</i>
Abdominea minimiflora	
78. Stem very short, leaves leathery to 18 by 4 cm; a tongue present on the back wall of the spur	
Stem long, climbing, 10-25 cm; no such tongue in the spur	<i>Pomatocapla spicatum</i>
79. Stem and leaf sheaths flattened, leaves green. Only from Perak	
Stem and leaf sheaths not flattened; leaves usually flushed with purple	<i>Malleola undulata</i>
Malleola dentifera	
80. Pseudobulbs or stems with 1 leaf	81
Pseudobulbs or stems with 2 leaves	97
Pseudobulbs or stems with more than 2 leaves	103
81. Inflorescence from the top of pseudobulb	82
Inflorescence from the base or side of pseudobulb, or from the rhizome between pseudobulbs	87
82. Flowers 1-several on short individual stalks	83
Flowers 1-numerous on an inflorescence with a distinct peduncle	85
83. Stems with pseudobulbs distinctly fleshy, not entirely covered by leaf sheaths	84
Stems slender not bulbous, covered by leaf sheaths	<i>Ceratostylis pendula</i>
84. Blades of midlobe abruptly widened, whole lip purple-spotted	
Blade of midlobe gradually widened, side lobes and base of midlobe with purple spots	<i>Dendrobium luxurians</i>
<i>Dendrobium plicatile</i>	
85. Bracts in 2 close opposite rows; inflorescence with 1-3 flowers opening together	86
Bracts different; inflorescence with numerous flowers opening together	<i>Pholidota pallida</i>
86. Leaf to 35 by 3 cm; lip 1 cm wide. Once doubtfully recorded from limestone	
Leaf to 20 by 0.8 cm; lip 3.5 mm wide	<i>Liparis compressa</i>
<i>Liparis gibbosa</i>	
87. Lip joined at its base to an outgrowth from the column to the column-foot; inflorescence pendulous with many flowers. Leaf stalk grooved.	
Lip not so	<i>Thecostele alata</i>
88. Flowers solitary	89
Flowers at least 2 per inflorescence	91
89. Rhizome slender, much branched	90
Rhizome different, pseudobulbs to 2 cm apart, 1.5 cm long; leaf to 16 by 2.5 cm	
<i>Bulbophyllum pulchellum</i>	
90. Leaves very fleshy, usually 2 by 0.7 cm, pseudobulbs 3 mm long, appressed to rhizome	
Leaves thin, usually 3.5 by 2 cm, pseudobulbs 1 cm long	<i>Bulbophyllum sessile</i>
<i>Bulbophyllum membranaceum</i>	

91.	Pseudobulbs hardly noticeable, leaves to 23 by 3.5 cm with a 6-cm stalk	<i>Bulbophyllum apodium</i>	92
	Pseudobulbs distinct, small or large		
92.	Pseudobulbs large to 6 cm long, ovoid, fleshy; inflorescence to 15 cm long	<i>Bulbophyllum lilacinum</i>	
	Pseudobulbs smaller		93
93.	Leaves almost terete, to 15 cm long and 1 cm wide, rarely with a second shorter leaf	<i>Thelasis succosa</i>	
	Leaves different		94
94.	Pseudobulbs broader than tall, oblong, with a terminal leaf	<i>Thelasis triptera</i>	
	Pseudobulbs not so		95
95.	Leaves small, about 4 by 1.3 cm, narrowed abruptly at the base and apex; rhizome slender and long creeping	<i>Bulbophyllum concinnum</i>	
	Leaves larger, over 10 cm long		96
96.	Scape to 2.5 cm long, covered by sheaths, whole inflorescence 5-12 cm long	<i>Bulbophyllum flammuliferum</i>	
	Scape to 12 cm long, dull purple	<i>Bulbophyllum fenestratum</i>	
97.	Flowers solitary, from the pseudobulbs, or opening singly on a slowly elongating inflorescence, or 2-3 on a single inflorescence		98
	Flowers more than 3 opening together on the same inflorescence		102
98.	Flowers solitary from the stem below the leaves	<i>Dendrobium spurium</i>	
	Flowers or inflorescence from the apex of pseudobulbs		99
99.	Inflorescence slowly elongating, one flower opening at a time; short hairy ..	<i>Eria pulchella</i>	
	Inflorescence not slowly elongating		100
100.	Inflorescence with no distinct peduncle, flowers solitary	<i>Dendrobium pumilum</i>	
	Inflorescence with a distinct peduncle, woolly hairy, with 1-3 flowers		101
101.	Leaves fleshy, terete, slightly flat on one side; young shoots white-hairy ..	<i>Eria pannea</i>	
	Leaves elliptic-oblong; young shoots brown-hairy	<i>Eria leiophylla</i>	
102.	Pseudobulbs to 12 cm long, ribbed; leaves to 30 by 4.5 cm	<i>Coelogyné foerstermannii</i>	
	Pseudobulbs narrowly cylindrical, to 20 cm long, ribbed; leaves to 30 by 11 cm	<i>Coelogyné rochussenii</i>	
103.	Stems and leaves laterally flattened		104
	Stems and leaves not laterally flattened; leaves sometimes circular in transverse section		117
104.	Inflorescence elongate, of many small flowers many opening together		105
	Inflorescence short, bearing 1-2 flowers at a time		112
105.	Stems about 4 cm apart, leaves to 20 cm long and 1 cm wide	<i>Hippeophyllum scorechini</i>	
	Stems close together, forming tufts		106
106.	Leaves jointed at the base		107
	Leaves not jointed at the base		110
107.	Stem very short		108
	Stem 2.5 cm or more long		109
108.	Leaves to 6 cm long. Only from Langkawi	<i>Oberonia calcicola</i>	
	Leaves to 15 cm or more long	<i>Oberonia dissitiflora</i>	
109.	Midlobe of lip bilobed	<i>Oberonia flava</i>	
	Midlobe of lip transversely oblong	<i>Oberonia transversiloba</i>	
110.	Stem 10 cm or more long	<i>Oberonia caudata</i>	111
	Stem 3-5 cm long; inflorescence 5 cm long		

111. Flowers on distinct pedicels; not completely covering rachis	<i>Oberonia spathulata</i>
Flowers lying on rachis, completely covering it	<i>Oberonia anceps</i>
112. Leaves very close together, bases overlapping. Once from limestone, Perlis	<i>Dendrobium excavatum</i>
Leaves distinctly spaced; only sheathing parts overlapping	113
113. Leaves at least 5 mm apart, stem thin, flexuous	114
Leaves arranged closer together, stems stiffer	115
114. Leaves 3-5 cm long; flowers about 1.2 cm long	<i>Dendrobium acerosum</i>
Leaves under 2 cm long; flowers about 8 mm long	<i>Dendrobium subulatum</i>
115. Stem with the apical part devoid of normal leaves, floriferous	<i>Dendrobium aloifolium</i>
Stem leafy throughout	116
116. Stem with leaves to 2 cm wide; a large bilobed callus present at the base of the lip	<i>Dendrobium indivisum</i>
Stem with leaves to 3.5 cm wide; a small unlobed callus present on the lip	<i>Dendrobium leonis</i>
117. Leaves round in transverse section; stem to 40 cm long, very slender; flowers white	<i>Dendrobium setifolium</i>
Leaves not round in section	118
118. Stem with a swollen base of 2 internodes, the rest slender	<i>Dendrobium planibulbe</i>
Stem not so	119
119. Stem elongate, with a few leaves near the apex only (old stems may have lost all their leaves), basal part longer than the leafy part	120
Stem not so	122
120. Stem covered by red brown sheaths; flowers solitary	<i>Eria nutans</i>
Stem not so covered; flowers in inflorescences	121
121. Pseudobulbs strongly 4-angled in the upper part; inflorescence drooping to 20 cm long	<i>Dendrobium farmeri</i>
Pseudobulbs not angled; inflorescence shorter	<i>Dendrobium callithrys</i>
122. Stems over 5 cm long, with several to many leaves	123
Stems under 5 cm long, with a few leaves, the bases of which often cover the stem completely	138
123. Inflorescence a terminal dense head, 2.5-3 cm in diameter, hardly stalked	<i>Agrostophyllum majus</i>
Inflorescence different	124
124. Lip with 1-2 appendages near its base	125
Lip with no appendages	133
125. Flowers small, under 1 cm across	126
Flowers large, more than 1 cm across	132
126. Leaves less than 1.2 cm long; pollinia: 4	127
Leaves more than 1.5 cm long; pollinia: 6 or 8	129
127. Leaves to 2 mm wide, acute	128
Leaves wider, ends rounded	<i>Podochilus lucescens</i>
128. Leaves about 6 by 1 mm, at a very acute angle to the stem; lip with 2 narrow appendages	<i>Podochilus tenuis</i>
Leaves about 8 by 2 mm, spreading; lip with a simple broad appendage	<i>Podochilus microphyllus</i>
129. Floral bracts leaf like, closely overlapping, the inflorescence terminal	<i>Appendicula torta</i>
Floral bracts different	130
130. Stem and leaf sheaths strongly flattened	<i>Appendicula anceps</i>
Stem and leaf sheaths not flattened	131

131. Inflorescence lateral, slender, the scape as long or longer than the leaves	<i>Appendicula undulata</i>
Inflorescence usually terminal, shorter than the leaves	<i>Appendicula cornuta</i>
132. Flowers numerous and densely arranged on one side of the inflorescence. Stems, 50 cm or more long	<i>Dendrobium secundum</i>
Flowers different, apparently solitary. Stems to 30 cm long. Only from Langkawi	<i>Dendrobium langkawiensis</i>
133. Inflorescence terminal or sub-terminal	134
Inflorescence lateral	136
134. Inflorescence short, 1-2 cm, with close 2 ranked bracts	135
Inflorescence to 20 cm long. Only from Kelantan	<i>Eria citrina</i>
135. Leaf sheaths with slender appendages on either side, at the base of the blade	
..... <i>Agrostophyllum bicuspisidatum</i>	
Leaf sheaths without such appendages	<i>Agrostophyllum hasseltii</i>
136. Inflorescence slender, 1 cm long, with 3-4 flowers, each less than 5 mm across	
..... <i>Poaephylgium pauciflorum</i>	
Inflorescence different; flowers larger, about 1.5 cm across	137
137. Stem erect, leaves thin, to 20 by 2 cm; inflorescence of 4-6 flowers	<i>Eria leptocarpa</i>
Stem pendulous, leaves thick, to 12 by 1 cm; inflorescence usually of 1 flower	<i>Eria rigida</i>
138. Flowers small, sepals to about 4 mm long	139
Flowers much larger, lip pouch-shaped	<i>Paphiopedilum lowii</i>
139. Column-foot well developed	140
Column-foot not developed	141
140. Leaves 3-4; to 20 by 3 cm or smaller; scapes about 5 cm long or more <i>Polystachya flavescens</i>	
Leaves to 9; to 5 cm by 4 mm; scapes to 2 cm long	<i>Phreatia secunda</i>
141. Rachis of inflorescence to 15 cm long. Stem tufted bearing about 5 leaves, the lower leaves much shorter than the upper	<i>Thelasis carinata</i>
Rachis of inflorescence about 1.5 cm long; plant like the above but smaller	<i>Thelasis micrantha</i>

Abdominea minimiflora (Hk.f.) J.J.S., Bull. Btzg (ser. 2) 25 (1917) 98. Carr, Gard. Bull. S.S. 5 (1929) 20. Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75. Holtt., Fl. Mal. 1 (1964) 640.

Saccolabium minimiflorum Hk.f., in Ridl., Fl. 4 (1924) 166.

A small plant, leaves to 5.5 by 1.7 cm, elliptic. Flowers reddish brown.

This is a rare plant in Malaya, which is also found in Java; it has been collected mainly from the limestone hills usually as epiphytes but also on rocks.

Acampe longifolia Lindl., Fol. Orch., Acampe (1853) 1; Holtt., Fl. Mal. 1 (1964) 625.

Saccolabium longifolium Hk.f., F.B.I. 6 (1980) 62.

Acampe penangiana Ridl., Fl. 4 (1924) 155.

Adenoncos major Ridl., J. Linn. Soc. 32 (1896) 350; id., Fl. 4 (1924) 154. Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holtt., Fl. Mal. 1 (1964) 597.

A species found in many lowland localities. It has been collected a number of times over limestone as epiphytes, and possibly once on rocks.

Adenoncos parviflora Rild., J. Linn. Soc. 32 (1896) 350; id., Fl. 4 (1924) 154; Holtt., Fl. Mal. 1 (1964) 598.

Recorded in Malaya from Perak and Selangor, uncommon. On limestone in Selangor and also from Telok Forest Reserve (freshwater swamp).

Adenoncos sumatrana J.J.S., Bull. Dep. Ag. 22 (1909) 44; Holtt., Fl. Mal. 1 (1964) 596.

A. virens Bl., in Ridl., Fl. 4 (1924) 154; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75.

In Malaya, found in many localities from the lowlands up to 1300 m. It is a common epiphyte on the dry summit of Bukit Takun in Selangor.

Aerides odoratum Lour., Fl. Cochinch. 2 (1790) 525; Ridl., Fl. 4 (1924) 182; Carr, J. Mal. Br. R. As. Soc. 6 (1928) 65; Holtt., Fl. Mal. 1 (1964) 698.

Agrostophyllum bicuspidatum J.J.S., Ic. Bog. 2 (1903) 55; Ridl., Fl. 4 (1924) 108; Holtt., Fl. Mal. 1 (1964) 487.

Agrostophyllum hasseltii (Bl.) J.J.S., Ic. Bog. 2 (1903) 55. Ridl., Fl. 4 (1924) 108; Holtt., Fl. Mal. 1 (1964) 488.

Agrostophyllum majus Hk.f., F.B.I. 5 (1890) 824; Ridl., Fl. 4 (1924) 107; Holtt., Fl. Mal. 1 (1964) 489.

Appendicula anceps Bl., Bijdr. (1825) 299; Ridl., Fl. 4 (1924) 195; Holtt., Fl. Mal. 1 (1964) 505.

Appendicula cornuta Bl., Bijdr. (1825) 302; Ridl., Fl. 4 (1924) 196; Holtt., Fl. Mal. 1 (1964) 505.

Common in Malaya in the lowlands. However, it has been collected from the limestone only from Bukit Takun in Selangor, usually as epiphytes but also on rocks.

Appendicula torta Bl., Bijdr. (1825) 303; Ridl., Fl. 4 (1924) 198; Holtt., Fl. Mal. 1 (1964) 505.

Stems to 25 cm long, leaves to 1.6 by 0.5 cm; nearly at right angles to the stem, oblong-elliptic, tips rounded. Inflorescence terminal, bracts leaf-like and closely overlapping.

Distributed in Java, Sumatra and Borneo. In Malaya, chiefly found as epiphytes on limestone hills; also on Taiping Hills (not limestone).

Appendicula undulata Bl., Bijdr. (1825) 301; Holtt., Fl. Mal. 1 (1964) 505.

A. purpurascens De Vr., in Ridl., Fl. 4 (1924) 195; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75.

Arachnis flos-aeris (L.) Rchb.f., Bot. Cent. 28 (1886) 343; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holt., Fl. Mal. 1 (1964) 616.

A. moschifera Bl., in Ridl., Fl. 4 (1924) 159.

Stems long and stout, climbing; leaves to 17 by 5 cm; apex bilobed. Inflorescence large, over 100 cm long; flowers about 10 cm across; with broad dark purple brown streaks.

This scorpion orchid is distributed in Java, Sumatra and Borneo. In Malaya, it is chiefly found on the limestone, growing from organic debris and climbing over rocks and on trees stems.

Ascochilopsis myosurus (Ridl.) Carr, Gard. Bull. S.S. 5 (1929) 21; Holt., Fl. Mal. 1 (1964) 707.

Saccolobium myosurus Ridl., J. Str. Br. R. As. Soc. 39 (1903) 84; id., Fl. 4 (1924) 173.

Bulbophyllum apodum Hk.f., F.B.I. 5 (1890) 766; Ridl., Fl. 4 (1924) 73; Holt., Fl. Mal. 1 (1964) 466.

Bulbophyllum concinnum Hk.f., F.B.I. 6 (1890) 189; Ridl., Fl. 4 (1924) 70; Holt., Fl. Mal. 1 (1964) 454.

In Malaya, apart from the limestone field, found only in Johore and Singapore. Collected from the limestone in Selangor and Kelantan from rather dry situations. In Singapore and Johore found as epiphytes on old mangrove trees and by rivers.

Bulbophyllum fenestratum J.J.S., Bull. Dep. Ag. 13 (1907) 48; Carr, Gard. Bull. S.S. 7 (1932) 33; Holt., Fl. Mal. 1 (1964) 411.

B. punctatissimum Ridl., Fl. 4 (1924) 77.

B. rupicolum Ridl., l.c.; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75.

Rhizome creeping, pseudobulbs to 3.5 cm long and 1.5 cm wide, 4-angled. Leaves fleshy 18 by 3 cm. Scape to 12 cm, dull purple. Sepals with purple spots.

Distributed in Java, Borneo and Sumatra. In Malaya, found mainly on the limestone as epiphytes and also on rocks.

Bulbophyllum flammuliferum Ridl., J. Bot. 36 (1898) 211; id., Fl. 4 (1924) 74; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holt., Fl. Mal. 1 (1964) 451.

Rhizome creeping, stout. Pseudobulbs 3-6 cm or more apart, to 4.5 cm high. Leaves about 12 by 2.8 cm, or more. Flowers yellow with orange tips.

Endemic and rare, chiefly from limestone; recorded from Kota Glanggi, Pahang, and Gua Batu and Bukit Takun, Selangor.

Bulbophyllum lilacinum Ridl., J. Linn. Soc. 32 (1896) 276; id., Fl. 4 (1924) 68; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holt., Fl. Mal. 1 (1964) 460.

Rhizome creeping, pseudobulbs to 6 cm long, narrowly ovoid and slightly 4-angled. Leaves fleshy, to 27 by 3.5 cm. Flowers pale mauve or nearly white.

Distributed in peninsular Thailand and northern Malaya. In Malaya, chiefly on limestone as epiphytes and occasionally on rocks.

Bulbophyllum membranaceum T. et B., Nat. Tijdschr. Ned. Ind. 3 (1885) 397; Ridl., Fl. 4 (1924) 64; Holtt., Fl. Mal. 1 (1964) 430.

Bulbophyllum pulchellum Ridl., Mats. 1 (1907) 83; id., Fl. 4 (1924) 80; Holtt., Fl. Mal. 1 (1964) 415.

Bulbophyllum sessile (Koen.) J.J.S., Fl. Btzg 6 (1905) 448; Holtt., Fl. Mal. 1 (1964) 451.

Epidendrum sessile Koen., Retz. Obs. 6 (1791) 60.

B. clandestinum Lind; in Ridl., Fl. 4 (1924) 69.

Calanthe ceciliae Rchb.f., Gard. Chron. 1 (1833) 432; Ridl., Fl. 4 (1924) 119; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holtt., Fl. Mal. 1 (1964) 153.

Calanthe rubens Ridl., Gard. Chron. 1 (1890) 576; Holtt., Fl. Mal. 1 (1964) 151.
Preptanthe rubens Ridl., Fl. 4 (1924) 123.

Pseudobulbs ovoid and angled, about 8 cm long. Leaf blades to 40 by 15 cm. Scape hairy, to 50 cm long; rachis many flowered. Flowers pink with crimson.

Distributed in Thailand and northern Malaya, terrestrial and restricted to limestone.

Calanthe triplicata (Will.) Awes, Philip. J. Sc. Bot. 2 (1907) 326; Holtt., Fl. Mal. 1 (1964) 154.

C. veratrifolia R. Br. in Ridl., Fl. 4 (1924) 119.

Orchis triplicata Will., Usteri Ann. Bot. 6 (1796) 52.

Found in the lowlands, especially in freshwater swamp-forest, and extending on to the hills to almost 1600 m. It is also the commonest species of *Calanthe* on limestone; being frequently found in partly to completely shaded areas with deep or shallow soils, especially where there is a slight accumulation of decaying litter.

Calanthe vestita Lindl., Gen. et Sp. Orch. (1833) 250; Holtt., Fl. Mal. 1 (1964) 151.

Preptanthe vestita Rchb.f., in Ridl., Fl. 4 (1924) 123.

Pseudobulbs large, ovoid and angled to 10 cm long; leaves to about 45 by 12 cm. Scape to 70 cm long hairy; flowers, well-spaced; bracts broad, 1.5 cm long.

Distributed in Thailand, Borneo and Celebes; in Malaya, collected only once. This specimen was growing as an epiphyte on the top of Gua Batu in Selangor (Ridley s.n. Dec. 1896).

Camarotis apiculata Rchb.f., Bonpl. 5 (1857) 39; Carr, Gard. Bull. S.S. 7 (1932) 54; Holtt., Fl. Mal. 1 (1964) 633.

Saccolabium saxicolum Ridl., Trans. Linn. Soc. 3 (1893) 374; id., Fl. 4 (1924) 172; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Ceratostylis pendula Hk.f., F.B.I. 5 (1890) 826; Ridl., Fl. 4 (1924) 111; Holtt., Fl. Mal. 1 (1964) 496.

Endemic to Malaya, widely distributed in the lowlands but not very common, collected only once over limestone (UNESCO 455 from Gua Musang, Kelantan).

Coelogyne asperata Lindl., J. Hort. Soc. 4 (1849) 221; Ridl., Fl. 4 (1924) 131; Holtt., Fl. Mal. 1 (1964) 253.

Coelogyne pallens Ridl., J. Str. Br. R. As. Soc. 39 (1903) 81; id., Fl. 4 (1924) 135; Holtt., Fl. Mal. 1 (1964) 248.

This species is known from Kedah Peak, Taiping Hills and one limestone locality (Bukit Takun in Selangor).

Coelogyne pandurata Lindl., Fol. Orch. Coelogyne (1854) 7; Ridl., Fl. 4 (1924) 133; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holtt., Fl. Mal. 1 (1964) 254.

Coelogyne rochussenii de Vr., III. Orch. (1954) t. 2; Ridl., Fl. 4 (1924) 131; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holtt., Fl. Mal. 1 (1964) 257.

Corbyas mucronatus (Bl.) Schltr, Fed. Rep. 19 (1923) 20; Holtt., Fl. Mal. 1 (1964) 93.

Corysanthes mucronata Bl., in Ridl., Fl. 4 (1924) 205;; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75.

Corymborchis brevistylis (Hk.f.) Holtt., Fl. Mal. 1 (1953) 144, op. cit. (3rd ed.) (1964) 146.

Corymbis brevistylis Hk.f., F.B.I. 6 (1890) 91.

Stem to 60 cm tall. Leaves 12-15 by 5-7.5 cm. Inflorescence with few flowers, column 8 mm long.

Endemic and known from a single record made on limestone at Kuala Dipang, Perak.

Corymborchis rhytidocarpa (Hk.f.) Holtt., Fl. Mal. 1 (1953) 144, op. cit. (3rd ed.) (1964) 146.

Corymbis longiflora Hk.f., in Ridl., 4 (1924) 208.

C. rhytidocarpa Hk.f., F.B.I. 6 (1890) 92.

This is a lowland plant. It has been recorded only once from limestone, growing from rock crevices. (Molesworth-Allen 4435 from Gunong Tempurong, Perak)

Corymborchis veratrifolia Bl., Fl. Jav. N.S. (1858) 105; Holtt., Fl. Mal. 1 (1964) 144.

Corymbis longiflora Hk.f., F.B.I. 6 (1890) 92; Ridl., Fl. 4 (1924) 208; Henders., J. Mal. Br. R. R. As. Spc. 17 (1939) 75.

Cymbidium dayanum Rchb.f., Gard. Chron. (1869) 710; Ridl., Fl. 4 (1924) 146; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 75; Holtt., Fl. Mal. 1 (1964) 519.

C. acutum Ridl., J. Linn. Soc. 32 (1896) 334.

Cymbidium finlaysonianum Lindl., Gen. et Sp. Orch. (1833) 164; Ridl., Fl. 4 (1924) 145; Holtt., Fl. Mal. 1 (1964) 520.

Dendrobium acerosum Lindl., Bot. Reg. 30 (1841) 86; Ridl., Fl. 4 (1924) 38; Holtt., Fl. Mal. 1 (1964) 338.

Dendrobium aloifolium (Bl.) Rchb.f., Walp. Ann. 6 (1861) 279; Holtt., Fl. Mal. 1 (1964) 330.

D. serra Lindl., in Ridl., Fl. 4 (1924) 35.

Dendrobium excavatum (Bl.) Miq., Fl. Ind. Bat. 3 (1859) 644; Holtt., Fl. Mal. 1 (1964) 336.

D. atropurpureum quoad Ridl., Fl. 4 (1924) 39.

Dendrobium farmeri Paxt., Mag. 15 (1849) 241; Holtt., Fl. Mal. 1 (1964) 282.

Dendrobium indivisum (Bl.) Miq., Fl. Ind. Bat. 3 (1859) 630; Holtt., Fl. Mal. 1 (1964) 322.

D. eulophotum Lindl., in Ridl., Fl. 4 (1924) 35; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76.

Dendrobium langkawiense Ridl., J. Str. Br. R. As. Soc. 54 (1909) 49; Holtt., Fl. Mal. 1 (1964) 320.

Stem to 30 cm long; leaves about 5 by 0.6 cm. Flowers apparently solitary.

Endemic and known only from a single collection from Langkawi. A second specimen collected by Corner in 1941 from Pulau Chupak, Langkawi is doubtfully this species.

Dendrobium leonis (Lind.) Rchb.f., Walp. Ann. 6 (1861) 280; Ridl., Fl. 4 (1924) 37; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 334.

Dendrobium planibulbe Lindl., Bot. Reg. (1843) 54; Ridl., Fl. 4 (1924) 41; Holtt., Fl. Mal. 1 (1964) 328.

Dendrobium pumilum Roxb., Hort. Beng. (1814) 61; Ridl., Fl. 4 (1924) 34; Holtt., Fl. Mal. 1 (1964) 275.

Dendrobium salaccense (Bl.) Lindl., Gen. et Sp. Orch. (1830) 86; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 341.

D. gemellum Lindl., in Ridl., Fl. 4 (1924) 40.

Stem slender to 100 cm long. Leaves to 13 by 1.7 cm. Inflorescence of 2 flowers at the nodes.

Distributed in Java. An epiphyte but more frequently found on rocks and roots on shaded to semi-exposed summits on limestone, fairly common, but unknown outside the limestone field.

Dendrobium secundum (Bl.) Lindl., Gen. et Sp. Orch. (1830) 81; Ridl., Fl. 4 (1924) 46; Holtt., Fl. Mal. 1 (1964) 316.

Pedilonum secundum Bl., Bijdr. (1825) 322.

Dendrobium setifolium Ridl., J. Linn. Soc. 31 (1896) 270; Carr, Gard. Bull. S. 5 (1929) 6; Holtt., Fl. Mal. 1 (1964) 326.

D. gracile Lindl., in Ridl., Fl. 4 (1929) 41.

Dendrobium spurium (Bl.) J.J.S., Fl. Btzg 6 (1905) 343; Holtt., Fl. Mal. 1 (1964) 277.

D. euphlebium Rchb.f. ex Lindl., in Ridl., Fl. 4 (1924) 44; Henders., J. Mal. Br. R. as. Soc. 17 (1939) 76.

Dendrobium subulatum (Bl.) Lindl., Gen. et Sp. Orch. (1830) 71; Ridl., Fl. 4 (1924) 39; Holtt., Fl. Mal. 1 (1964) 339.

Dipodium pictum (Lindl.) Rchb.f., Xen. Orch. 2 (1862) 15; Ridl., Fl. 4 (1924) 147; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 513; Holtt., Fl. Mal. 1 (1964) 513.

Ephemerantha fimbriata (Bl.) P.F. Hunt et Summ., Taxon 10 (1916) 103.

Desmotrichum fimbriatum Bl., Bijdr. (1824) 329; Ridl., Fl. 4 (1924) 30; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76.

Dendrobium plicatile Lindl., Bot. Reg. (1840) 10; Holtt., Fl. Mal. 1 (1964) 267.

Ephemerantha luxurians (J.J.S.) Hunt et Summ., Taxon 10 (1961) 105.

Dendrobium luxurians J.J.S., Bull Btzg Ser. 3 (1921) 288; Holtt., Fl. Mal. 1 (1964) 267.

Desmotrichum luxurians Carr, Gard. Bull. S.S. 7 (1932) 9.

Eria citrina Ridl., Kew Bull., (1924) 204; id., Fl. 4 (1924) 89; Holtt., Fl. Mal. 1 (1964) 366.

Eria leiophylla Lindl., J. Linn. Soc. 3 (1859) 57; Hkf., F.B.I. 5 (1890) 809; Ridl., Fl. 4 (1924) 99; Holtt., Fl. Mal. 1 (1964) 379.

Eria leptocarpa Hk.f., F.B.I. 5 (1890) 805; Ridl., Fl. 4 (1924) 88; Holtt., Fl. Mal. 1 (1964) 370.

Eria nutans Lindl., Bot. Reg. 26 (1840) 83; Ridl., Fl. 4 (1924) 94; Holtt., Fl. Mal. 1 (1964) 368.

Eria pannea Lindl., Bot. Reg. 28 (1842) 64; Ridl., Fl. 4 (1924) 99; Henders., J. Mal. Br. R. as. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 380.

Eria pulchella Lindl., Bot. Reg. 27 (1841) 52; Holtt., Fl. Mal. 1 (1964) 372.

E. pendula Ridl., Fl. 4 (1924) 89; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76.

E. rigida Rchb.f., in Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76.

Tylostylis rigida Bl., in Ridl., op. cit. 104.

Eria vestita Lindl., Bot. Reg. 30 (1844) 76; Holtt., Fl. Mal. 1 (1964) 359.

Trichotosia vestita Krzl., in Ridl., Fl. 4 (1924) 100.

Eulophia keithii Ridl., J. Linn. Soc. 32 (1896) 333; id., Fl. 4 (1924) 142; Holtt., Fl. Mal. 1 (1964) 536.

Pseudobulbs about 10 cm long, with about 5 leaves. Leaves to 30 by 1 cm, tapered at both ends. Inflorescence 30-40 cm long; flowers greenish.

According to Holttum found only in Langkawi and mainland Kedah; but apparently also found in peninsular Thailand (Ridley). Probably restricted to limestone but the records are not conclusive.

Geodorum citrinum Jacks., Andr. Bot. Rep (1810) t. 626; Ridl., Fl. 4 (1924) 143; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 539.

Goodyera hispida Lindl., J. Linn. Soc. 1 (1857) 183; Holtt., Fl. Mal. 1 (1964) 123.

Plant to 20 cm tall, with 4-6 leaves. Leaves 2.5-7 by 1.2-2.7 cm, base rounded, apex acute, flushed pink with whitish or pinkish vein-network. Inflorescence erect, to 12 cm; flowers close together and subtended by prominent bracts.

Distributed in the southern Himalayas. In Malaya, restricted to limestone; first found on Gua Ninek, Kelantan. Subsequently also from Selangor. Grows on sheltered localities in small soil pockets amongst boulders.

Habenaria carneae N.E. Br., Gard. Chron. 2 (1891) 729; Ridl., Fl. 4 (1924) 227; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 84.

Tuberous; stem erect, leaves from near the base, to 10 by 4 cm; olive green with pale spots. Inflorescence terminal; upper sepal and petal forming a hood, lip to 3 cm long, 3-lobed.

This species is restricted to limestone in Langkawi and peninsular Thailand at low elevation.

Habenaria kingii Hk.f., F.B.I. 6 (1890) 144; Ridl., Fl. 4 (1924) 299; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 76; Holtt., Fl. Mal. 1 (1964) 87.

Plant 30-50 cm; leaves 4-6, near the base; blade to 16 by 5 cm. Inflorescence to 30 cm long, flowers pale green, upper sepal about 6 mm long.

Endemic and restricted to the limestone in Perak and once from Kedah.

Habenaria reflexa Bl., Bijdr. (1825) 403; Holtt., Fl. Mal. 1 (1964) 85.

H. kingii Hk.f., quoad Ridl., Fl. 4 (1924) 228.

Plant like *H. kingii* Hk.f., but inflorescence to 10 cm long; upper sepal and petal forming a hood 4 mm long.

Distributed in Java and Sumatra. In Malaya usually from limestone in Pahang, Perak and Kedah.

Hippeophyllum scortechinii (Hk.f.) Schltr, Engl. Jhrb. (1911) 45; Ridl., Fl. 4 (1924) 18; Holtt., Fl. Mal. 1 (1964) 255.

Liparis caespitosa (Thou.) Lindl., Bot. Reg. 11 (1825) 882; Holtt., Fl. Mal. 1 (1964) 205.

L. comosa Ridl., J. Linn. Soc. 32 (1896) 229; id., Fl. 4 (1924) 23; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Liparis compressa (Bl.) Lindl., Gen. et Sp. Orch. (1830) 32; Ridl., Fl. 4 (1924) 24; Holtt., Fl. Mal. 1 (1964) 209.

Malaxis compressa Bl., Bijdr. (1925) 390.

Distributed from Sumatra to the Philippines. Found in mountain forests in Malaya at 1300-1600 m. Recorded once on limestone at low elevation (UNESCO 55 from Bertam, Kelantan, growing on rocks).

Liparis gibbosa Finet, Bull. Soc. Bot. Fr. 55 (1908) 342; Holtt., Fl. Mal. 1 (1964) 209.

L. disticha Lindl., in Ridl., Fl. 4 (1924) 24; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Malaxis calophylla (Rchb.f.) Ktze, Rev. Gen. Pl. (1891) 673; Holtt., Fl. Mal. 1 (1964) 197.

Microstylis calophylla Rchb.f., in Ridl., Fl. 4 (1924) 11.

Distributed in peninsular Thailand. Recorded in Malaya from Penang Hill and on limestone at Baling, Kedah; now also known to be found on the limestone at Gua Musang, Kelantan. This Kelantan record is the southernmost location for this species.

Malaxis latifolia Sm., Rees Cycl. (1819) 22; Holtt., Fl. Mal. 1 (1964) 195.

Microstylis congesta Rchb.f., in Ridl., Fl. 4 (1924) 12; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Malaxis micrantha (H.k.f.) Ktze, Rev. Gen. Pl. (1891) 673; Holtt., Fl. Mal. 1 (1964) 197.

Microstylis flavoviridis Ridl., Fl. 4 (1924) 12.

Microstylis micrantha Hk.f., in Ridl., l.c.

Malaxis reniloba (Carr) Holtt., Gard. Bull. S. S. 11 (1947) 263; Holtt., Fl. Mal. 1 (1964) 195.

Microstylis reniloba Carr, Gard. Bull. S.S. 7 (1932) 5; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Restricted to limestone in Perlis and peninsular Thailand.

Malleola dentifera J.J.S., Bull. Btzg (ser. 3) 9 (1927) 171; Holtt., Fl. Mal. 1 (1964) 712.

Saccolabium undulatum quoad Carr, J. Mal. Br. R. As. Soc. 6 (1928) 64.

Malleola undulata (Ridl.) J.J.S. et Schltr, Orch. Dtsch. Neu-Guin. (1914) 981; Holtt., Fl. Mal. 1 (1964) 711.

Saccolabium undulatum Ridl., in Fl. 4 (1924) 172.

S. sylvestre Ridl., op. cit. 168.

Stem to 15 cm or more long. Leaves to 14 by 2 cm, apex unequal. Inflorescence pendulous to 16 cm long. Flowers many, yellow.

Endemic. Recorded only twice, from Perak, as epiphytes on limestone hills.

Microsaccus ampullaceus J.J.S., Bull. Btzg (ser. 3) 5 (1922) 99; Carr, Gard. Bull. S.S. 7 (1922) 52; Holtt., Fl. Mal. 1 (1964) 594.

Microsaccus brevifolius J.J.S., Ic. Bog. 3 (1906) 63; Carr, Gard. Bull. S.S. 7 (1922) 52; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Holtt., Fl. Mal. 1 (1964) 594.

Microsaccus javensis Bl., Bijdr. (1825) 368; Ridl., Fl. 4 (1924) 175; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Holtt., Fl. Mal. 1 (1964) 595.

Distributed in Java. In Malaya, recorded from the southern half. Collected from limestone in Selangor and Kelantan. (The identification of Kelantan specimens UNESCO 300 and 472 is doubtful). This species is common on Bukit Takun, Selangor.

Oberonia anceps Lindl., Sert. Orch. (1838) t. 8; Ridl., Fl. 4 (1924) 15; Holtt., Fl. Mal. 1 (1964) 219.

Oberonia calcicola Holtt., Gard. Bull. S.S. 11 (1947) 248; id., Fl. Mal. 1 (1964) 217.

Stems very stout. Leaves about 6, spreading out evenly like a fan, to 5.5 by 0.9 cm. Inflorescence slender, to 10 cm long. Flowers in whorls of about 6.

Endemic. Known in Malaya from a single record (*Henderson 21398*) from the limestone at Langkawi as an epiphyte. Also from peninsular Thailand

Oberonia caudata King et Prantl., J.R. As. Soc. Beng. 66 (1897) 581; Ridl., Fl. 4 (1924) 18; Seid. et Smit. Orch. Thai. (1959) 157; Holtt., Fl. Mal. 1 (1964) 221.

Stem 3-5 cm long with 4-5 leaves. Leaves at 45 degrees to the stem, tips incurved, 5 by 0.4 cm. Inflorescence about 5 cm long, decurved.

Stem 3-5 cm long with 4-5 leaves. Leaves at 45 degrees to the stem, tips incurved, 5 by 0.4 cm. Inflorescence about 5 cm long, decurved.

Recorded once from Thailand. In Malaya, known from a collection made by Scortechini in Perak. More recently recorded on limestone from Kelantan (UNESCO 337, from Gua Serai).

Oberonia dissitiflora Ridl., J. Linn. Soc. 32 (1896) 218; Holtt., Fl. Mal. 1 (1964) 218.

O. lunata Lindl., in Ridl., Fl. 4 (1924) 14.

Oberonia flava Ridl., J. F.M.S. Mus. 4 (1909) 64; id., Fl. 4 (1924) 17; Holtt., Fl. Mal. 1 (1964) 214.

This very rare endemic, until 1962, was known only from a single collection from Telom, to the East of Cameron Highlands in Pahang. The second known collection (UNESCO 309) is from over limestone in Kelantan.

Oberonia spathulata Lindl., Gen. et Sp. Orch. (1830) 16; Ridl., Fl. 4 (1924) 17; Holtt., Fl. Mal. 1 (1964) 220.

Oberonia transversiloba Holtt., Gard. Bull. S.S. 11 (1947) 285; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Holtt., Fl. Mal. 1 (1964) 214.

Stems 3-5 cm long with about 6 leaves. Leaves at a very acute angle to the stem, to 9.5 by 0.5 cm. Inflorescence erect, to 16 cm long. Flowers in whorls, yellow orange.

Endemic to limestone in Malaya. Until 1962 known from Gua Tipus in north Pahang (Henderson 19448). Now recorded from Kelantan. This species is probably more common than the records suggest.

Paphiopedilum lowii (Lindl.) Pfitz., in Engl., Bot. Jahrb. 19 (1894) 42; Ridl., Fl. 4 (1924) 232; Holtt., Fl. Mal. 1 (1964) 73.

Cypripedium lowii Lindl., Gard. Chron. (1847) 765.

Paphiopedilum niveum (Rchb.f.) Pfitz., Engl. Bot. Jahrb. 19 (1894) 40; Ridl., Fl. 4 (1924) 231; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Seid. et Smit., Orch. Thai. (1958) 10; Holtt., Fl. Mal. 1 (1964) 69.

Plant fleshy. Leaves almost horizontal, surface with pale purple mottling on a dark green background; undersurface purple. Inflorescence about 12 cm long with 1-2 large flowers which are 5-6 cm across.

Distributed in peninsular Thailand. In Malaya, only from Langkawi where it is restricted to limestone and often locally abundant in partly shaded situations; growing on soil and from rock crevices.

Phalaenopsis cornu-cervi (Breda) Bl. et Rchb.f., Hamb. Gartenz. 16 (1860) 116; Ridl., Fl. 4 (1924) 156; Holtt., Fl. Mal. 1 (1964) 667.

Phalaenopsis decumbens (Griff.) Holtt., Gard. Bull. S.S. 11 (1947) 286; id., Fl. Mal. 1 (1964) 669.

Aerides decumbens Griff., Notul. 3 (1851) 365.

Kingiella decumbens Rolfe., in Ridl., Fl. 4 (1924) 158.

Pholidota pallida Lindl., Bot. Reg. (1836) 1777; Holtt., Fl. Mal. 1 (1964) 237.

P. imbricata sensu Lindl., in Ridl., Fl. 4 (1924) 139; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Pseudobulbs conical, 3-6 cm long. Leaves fleshy to 30 by 6 cm; plicate. Inflorescence to 30 cm long, with numerous flowers and persistent semi-circular bracts.

Distributed in Burma and southern China and southwards to Australia. Common on the limestone in Malaya, but also found in lowland forest. This species grows in partly shaded areas but will tolerate extreme exposure.

Phreatia secunda (Bl.) Lindl., Gen. et Sp. Orch. (1830) 64; Holt., Fl. Mal. 1 (1964) 553.

P. microtidis Lindl., in Ridl., Fl. 4 (1924) 106.

P. minutiflora Lindl., in Ridl., op. cit. 105; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Poaephillum pauciflorum (Hk.f.) Ridl., Mats. 1 (107) 109; id., Fl. 4 (1924) 109; Holt., Fl. Mal. 1 (1964) 511.

Agrostophyllum pauciflorum Hk.f., F.B.I. 5 (1890) 824.

Eria minutiflora Ridl., J. Linn. Soc. 32 (1896) 297.

Podochilus lucescens Bl., Bijdr. (1825) 295; Ridl., Fl. 4 (1924) 193; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Holt., Fl. Mal. 1 (1964) 502.

Podochilus microphyllus Lindl., Gen. et Sp. Orch. (1825) 234; Ridl., Fl. 4 ((1924) 193; Holt., Fl. Mal. 1 (1964) 500.

Podochilus tenuis (Bl.) Lindl., Gen. et Sp. Orch. (1833) 235; Ridl., Fl. 4 (1924) 193; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77; Holt., Fl. Mal. 1 (1964) 500.

Polystachya flavescens (Bl.) J.J.S., Fl. Btzg 6 (1905) 284; Holt., Fl. Mal. (1964) 500.

P. penangensis Ridl., Fl. 4 (1924) 152.

P. siamensis Ridl., op. cit. 152; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 77.

Pomatocalpa kunstleri (Hk.f.) J.J.S., Nat. Tijdschr. Ned. Ind. 72 (1912) 104.

Saccolabium pubescens Ridl., J. Linn. Soc. 31 (1896) 295; id., Fl. 4 (1924) 174.

Cleisostoma kunstleri Hk.f., Ic. Pl. (1895) t. 2335.

Pomatocalpa latifolium (Lindl.) J.J.S., Nat. Tijds. Ned. Ind. 72 (1912) 105; Holt., Fl. Mal. 1 (1964) 628.

Cleisostoma latifolium Lindl., Bot. Reg. 26 (1840) 60.

Saccolabium hortense Ridl., Fl. 4 (1924) 167.

S. latifolium var *parviflorum* Ridl., op. cit. 166.

Pomatocalpa naevatum J.J.S., Bull. Btzg (ser. 2) 9 (1913) 106; Seid et Smit., Orch. Thai (1964) 653; Holt., Fl. Mal. 1 (1964) 630.

Saccolobium latifolium var *strictum* Ridl., Fl. 4 (1924) 166.

Stem climbing. Leaves 10-18 by 1.5-2.4 cm. Inflorescence 15-40 cm, branched, flowers greenish yellow with red brown spots.

Distributed in Thailand and Java. Restricted to limestone in Malaya. Known from Gua Batu, Selangor and Gua Musang, Kelantan.

Pomatocalpa spicatum Breda, Orch. Kuhl et Hass. (1827) t. 15; Holtt., Fl. Mal. 1 (1964) 628.

Saccolabium hobsonii Ridl., Fl. 4 (1924) 167.

S. uteriferum Ridl., op. cit. 168.

Pteroceras ciliatum (Ridl.) Holtt., Kew Bull. 14 (1960) 269; Seid. et Smit., Orch. Thai. (1964) 820.

Dendrocolla ciliata Ridl., Fl. 4 (1924) 188.

Sarcochilus ciliatus (Ridl.) J.J.S., Bull. Btzg (ser. 3) 8 (1926) 63; Holtt., Fl. Mal. 1 (1964) 690.

Pteroceras hirsutum (Hk.f.) Holtt., Kew Bull. 14 (1960) 270.

Ascochilus hirsutus Ridl., Fl. 4 (1924) 182.

Sarcochilus hirsutus Hk.f., F.B.I. 6 (1890) 38; Holtt., Fl. Mal. 1 (1964) 691.

Pteroceras tanypyllum (Ridl.) Holtt., Kew Bull. 14 (1960) 271.

Sarcochilus tanypyllum Ridl., Fl. 4 (1924) 179; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78; Holtt., F. Mal. 1 (1964) 686.

Stems to 5 cm long. Leaves many, to 40 by 4 cm or usually less, with an unequally bilobed apex. Inflorescence to 13 cm long; bracts spreading. Flowers pale yellow with purple spots at the base of lateral sepals; about 3-4 cm across.

Endemic to limestone, previously known only from Kota Glanggi in Pahang. Now known from Kelantan as well, where it is not uncommon.

Renanthera elongata Lindl., Gen. et Sp. Orch. (1833) 218; Ridl., Fl. 4 (1924) 160; Holtt., Fl. Mal. 1 (1964) 634.

Renanthera histrionica Rchb.f., Gard. Chron. (1878) 74; Seid. et Smit., Orch. Thai (1962) 591; Holtt., Fl. Mal. 1 (1964) 634.

Renantherella histrionica Ridl., J. Linn. Soc. 32 (1896) 355; id., Fl. 4 (1924) 161.

Sarcanthus machadonis (Ridl.) J.J.S., Nat. Tijdschr. Ned. Ind. 72 (1912) 89; Holtt., Fl. Mal. 1 (1964) 652.

Saccolabium machadonis Ridl., Fl. 4 (1924) 168.

Sarcanthus rugulosus (Ridl.) Holtt., Gard. Bull. S.S. 11 (1947) 288, id., Fl. Mal. 1 (1964) 659.

Saccolabium rugulosum Ridl., Fl. 4 (1924) 168.

Stem 15 cm. Leaves spreading to 13 by 1.3 cm, slightly constricted at 0.5-1.5 cm from the apex. Inflorescence 1.5 cm long with a few flowers. Flowers yellow, spotted red.

Endemic to Malaya; formerly known only from a single collection from Kedah Peak (not limestone). Now known from two other numbers from the Kelantan limestone (UNESCO 38, 358).

Sarcanthus sacculatus Ridl., J. Linn. Soc. 32 (1896) 368; Holt., Fl. Mal. 1 (1964) 653. Seid. et Smit., Orch. Thai. (1964) 695.

Saccolabium sacculatum Ridl., Fl. 4 (1924) 172; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Sarcanthus scortechinii Hk.f., F.B.I. 6 (1890) 68; Holt., Fl. Mal. 1 (1964) 655; Seid. et Smit., Orch. Thai (1964) 675.

Saccolabium scortechinii Ridl., Fl. 4 (1974) 169.

Sarcanthus subulatus (Bl.) Rchb.f., Bonpl. 5 (1857) 41; Holt., Fl. Mal. 1 (1964) 654.

Saccolabium secundum Ridl., Fl. 4 (1924) 169; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Sarcanthus termissus Rchb.f., Hamb. Gartenz. 16 (1860) 15; J.J.S., Bull. Btzg (ser. 3) 8 (1926) 367; Holt., Fl. Mal. 1 (1964) 657.

Stem to 6 cm long, stout, with about 10 leaves. Leaves to 23 by 1.8 cm. Inflorescence pendulous, to 25 cm, unbranched or with a few branches. Flowers pale green; sepals and petals with dull purple-red median bands.

Distributed in Java and Sumatra. In Malaya, known only from Langkawi, and Lenggong in Perak; the Lenggong collection is from limestone and the Langkawi ones are probably also.

Schoenorchis micrantha Bl., Bijdr. (1825) 362. Seid. et Smit., Orch. Thai. (1962) 612; Holt., Fl. Mal. 1 (1964) 663.

Saccolabium perpusillum Hk.f., in Ridl., Fl. 4 (1924) 171.

Spathoglottis hardingiana Par. et Rchb.f., Otia. Bot. Hamb. 1 (1878) 45; Ridl., Fl. 4 (1924) 118; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78; Seid. et Smit., Orch. Thai. (1961) 341; Holt., Fl. Mal. 1 (1964) 167.

Plant with small round pseudobulbs. Leaves to about 15 cm long; Scape to 20 cm long, rachis elongated; flowers about 2.5 cm wide; crimson to pale pinkish-purple.

Distributed in Lower Burma and Thailand. In Malaya, it is restricted to the limestone on Langkawi. This is a terrestrial species, growing from soil and rock crevices in partly shaded localities, often close to the sea.

Staurochilus fasciatus (Rchb.f.) Ridl., J. Linn. Soc. 32 (1896) 351, id., Fl. 4 (1924) 157; Seid. et Smit., Orch. Thai. (1962) 600.

Trichoglottis fasciata Rchb.f., Gard. Chron. (1872) 699; Holt., Fl. Mal. 1 (1964) 644.

Taeniophyllum culiciferum Ridl., Fl. 4 (1924) 176; Carr, Gard. Bull. S.S. 7 (1932) 73; Holt., Fl. Mal. 1 (1964) 592; Seid. et Smit., Orch. Thai (1964) 718.

Taeniophyllum filiforme J.J.S., Bull. Inst. Bot. Btzg 7 (1900) 4; Carr, Gard. Bull.

S.S. 7 (1932) 80; Holtt., Fl. Mal. 1 (1964) 593; Seid et Smit., Orch. Thai. (1964) 720.

T. macrorhizum Ridl., Fl. 4 (1924) 176.

Taeniophyllum obtusum Bl., Bijdr. (1825) 35; Holtt., Fl. Mal. 1 (1964) 592; Seid. et Smit., Orch. Thai. (1964) 722.

T. serrula Hk.f., in Ridl., Fl. 4 (1924) 176.

Thecostele alata (Roxb.) Par. et Rchb., T. Linn. Soc. 30 (1874) 135; Holtt., Fl. Mal. 1 (1964) 558; Seid. et Smit., Orch. Thai. (1961) 514.

T. maculosa Ridl., Fl. 4 (1924) 191; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

T. zollingeri Rchb.f., in Ridl. op. cit. 192.

Thelasis carinata Bl., Bijdr. (1825) 385; Ridl., Fl. 4 (1924) 200; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78; Holtt., Fl. Mal. 1 (1964) 550.

Thelasis micrantha (Brongn.) J.J.S., Fl. Btzg 6 (1905) 495; Seid. et Smit., Orch. Thai. (1961) 461; Holtt., Fl. Mal. 1 (1964) 551.

T. decurva Hk.f., in Ridl., Fl. 4 (1924) 200; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Thelasis succosa Carr, Gard. Bull. S.S. 7 (1932) 35; Holtt., Fl. Mal. 1 (1964) 550.

Pseudobulbs lying on rhizome, about 1 cm diameter and 7 mm tall. Leaves fleshy, almost terete, to 15 cm long and 1 cm wide. Inflorescence from between pseudobulbs, scape to 15 cm long, rachis gradually elongating to about 4 cm; bracts persistent and deflexed, overlapping. Flowers whitish.

Endemic and restricted to limestone. Previously known only from Kota Glanggi in Pahang. Now also known from Gua Musang, Kelantan and Bukit Chintamani, Pahang. Epiphytic.

Thelasis triptera Rchb.f., Bonpl. 3 (1855) 219; Seid. et Smit., Orch. Thai. (1961) 458; Holtt., Fl. Mal. 1 (1964) 550.

T. elongata Bl., in Ridl., Fl. 4 (1924) 199; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Thrixspermum album (Ridl.) Schltr, Orchis 5 (1911) 2;; Holtt., Fl. Mal. 1 (1964) 613.

Dendrocolla alba Ridl., Fl. 4 (1924) 188.

Thrixspermum amplexicaula (Bl.) Rchb.f., Xen. Orch. 2 (1867) 121; Holtt., Fl. Mal. 1 (1964) 602.

T. lilacinum Rchb.f., in Ridl., Fl. 4 (1924) 184.

Trichoglottis misera (Ridl.) Holtt., Gard. Bull. S.S. 11 (1947) 292; Seid. et Smit., Orch. Thai. (1962) 604; Holtt., Fl. Mal. 1 (1964) 643.

Saccolabium miserum Ridl., J. Linn. Soc. 32 (1896) 359; id., Fl. 4 (1924) 171.

Trichoglottis retusa Bl., Bijdr. (1825) 360; Ridl., Fl. 4 (1924) 162; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78; Holtt., Fl. Mal. 1 (1964) 642.

Stem long-climbing. Leaves 7-12 by 1.5-2 cm; ends unequally bilobed. Inflorescence 1-flowered, 1-3 at a node. Flowers greenish yellow with red-brown spots, 2-3 cm across.

Distributed in Java, Sumatra and Borneo. In Malaya, found chiefly on limestone, in Kelantan, Pahang and Selangor.

Trichoglottis winkleri J.J.S., Engl. Bot. Jahrb. 48 (1912) 105; Holtt., Fl. Mal. 1 (1964) 641.

var. **minor** J.J.S., Bull. Btzg (ser. 2) 26 (1918) 102; Holtt., op. cit. 642.

Stem pendulous, about 30 cm long. Leaves about 5 by 1.3 cm. Inflorescence 1-flowered, 1-3 at a node. Flowers pale yellow with brown spots and streaks.

The typical variety is distributed in Borneo and Sumatra; known in Malaya only from Port Swettenham and Cameron Highlands. Var. *minor* is distributed in Java and recorded from Malaya once only (Kota Glanggi, Pahang).

Tropidia curculigoides Lindl., Gen. et Sp. Orch. (1840) 497; Ridl., Fl. 4 (1924) 209; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 79; Holtt., Fl. Mal. 1 (1964) 143.

Uncifera tenuicaulis (Hk.f.) Holtt., Gard. Bull. S.S. 11 (1947) 292; Seid. et Smit., Orch. Thai. (1962) 642; Holtt., Fl. Mal. 1 (1964) 665.

Saccolabium tenuicaule Hk.f., in Ridl., Fl. 4 (1924) 171.

Stem to 30 cm long, more or less pendulous. Leaves well spaced, to 12 by 0.6 cm. Inflorescence very short, from nodes, each with 1-3 flowers. Midlobe as long as the forward curving spur, with 2 small diverging curved horns at the very tip.

Distributed in peninsular Thailand. In Malaya, found chiefly on limestone in Pahang, Selangor, Perak and Langkawi.

Vandopsis gigantea (Lindl.) Pfitz., Nat. Pflanz. 6 (1889) 210; Seid. et Smit., Orch. Thai (1962) 586; Holtt., Fl. Mal. 1 (1964) 647.

Vanda gigantea Lindl., Gen. et Sp. Orch. (1833) 215.

Stauropsis gigantea Benth., in Ridl., Fl. 4 (1924) 155.

Excluded Species

Tainia plicata Ridl. ex Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

According to Henderson this species is known only from Gua Tipus limestone in Pahang. I have not been able to trace this in any literature, nor have I seen any specimens.

Notes

Dendrobium tetrodon Rchb.f. ex Lind., J. Linn. Soc. 3 (1859) 10; Ridl., Fl. 4 (1924) 45; Holtt., Fl. Mal. 1 (1964) 293.

Endemic to Malaya, not uncommon in open places in the lowlands. Two numbers from limestone are doubtfully identified as this species, UNESCO 444 & 456 from Gua Musang, Kelantan.

Paphiopedilum barbatum (Lindl.) Pfitz., Engl. Bot. Jahrb. 19 (1894) 41; Holtt., Fl. Mal. 1 (1964) 77.

Locally common, recorded on Gunong Blumut and G. Ledang in Johore, Penang Hill, Kedah Peak and several other isolated small hills in westcoast. Strangely not recorded on the main range.

Usually in shaded places with peaty or mossy substrate. What appears to be this species has been seen on Gunong Tempurong, Perak. (I am grateful to Mr. Lee Toh Ming for his information.)

Pomatocalpa setulense (Ridl.) Holtt., Gard. Bull. S.S. 11 (1947) 287; Seid. et Smit., Orch. Thail. (1964) 652; Holtt., Fl. Mal. 1 (1964) 628.

Saccolabium setulense Ridl., Fl. 4 (1924) 167; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 78.

Stem to 5 cm long. Leaves fleshy, at the end of stems, to 19 by 2.5 cm. Inflorescence to 15 cm with few branches. Flowers pale yellow, lateral sepals sometimes with reddish spots at the base.

A rare plant which according to records is restricted to limestone in peninsular Thailand and Perlis, Malaysia. The specimen thought to be from Malaya (*Ridley 15226*) was collected from Bukit Rajah Wang, Setul. All previous authors have implicitly or explicitly expressed Setul to be within the Malayan boundary. According to present maps, however, Setul is within Thai territory. But this plant is very likely to be found in Malaya proper.

Thunia alba Rchb.f., Bot. Zeitschr. (1852) 764; Holtt., Fl. Mal. 1 (1964) 185.

This species has also been recorded from limestone in Setul.

PALMAE*

1. Leaves palmate	2
Leaves pinnate or bipinnate	6
2. Major divisions of leaf reaching the insertion on the petiole; leaflets wedge-shaped	
..... <i>Licuala modesta</i>	
Major divisions of leaf not reaching the petiole	3
3. Petioles armed with stout spines; fruits 1.5-2 cm diameter, blue green	
<i>Livistona saribus</i>	
Petioles unarmed	4
4. Leaves massive, petiole channelled, with very sharp edges; leaflets compound	
..... <i>Borassodendron machadonis</i>	
Leaves small, petiole not channelled	5
5. Leafsheaths formed of broad laminate fibres. Only from Langkawi	
<i>Maxburretia gracilis</i>	
Leafsheaths formed of fine dark fibres. Only from Selangor	
<i>Maxburretia rupicola</i>	

* The generous help of Dr. J. Dransfield (KEW) with this family is gratefully acknowledged.

6. Leaves simply pinnate	7
Leaves bipinnate	<i>Caryota mitis</i>
7. Spiny palms	8
Non-spiny palms	13
8. Massive clustering palm with crownshaft	<i>Onchosperma horridum</i>
Slender palms without crownshaft (rattans, 1 species acaulescent)	9
9. Leaflets with white indumentum below; whole leaf ending in a barbed whip (cirrus)	<i>Plectocomia griffithii</i>
Leaflets concolorous; leaf without cirrus; barbed whip (flagellum) borne on leafsheath	10
10. Middle leaflets 15-30 by 1.4-1.5 cm	11
Middle leaflets much larger	12
11. Leaflets equidistant. Leafsheaths densely covered with 2-5 cm-long spines	<i>Calamus balingensis</i>
Leaflets grouped. Leafsheaths with spines to 2 cm long	<i>Calamus siamensis</i> var. <i>malaianus</i>
12. Middle leaflets 30-60 by 3-3.5 cm. Fruits 0.8-1 cm long	<i>Calamus concinnus</i>
Middle leaflets 60-80 by 5-8 cm. Fruits 3-3.5 cm long	<i>Calamus ornatus</i>
13. Leaflet-tips entire	<i>Areca triandra</i>
Leaflet-tips serrate (praemorse)	14
14. Massive palms with leaves to 10 m or more long	15
Slender undergrowth palms; leaves rarely exceeding 2 m	16
15. Stem solitary, monocarpic with basipetal inflorescence production; trunk covered with black fibres	<i>Arenga pinnata</i>
Stem clustered, polycarpic with acropetal inflorescence production; trunk eventually bare	<i>Arenga westerhoutii</i>
16. Terminal leaflet present	<i>Arenga hookeriana</i>
Terminal leaflet absent	17
17. Inflorescence unbranched; fruits elongate with a pronounced hook at the tip	<i>Iguanura corniculata</i>
Inflorescence branched (rarely unbranched); fruits curved, with no pronounced hook at the tip	<i>Iguanura polymorpha</i>

Areca triandra Roxb., (Hort. Beng. (1814) 68, *nom. nud.*), Fl. Indica 3 (1832) 617; Ridl., Fl. 5 (1925) 4; Henders., Mal. Br. R. As. Soc. 17 (1939) 85; Whitmore, Palms Mal. (1973) 35.

Common palm at 700-1300 m, uncommon in the lowlands. Recorded from limestone in Langkawi at near sea-level.

Arenga hookeriana (Becc.) Whitmore, Principles 14 (1970) 124; id., Palms Mal. (1973) 37.

Didymosperma hookerianum Becc., Malesia 3 (1889) 186; Ridl., Fl. 5 (1925) 20; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 85.

South Thailand. In Malaya only from the east coast; not uncommon in lowland forest, recorded several times from limestone.

Arenga pinnata (Wurmb.) Merr., Int. Herb. Amb. (1917) 119; Whitmore, Palms Mal. (1973) 37.

Recorded once from limestone in Malaya (*Whitmore FRI 4267* from Gua Musang, Kelantan).

Arenga westerhoutii Griff., Calc. J. Nat. Hist. 5 (1845) 475; Ridl., Fl. 5 (1925) 19; Whitmore, Palms Mal. (1973) 38.

Locally gregarious in lowland forest. Not uncommon on the lower slopes and gullies of limestone hills.

Borassodendron machadonis (Ridl.) Becc., Webbia 4 (1914) 361; Whitmore, Palms Mal. (1973) 39.

Borassus machadonis Ridl., Fl. 5 (1925) 71; Molesworth-Allen, M.N.J. 18 (1964) 168.

Peninsular Thailand. Recorded from limestone at Gua Musang, Kelantan; conspicuous on Gunong Datok, Perak. Rare in the wild.

Calamus balingensis Furt., Gard. Bull. S. 15 (1956) 240.

Calamus sp. in Henders., J. Mal. Br. R. As. Soc. 17 (1939) 85.

Solitary. Leaf-sheaths densely covered by 2-5 cm long spines. Leaves 1.6-2 m long. Male spadix slightly longer than the leaves, with about 6 branches. Female inflorescence unknown.

Endemic and known from only one collection (*Furtado 33073*, Gunong Baling, Kedah).

Calamus concinnus Mart., Hist. Nat. Palm. 3 (1838) 208; Ridl., Fl. 5 (1925) 50; Furt., Gard. Bull. S. 15 (1956) 211.

Plectocomiopsis ferox Ridl., op. cit. 66.

Peninsular Thailand. Rare; in Malaya known from only three collections, one of which is from limestone (*Haniff & Nur 7087*, Telok Apau, Langkawi).

Calamus ornatus Bl. var. *horridus* Becc. in Hk.f., Fl. Br. Ind. 6 (1893) 460; Furt., Gard. Bull. S. 15 (1956) 202.

C. ornatus Bl. *sensu* Griff., Calc. J. Nat. Hist. 5 (1844) 37; Ridl., Fl. 5 (1925) 54.

Endemic; in lowland forest. Recorded on limestone from Gua Musang and from the small outcrops in Johore.

(Dransfield, J. (pers. com.) does not regard *C. ornatus* var. *horridus* as distinct from the typical variety *C. ornatus* var. *ornatus*.

Calamus siamensis Becc. var. *malaianus* Furt., Gard. Bull. S. 15 (1956) 215.

C. densiflorus Becc., in Ridl., Fl. 5 (1925) 53.

C. siamensis Becc., in Ridl. op. cit. 59.

The species is described from Thailand and the variety is found only in Kedah and Perlis; once from limestone (*Henderson 23028*, Tebing Tinggi, Perlis).

Caryota mitis Lour., Fl. Cochinch. (1790) 569; Ridl., Fl. 5 (1925) 20; Whitmore, Palms Mal. (1973) 44.

Iguanura corniculata Becc., Malesia 3 (1886) 187; Ridl., Fl. 5 (1925) 15; Whitmore, Palms Mal. (1973) 63; Kiew, Gard. Bull. S. 28 (1976) 205.

Plant similar to *I. polymorpha*. Rare; known from two collections only, one from limestone (*Henderson* 25059, Bukit Serdam, Pahang).

Iguanura polymorpha Becc., Malesia 3 (1886) 189; Ridl., Fl. 5 (1925) 15; Whitmore, Palms Mal. (1973) 64; Kiew, Gard. Bull. S. 28 (1976) 213.

Not uncommon on limestone.

Licuala modesta Becc., Malesia 3 (1886) 195; Ridl., Fl. 5 (1925) 28; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 85; Furt., Gard. Bull. S.S. 11 (1940) 60.

L. wrayi Becc. ex Ridl., Fl. 5 (1925) 28.

Endemic, from the lowlands to 1600 m. Recorded from the limestone at Gunong Pondok, Perak.

Livistona saribus (Lour.) ex Chev., Bull. Econ. Indochine (ser 2) 22 (1919) 501; Whitmore, Palms Mal. (1973) 72.

L. cochinchinensis Mart., Hist. Nat. Palm. 3 (1838) 242; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 85.

Indochina, Java, Sumatra, Borneo and the Philippines. Widely distributed in Malaya, except in the South. Recorded once on limestone (*Henderson* s.n. 7th June 1930, from Gunong Pondok, Perak).

Maxburretia gracilis (Burr.) Dransfield, Gentes Herb. 11 (1978) 194.

Liberbaileya gracilis (Burr.) Burr. & Potzal, Willdenowia 1 (1956) 530; Whitmore, Principes 14 (1970) 97; id., Palms Mal. (1973) 67.

L. langkawiensis Furt., Gard. Bull. S. S. 11 (1940) 238.

Symphyogyne gracilis Burr., Notizbl. Bot. Gart. Berl. 15 (1941) 317.

Endemic and known only from the limestone at Dayang Bunting, Langkawi. Very likely to be found on the limestone islands of southern Thailand too.

Maxburretia rupicola (Ridl.) Furt., Gard. Bull. S. 11 (1940) 240; Whitmore, Palms Mal. (1973) 76.

Livistona rupicola Ridl., Fl. 5 (1925) 23; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 85.

Stem to 1m. Petiole 50-90 cm, lamina 50-60 cm across with 30-35 segments. Inflorescence to 60 cm with a strong musty-sweet fragrance. Fruits ovoid, 0.8-0.9 cm long; ripening black.

Endemic and restricted to the limestone in Selangor.

Onchosperma horridum (Griff.) Scheff., Tijdschr. Ned. Ind. 32 (1871) 191; Ridl., Fl. 5 (1925) 16; Whitmore, Palms Mal. (1973) 82.

Areca horrida Griff., Calcutta J. Nat. Hist. 5 (1845) 465.

There is a clump of this palm on the top of the Gua Batu limestone growing in a broad gully amongst tangled shrubby vegetation.

Plectocomia griffithii Becc. ex Hk.f., F.B.I. 6 (1893) 478; Ridl., Fl. 5 (1925) 70; Furt., Gard. Bull. S. 13 (1951) 346; Whitmore, Palms Mal. (1973) 94.

Thailand, Peninsular Malaya. Common especially in mountain forests and coastal hills. Once from limestone (*Chin* 1273, Gua Batu, Selangor).

PANDANACEAE

1. Plant of sandy or rocky shores, spines on leaves white *Pandanus odoratissimus* 2
Inland plant, if by shores spines not white
2. Leaf apex very abruptly acuminate-caudate, boat-shaped, when older, splitting and appearing bilobed *Pandanus irregularis*
Leaf apex not so 3
3. Leaf less than 2.5 cm wide, usually less than 150 cm long; stem slender, less than 5 cm in diameter 4
Leaf more than 2.5 cm wide, usually more than 4 cm wide, and often more than 200 cm long; stem stout, more than 5 cm in diameter
4. Plant much branched; stems 1-5 m tall, thorny; older parts devoid of leaf bases; very rare on limestone, a forest species *Pandanus recurvatus*
Plant seldom branched; often forming dense clumps; stems about 30 cm or more long; all covered by persistent leaf bases *Pandanus alticola*
5. Drupes all simple, one-celled. Plant large; leaves to 4 m long and 9-12 cm wide (on younger plants with stem less than 1 m tall); older plants with leaves smaller, about 3 m long; tip of apical leaves filiform and 10-15 cm long. Common on Gua Batu, Selangor ... *Pandanus calcicola*
Drupes connate, 1-4 celled. Plant large; leaves smaller, to 4-7 cm wide; tip 4-5 cm long. So far only known from the Pulai area, Perak *Pandanus piniformis*

Pandanus alticola Holtt. & St. John, Pac. Sci. 16 (1962) 218; Stone, M.N.J. 21 (1968) 136.

A fairly common endemic epiphyte in Malaya. Recorded from limestone; seen on Bukit Anak Takun, Bukit Takun, and Gua Batu in Selangor, and Gua Musang in Kelantan. They are always found growing on rocks and from rock crevices, often forming large dense clumps. Common on Bukit Takun, in very exposed to partly shaded situations. Distinguished by its linear, narrow leaves and its often clump-forming habit.

Pandanus calcicola Holtt. & St. John, Pac. Sci. 16 (1962) 230; Stone, M.N.J. 21 (1962) 128.

Plants to 5 m tall, 2-3 times branched when old. Stem 10-20 cm in diameter at the basal part. Leaves about 3 m long and 9 m wide; often larger in young plants when stems are as yet unbranched. Fruits terminal, either a single syncarp to 20 cm by 10 cm, or with 2-3 laterals which are smaller, about 12 by 9 cm each. (Dimensions all refer to mature fresh fruits.)

Endemic to limestone in Malaya. Recently found to be common on the slopes of Gua Batu in Selangor, on rocky localities with soil pockets. Originally described from a Perlis specimen.

Pandanus irregularis Ridl., Fl. 5 (1925) 76; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 82; St. John, Pac. Sci. 17 (1963) 344; Stone, M.N.J. 21 (1968) 6.

Erect plant, when old to 5 m tall, 2-3 times branched, lower half of stem 5-10 cm in diameter. Leaves 100-150 by 6-10 cm, tip abruptly acuminate-caudate, boat-shaped, but this is lost in older leaves which are split at the tip and apparently bilobed. Peduncle to 30 cm long, bearing 3-7 syncarps each of which globose to sub-globose, about 6 cm in diameter when mature.

Endemic to limestone in Malaya. Common on some of the limestone hills around Gua Musang in Kelantan; often a conspicuous feature of the precipitous, pinnacled ridges.

Pandanus odoratissimus L.f., Suppl. (1781) 424; Stone, M.N.J. 21 (1968) 3.

P. fascicularis Lam., in Ridl. Fl. 5 (1925) 72; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 82.

P. tectorius Sol. ex Balf.f., J. Linn. Soc. 17 (1878) 63.

Pandanus piniformis Holtt. & St. John, Pac. Sci. 16 (1962) 224; Stone M.N.J. 21 (1968) 130.

Plant forming clumps, stem 3-4 m tall. Leaves about 3 m long and 4-7 cm wide; glaucous beneath. Penduncle about 30 cm long, bearing up to 7 heads of syncarps, each ovoid and 6-11 cm long.

Endemic to limestone in Malaya, and so far known only from limestone in the Pulai area in Perak.

Pandanus recurvatus St. John, Pac. Sci. 19 (1965) 227; Stone, M.N.J. 19 (1965) 210; id., 21 (1968) 136.

STEMONACEAE

Stemona tuberosa Lour., Fl. Cochinch. (1790) 404; Ridl., Fl. 4 (1924) 320; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 82; Hutch., Fam. Fl. Pl. 2 (1959) 656. *S. curtisii* Hk.f., F.B.I. 6 (1892) 298.

TACCACEAE

Tacca leontopetaloides (L.) Ktze, Rev. Gen. Pl. 2 (1891) 704.

T. pinnatifida Forst., Char. Gen (1776) 70; Ridl., Fl. 5 (1925) 309; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 81.

TRIURIDACEAE

Sciaphila asterias Ridl., J.F.M.S. Mus. 6 (1915) 188; id., Fl. 4 (1924) 365; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 82.

Endemic to Malaya, uncommon; often on limestone but also on the mountains. Recorded from Langkawi, Gua Ninek, and Batu Bayan in Kelantan, and on Gua Tipus in Pahang.

NOTE

TYPHACEAE

Typha angustifolia L.

A very widely distributed plant found throughout the world between the arctic circle and lat. 35 degrees South; in marshy places; not uncommon in Malaya in such places. Recorded from swampy ground at the base of limestone cliffs near Ipoh, Perak.

ZINGIBERACEAE

- | | |
|--|------------------------------|
| 1. Leaves spirally arranged; sheaths tubular | 2 |
| Leaves arranged in 2 opposite vertical rows; sheaths open on the side opposite the blade | 3 |
| 2. Inflorescence at the apex of leafy shoots | <i>Costus speciosus</i> |
| Inflorescence on short leafless shoots at ground level | <i>Costus globosus</i> |
| 3. Staminodes (infertile stamens) on either side of the lip petaloid, conspicuous; free or adnate to the lip | 4 |
| Staminodes (infertile stamens) never petaloid, usually reduced to short, linear appendages or small teeth at the base of the lip | 10 |
| 4. Lip and filament joined for some distance above the insertion of petals and staminodes; filament much longer than lip | 5 |
| Lip and filament not so joined, filament usually shorter than lip | 7 |
| 5. Anthers with 4 appendages; leaves 3-4, broadly elliptic, 19-24 by 6.5-10 cm | <i>Globba patens</i> |
| Anthers with 2 appendages; leaves usually more than 7, narrowly elliptic, 19-29 by 3-5.5 cm | 6 |
| 6. Appendages of anther attached to the base of anther, their bases extending up along the side of anther | <i>Globba fasciata</i> |
| Appendages of anther spreading from about the middle of each side of the anther; their bases spreading along the whole length of each side of the anther | <i>Globa albiflora</i> |
| 7. Leafy stems to 2 m tall | <i>Zingiber spectabile</i> |
| Leafy stems short, less than 15 cm | 8 |
| 8. Bracts in 2 opposite rows, alternate and overlapping | <i>Boesenbergia curtisii</i> |
| Bracts not in 2 opposite rows | 9 |
| 9. Petiole and sheath to 6 cm long, scape enclosed by leaf-sheaths; anther-crest narrow, spathulate | <i>Kaempferia pulchra</i> |
| Petiole and sheath longer, scape exerted beyond leaf-sheaths; anther-crest as wide as long, or nearly so | <i>Kaempferia elegans</i> |
| 10. Inflorescence terminal on a leafy stem | <i>Catimbium speciosum</i> |
| Inflorescence not terminal but on a leafless peduncle from the rhizome or from the base of a leafy shoot | 11 |
| 11. Inflorescence surrounded at the base or covered all over by large overlapping sterile bracts; the floral bracts smaller | 12 |
| Inflorescence different | 15 |
| 12. Inflorescence on a long erect peduncle 40-80 cm, a common forest species, very rare on limestone | <i>Phaeomeria maingayi</i> |
| Inflorescence on a submerged short peduncle; inflorescence at ground level | 13 |
| 13. Bracts large, to 8 by 5 cm | <i>Achasma triorgyale</i> |
| Bracts smaller, usually less than 2.5 cm wide | 14 |

14. Petals longer than sepals, dorsal petal about 1 cm wide *Achasma macrocheilos*
 Petals as long as sepals, dorsal petal about 0.5 cm wide. *Achasma megalochelos*
15. Inflorescence with only 2 to 3 flowers, short. Fairly common in forest and waste grounds but very rare on limestone *Amomum biflorum*
 Inflorescence with numerous flowers, elongate, narrowly cylindric when old, with persistent, buff-coloured, papery bracts. Not uncommon on northern limestone .. *Amomum testaceum*

Achasma macrocheilos Griff., Notul. 3 (1851) 429; Holtt., Gard. Bull. S. 13 (1950) 188.

Hornstedtia macrocheilos Ridl., Fl. 4 (1924) 271.

H. metriocheilos Ridl., op. cit. 271; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80.

A common species in lowland forest. According to Henderson l.c., recorded from limestone in the Ipoh area, Perak.

Achasma megalochelos Griff., Notul. 3 (1851) 426; Holtt., Gard. Bull. S. 13 (1950) 191.

Hornstedtia megalochelos Ridl., Fl. 4 (1924) 270.

Achasma triorgyale (Bak.) Holtt., Gard. Bull. S. 13 (1950) 186.

Amomum triorgyale Bak., F.B.I. 6 (1892) 237.

Hornstedtia triorgyalis Ridl., Fl. 4 (1924) 269.

Endemic to Malaya, not common; recorded from limestone in Perak.

Amomum biflorum Jack, Mal. Misc. 1 (1820) 2; Bak., F.B.I. 6 (1892) 240; Holtt. Gard. Bull. S. 13 (1950) 199.

Elettariopsis pubescens Ridl., Fl. 4 (1924) 275.

Endemic and fairly common in Malaya in lowland forest and waste grounds. Once recorded from limestone.

Amomum testaceum Ridl., J. Str. Br. R. As. Soc. 32 (1899) 135; id., Fl. 4 (1924) 266; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 79; Holtt., Gard. Bull. S. 13 (1950) 205.

Leafy shoots 2-4 m tall. Leaves to 60 by 10 cm, base narrowly cuneate, sessile. Inflorescence elongating, narrow cylindrical, bracts persistent, papery, and buff-coloured.

Distributed in Borneo; in Malaya common especially in the North, very often on or near limestone, but not confined to it.

Boesenbergia curtisii (Bak.) Schltr. Fed. Rep. 12 (1913) 316; Holtt., Gard. Bull. S. 13 (1950) 112.

Gastrochilus curtisii Bak., Bot. Mag. (1894) t. 7363; Ridl., Fl. 4 (1924) 249; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 79.

Leafy stems short, to about 5 cm tall. Leaf to 40 by 12 cm, slightly asymmetric, elliptic; base cuneate. Bracts numerous, 4-5 cm long, narrow.

Endemic to limestone in Malaya; common in the North, growing on soil and from rock crevices in part shade.

Catimbium speciosum (Wendl.) Holtt., Gard. Bull. S. 13 (1950) 152.

Alpinia nutans Andr., in Ridl., Fl. 4 (1924) 277.

Costus globosus Bl., Enum. Pl. Jav. (1827) 62; Ridl., Fl. 4 (1924) 256; Holtt., Gard. Bull. 13 (1950) 243.

C. kingii Bak., in Ridl., sp. cit. 257.

C. velutinum Ridl., op. cit. 257.

Costus speciosus (Koen.) Sm., Trans. Linn. Soc. 1 (1800) 249; Ridl., Fl. 4 (1924) 256; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 79.

Globba albiflora Ridl., J. Str. Br. R. As. Soc. 32 (1899) 96; id., Fl. 4 (1924) 237. Holtt., Gard. Bull. S. 13 (1950) 31; Lim, Notes R. Bot. Gard. Edin. 31 (1972) 263.

Plant to 80 cm tall. Leaves 10-16, narrow, to 24 cm by 3-3.5 cm. Inflorescence 20-30 cm long; flowers with white corolla.

Endemic and found only on Penang Hill.

var **aurea** Holtt., l.c.

This differs from the typical form by having orange flowers and the longer lip 1 cm instead of about 0.6 cm long. Recorded once from Gua Lambok limestone, Kelantan (*Henderson 29115*).

Globba fasciata Ridl., J. Str. Br. R. As. Soc. 57 (1910) 101; id., Fl. 4 (1924) 136; Holtt., Gard. Bull. S. 13 (1950) 28; Lim, Notes R. Bot. Gard. Edin. 31 (1972) 263.

Plant 30-50 cm tall. Leaves 5-8; 6-21 by 1.5-6 cm. Inflorescence 20-60 cm long. Flowers with orange corolla.

Endemic. Until recent collections from limestone, this species was known only from the type collection, *Ridley 14415*, from 'banks of woods by the Temengoh river'. The correct spelling of Ridley's 'Temengoh' is—Temengor'. This is in Upper Perak and as far as I know is not a limestone locality.

Recently (1970 & 1971) this species was collected from Gua Musang and Batu Neng (about 2 miles to the south west of Gua Musang), both limestone hills in Ulu Kelantan. The Gua Musang collections (*Chin 1420 & Stone 9524*) were from a small population of 6-10 scattered plants at and around the opening of the large cave half-way up the hill, on the side facing Gua Musang town. They were growing in small pockets of accumulated soil and humus and from crevices in limestone ledges in this fairly sheltered locality which is at about 100 m elevation. The Batu Neng specimen (*Chin 1543*) was solitary and growing in a similar sheltered situation in a small shallow gully on the lower half of the outcrop.

It may be interesting to note that this new locality for the species is about 50 miles to the south-east of the type locality in Upper Perak and separated from it by the

main range of mountains which are all well above 1500 m. This species is probably more common than originally thought.

Globba patens Miq., Fl. Ind. Bat. Suppl. (1860) 613; Lim, Notes R. Bot. Gard. Edin. 30 (1972) 259.

G. aurantiaca Miq., in Ridl., Fl. 4 (1924) 239; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80; Holtt., Gard. Bull. S. 13 (1950) 36.

Plant to 60 cm tall. Leaves 3-6, broadly elliptic, 19-24 by 6.5-10 cm. Inflorescence 15-30 cm long; flowers with orange corolla.

Distributed in Sumatra; not uncommon in lowland and mountain forest and with only one record from limestone.

Kaempferia elegans Wall., Cat. (1832) 6593; Hk.f., F.B.I. 6 (1890) 222; Ridl., Fl. 4 (1924) 245; Henders., J. Mal. Br. R. As. Soc. (1939) 80.

Kaempferia pulchra Ridl., J. Str. Br. R. As. Soc. 32 (1899) 107; id., Fl. 4 (1924) 245; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80.

Stem short, leaves 2-3, 8-4 cm, asymmetric, elliptic. Scape of inflorescence enclosed by leaf-sheaths.

Distributed in peninsular Thailand; in Malaya apparently restricted to limestone in the extreme North. Very similar to *K. elegans*, but slightly smaller in size. There is supposedly some floral differences but this is referred to with some doubt. More specimens are needed for verification.

Phaeomeria maingayi (Bak.) K. Schum., Pflzr. Zingib. (1904) 266; Ridl., Fl. 4 (1924) 272; Holtt., Gard. Bull. S. 13 (1950) 180.

Amomum maingayi Bak., F.B.I. 6 (1892) 180.

Zingiber spectabile Griff., Notul. 3 (1853) 414; Ridl., Fl. 4 (1924) 258; Henders., J. Mal. Br. R. As. Soc. 17 (1939) 80; Holtt., Gard. Bull. S. 13 (1950) 56.

Endemic to Malaya, found throughout in lowland forest, recorded once from limestone.

Literature Cited

Anderson, J.A.R. (1963). The Flora of the Peat Swamp Forest of Sarawak and Brunei Including a Catalogue of all Recorded Species of Flowering Plants, Ferns and Fern Allies. *Gard. Bull. Sing.* 20: 131-227.

— (1965). Limestone Habitat in Sarawak. In: *Symposium on ecological research in humid tropics vegetation*, Kuching, Sarawak: 49-57. UNESCO Science Cooperation Office for Southeast Asia.

Braun-Blanquet, J. (1932). *Plant Sociology: the study of plant communities*. (Translation of ed. 1). McGraw-Hill, New York.

- Van den Brink, Bakhuizen R.C. (1933). Enumeration of Malayan Ebenaceae. *Gard. Bull. Str. Settlement* 7: 161-189.
- (1936-41). Revisio Ebenacearum Malayensium. *Bull. Jard. Bot. Buit. ser. 3*, 15: 1-515.
- Bullock, J.A. (1963). Notes on the Cave Faunas of two Limestone Massifs in the Taman Negara. *Malay. Nat. Jour.* 17: 46-52.
- (1965). The Ecology of Malaysian Caves. *Malay. Nat. Jour.* 19: 57-64.
- Burkill, I.H. (1935). *A Dictionary of the Economic Products of the Malay Peninsula*. 1966 impr. Ministry of Agriculture and Cooperatives, Kuala Lumpur.
- Corner, E.J.H. (1952). *Wayside Trees of Malaya*, 2 vols. 2nd. ed. Government Printing Office, Singapore.
- (1960). The Malayan Flora. In: Purchon, R.D. (ed.), *Proceedings of the Centenary and Bicentenary Congress of biology*, Singapore: 21-24.
- Curtis, C. (1894). A Catalogue of the Flowering Plants and Ferns Found Growing Wild in the Island of Penang. *Jour. Str. Br. R. As. Soc.* 25: 67-163.
- Dunn, F.L. (1965). Gua Anak Takun: ecological observations. *Malay. Nat. Jour.* 19: 75-87.
- Evans, I.H.N. (1920). Cave-dwellings in Pahang. *Jour. Fed. Malay. States Mus.* 9: 37-52.
- Gobbett, D.J. (1965). The Formation of Limestone Caves in Malaya. *Malay. Nat. Jour.* 19: 4-12.
- (1965a). The Lower Palaeozoic Rocks of Kuala Lumpur, Malaysia. *Fed. Mus. Jour.* 9: 67-79.
- Henderson, M.R. (1939). The Flora of the Limestone Hills of the Malay Peninsula. *Jour. Malay. Br. R. As. Soc.* 17: 13-87.
- Hutchison, C.S. (1963). Interesting Coastal Exposures East of Kuah, Pulau Langkawi. *Malay. Nat. Jour.* 17: 165-169.
- (1968). Physical and Chemical Differentiation of West Malaysian Limestone Formation. *Bull. Geo. Soc. Malay.* 1: 45-56.
- Ingham, F.T. & Bradford, E.F. (1960). The Geology and Mineral Resources of the Kinta Valley, Perak. *Fed. Malay. Geo. Surv. district memoir* 9, Kuala Lumpur.
- Jackson, B.D. (1928). *A Glossary of Botanical Terms*, ed. 4, 1971 impr.). Gerald Duckworth & Co., New York.
- Keng, H. (1969). *Orders and Families of Malayan Seed Plants*. University of Malaya Press, Malaya & Singapore.
- (1970). Size and Affinities of the Flora of the Malay Peninsula. *Jour. Trop. Geog.* 31: 43-56.
- Kloss, C.B. (1922). Some Account of the Journey on Which the Plants Were Collected. In: Ridley, H.N., On a Collection of Plants from Peninsular Siam. *Jour. Fed. Malay States Mus.* 10: 66-80.

- McClure, H.E. (1965). Microcosms of Batu Caves. *Malay. Nat. Jour.* 19: 65-74.
- Paton, J.R. (1961). A Brief Account of the Geology of the Limestone Hills of Malaya. *Bull. Raffles Mus.* 26: 66-75.
- _____. (1964). The Origin of the Limestone Hills of Malaya. *Jour. Trop. Geog.* 18: 134-147.
- Peacock, B.A.V. (1965). The Prehistoric Archeology of Malayan Caves. *Malay. Nat. Jour.* 19: 40-56.
- Poore, M.E.D. (1955). The Use of Phytosociological Methods in Ecological Investigations, I-III. *Jour. Ecol.* 43: 226-244, 245-269, 606-651.
- Rajah, S.S. (1970). Limestone Occurrences in Johore. *Bull. Geo. Soc. Malay.* 3: 131-133.
- Ridley, H.N. (1900). The Flora of Singapore. *Jour. Str. Br. R. As. Soc.* 33: 27-196.
- _____. (1911). An Account of a Botanical Expedition to Lower Siam. *Jour. Str. Br. R. As. Soc.* 59: 27-234.
- _____. (1922-25). *The Flora of the Malay Peninsula.* 5 vols. L. Reeve, London.
- Schimper, A.F.W. (1903). *Plant Geography upon a Physiological Basis* (transl. by Fisher, W.R.). Clarendon Press, Oxford.
- Scrivenor, J.B. (1931). *The Geology of Malaya.* MacMillan & Co., London.
- _____. (1949). Geological and Geographical Evidences for Changes in Sea-level During Ancient Malayan History and Late Pre-history. *Jour. Malay. Br. R. As. Soc.* 20: 107-115.
- Van Steenis, C.G.G.J. (1934). On the Origin of the Malaysian Mountain Flora, I & II. *Bull. Jard. Bot. Buit.* ser. 3, 13: 135-262, 289-417.
- Van Steenis-Kruseman, M.J. (1974). Malesian Plant Collectors and Collections, Supplement II, *Flora Malesiana*, ser. I, 8, part 1.
- Suntharalingam, T. (1968). Upper Palaeozoic Stratigraphy of the Area West of Kampar, Perak. *Bull. Geo. Soc. Malay.* 1: 1-15.
- Symington, C.F. (1943). Foresters' Manual of Dipterocarps. *Malay. Forest Rec.*, No. 16. Forest Department, Kuala Lumpur. 1974 Impr., Penerbit Universiti Malaya, Kuala Lumpur.
- Tweedie, M.W.F. (1940). Report on Excavations in Kelantan. *Jour. Malay. Br. R. As. Soc.* 18: 1-22.
- _____. (1947). The Mollusca of the Malayan Limestone Hills. *Malay. Nat. Jour.* 2: 33-37.
- Walker, D. (1956). Studies in the Quaternary of the Malay Peninsula, I. Alluvial deposits of Perak and changes in the relative levels of land and sea. *Fed. Mus. Jour.* 1 & 2: 19-34.
- Whitmore, T.C. (ed.) (1973). *Tree Flora of Malaya: a manual for foresters.* Vol. 2. Malayan Forest Records No. 26. Forest Department, Ministry of Primary Industries, Malaysia. Longman, Kuala Lumpur.

Index to Specimens

The Index to Specimens is a list of all specimens examined. Species names are arranged in the alphabetical order of the genus and then of their epithets. The order of citation is: species, collector(s)' name(s) and collection number(s), all printed in italics. A full list of collectors in this index is found in Part I of this paper (Gard. Bull. vol. xxx (1977) 168-170). Where a species is represented by more than one specimen and collected by different persons, the collectors' names are arranged alphabetically. Only collectors' surnames or, in their absence, their principal names are cited. A name, if followed by 'et al.', indicates that the specimen has been collected by more than two individuals. When a collecting number is absent, the date of the collection, which is printed in roman is cited instead. Months are indicated in Roman numerals; Twentieth Century years are abbreviated to, e.g. '41 (= 1941) but Nineteenth Century ones are in full. The few specimens with neither number nor date are listed as 's.n. & s.a.' (since numero & sine annum), followed (if available) by an accession number prefixed by the code of the Herbarium which houses them. KEP and FRI are herbarium codes for the Forest Research Institute, Kepong, KLU, for the University of Malaya, and SING, for Singapore.

Abacopteris urophylla (Wall.)Ching: Chin 588, 710. *Abdominea minimiflora* (Hk.f.)J.J.S.: Carr 9; Ridley xii 1896. *Abutilon indicum* (L.)Sweet: Henderson 22994. *Acalypha lanceolata* Willd.: Molesworth-Allen 4847. *Acampe longifolia* Lindl.: Corner 19 xi 41. *Achasma megalochelios* Griff.: Burkhill 6292. *A. triorgyale* (Bak.)Holt.: Curtis 3317. *Acotrema costatum* Jack.: UNESCO 202. *Actephila excelsa* (Dalz.)M.A.: Henderson 19521; Ng FRI 1799; Whitmore FRI 4239. *A. ovalis* (Ridl.)Gage: Best 21204; Corner 28 xi 41; Henderson 23005, 29111; Kiah 35247; Stone 6937. *Adenia nicobarica* (Kurz)King: Boey 541; Chin 525, 1745; Stone 6991. *Adenoncos major* Ridl.: Henderson 22257, 22570; UNESCO 291, 433. *A. parviflora* Ridl.: Chin 418 A; Kelsall i 1891. *A. sumatrana* J.J.S.: Chin 418 B; Dransfield 914; Henderson 22447, 22576; Nur 34401; Ridley 1891. *Adenosma capitatum* Benth. ex Hance.: Corner 37825; Henderson 29103. *Adiantum malesianum* Ghatak: Burkhill 13933; Chin 84; 319; Corner & Henderson 23009; Curtis xii 1895; Evans 266; Haniff 4048; Henderson vii 29; Johnson s.n. KLU; Kiah 35240; King's coll. 8351; Merton 4102; Samat 128; Shimizu & Fukuoko M14134; Sinclair 40058; Stone 5912, 6572, 7299, 8979. *A. soboliferum* Wall. apud HK.: Haniff & Nur 7523; Holtum 15145; Kiah 35241. *A. stenocheilum* Bak. Corner 21 xi '41, 22 xi '41; Henderson 29706. *A. tenerum* Sw.: Chin 357, 812. *A. zollingeri* Mett. ex Kuhn.: Corner & Henderson 22818. *Aerides odoratum* Lour.: Chin 1274A; Gimlette 12 viii '17. *Aeschynanthus parvifolia* R.Br.: Chin 1441, 1812; Stone 5889; UNESCO 239, 440. *A. radicans* Jack: Nur 34400; UNESCO 440A. *Agathis dammara* (Lambert)L.G.Rich.: Loh FRI 17201. *Aglaia argentea* Bl.: Stone 9139; UNESCO 503. *A. odoratissima* Bl.: Henderson 19553; King's coll. 10710; UNESCO 64. *Aglaonema costatum* N.E.Br.: Henderson 21 xi '34. *A. oblongifolium* Schott.: Burkhill 6301; Chin 1767; Henderson 22879, 29145; UNESCO 510. *Agrostistachys gaudichaudii* M.A.: Chin 895, 897; Ogata 110194; Samsuri & Mahmud 612. *Agrostophyllum bicuspidatum* J.J.S.: Chin 90, 453, 1142; UNESCO 327. *A. hasseltii* (Bl.) J.J.S.: Chin 1160. *Alchornea rugosa* (Lour.)M.A.: Stone 6945. *Aleurites moluccana* (L.) Willd.: Chin 560. *Allophylus cobbe* (L.)Raeusch. var. *glaber* Corner: Chin 109, 1398A, 1590; King's coll. 8206. *A. cobbe* (L.)Raeusch. var. *villosus* Corner: Chew 189; Kiah 35316. *Alocasia denudata* Engl.: Chin 694; Henderson 23836; UNESCO 481. *A. lowii* Hk.f. Boey 530; Chin 485, 834; Curtis x 1894; Henderson 22851, 23024; Ridley 1897; Sinclair 40071. *Alstonia scholaris* (L.)R.Br.: Chin 977. *Alyxia angustifolia* Ridl.: Chin 385, 571. *A. pumila* Hk.f.: Chin 1616; Henderson 19466; UNESCO 305. *A. selangorica* K. & G.: Ridley 8558. *Amaracarpus saxicola* Ridl.: Chin 1035, 1180, 1181, 1457; Ridley 11884. *Amomum biflorum* Jack.: Chin 730. *A. testaceum* Ridl.: Kiah 35236, 7 v '38; Ridley 13122. *Amorphophallus carnosus* Ridl.: Curtis s.n. & s.a. (SING); Ridley 15200. *A. haematospadix* Hk.f.: Corner 19 xi '41; Holtum 23 viii '25. *A. prainii* Hk.f.: Chin 22; Henderson 19467; UNESCO 438. *A. variabilis* Bl.: Curtis 2815. *Amydrium humile* Schott: Chin 395, 1143; Corner & Nauen 25 xi '41; Furtado B. 4 vi '37; Henderson 22995; Nur 3 xi '37; UNESCO 360, 686. *Anadendrum latifolium* Hk.f.: Henderson 19600. *A. marginatum* Schott: Henderson 25013; Ridley 20 vi 1889, 23 vi 1889. *A. montanum* Schott: Chin 727; Ridley 8172, 23 vi 1889, 13 xii '20. *Anaxagorea javanica* Bl.: Cockburn FRI 10563; UNESCO 42. *Andrographis tenuiflora* T. Anders.: Corner 19 xi '41; Corner & Nauen 25 xi '41; Curtis 2578; Henderson 21370; Holtum 15120. *Aneilema nudiflorum* Br.: Samat 3. *Antidesma japonicum* Sieb. et Zucc.: Chin 1509 A; Corner 30 xi '41; Kiah 35233; Sinclair 9865. *A. montanum* Bl.: Stone 6944. *A. tomentosum* Bl.: King's coll. 4808; Loh FRI 17195. *Antrophyum callifolium* Bl.: Chin 1613; Henderson 22466; UNESCO 247, 579. *A. parvulum* Bl. Burkhill 13932; Chin 143, 688, 358, 1116, 1182, 1475; Henderson 19699, 22248, 22260, 23890, 25024,

29681; Holttum 8924; Molesworth-Allen 1504; Nauen 38013; Samat 522; Shimizu & Stone M 13724; Stone 6571, 7456, 8822A; Whitmore FRI 4041. *A. semicostatum* Bl.: UNESCO 634. *Apluda mutica* L.: Chin 522; Corner & Nauen 37842; Henderson 28938. *Aporuellia sumatrensis* C.B. Clke var. *ridleyi* C.B. Clke: Allen 4339; Burkhill 6370; Chin 479, 1250; Curtis 2364; Ridley 8213, 23 vi 1889, xii '20; Stone & Wycherley 8986. *Aporusa stellifera* Hk.f.: King's coll. 7102. *Appendicula anceps* Bl.: Ridley 8130. *A. cornuta* Bl.: Chin 361; Stone 5919. *A. torta* Bl.: Chin 549, 1566; Kadim & Mrs. Molesworth-Allen K506; Stone 9514; UNESCO 36. *A. undulata* Bl.: Henderson 22457. *Arachnis flos-aeris* (L.)Rchb.f.: Henderson 22452; UNESCO 160. *Aralidium pinnatifidum* Miq.: UNESCO 79. *Arcypteris irregularis* (Pr.)Holt.: Chin 589. *Ardisia andamanica* Kurz: Chin 763; Samsuri 547. *A. biflora* K.et G.: Ridley 11933, ii '04. *A. colorata* Roxb.: Chin 477. *A. crenata* Sims: Chin 532. *A. fulva* K.et G.: Nauen 38119. *A. kunstleri* K.et G.: Corner 38145. *A. lanceolata* Roxb.: Burkhill 6352; UNESCO 665. *A. oxyphylla* Wall.: Henderson 29712; Kiah 35420; UNESCO 411, 508, 590. *A. pendula* Mez: Ridley 14935. *A. platyclada* K.et G.: King's coll. 8136. *A. solanacea* Roxb.: Henderson 21394. *A. tahanica* K.et G.: Henderson 19692. *A. vaughani* Ridl.: Best 21226; Kiah 35383, 2 v '38. *Areca triandra* Roxb.: Henderson 29081. *Arenga hookeriana* (Becc.) Whitm.: Chin 1547, 1600, 1601; Cockburn FRI 10580; Henderson 29673; Whitmore FRI 4032. *A. pinnata* (Wurm.)Merr.: Whitmore FRI 4267. *A. westerhoutii* Griff.: Chin 1463; Stone 8825. *Argostemma diversifolium* Ridl.: Ridley 14479. *A. inaequilaterum* Benn.: Chin 2108; Ridley 8233; Stone 8949. *A. pictum* Wall.: Holttum 17402. *Argyeia maingayi* (C.B.Clke)Hoogl.: Chin 1544; Stone 7313; UNESCO 28, 496. *A. mollis* (Burm.f.)Choisy: Chin 1735; Henderson 29108, Nauen 37953. *Arisaema fimbriatum* Mast.: Corner 13 xi '41, 19 xi '41, 20 xi '41; Ng FRI 1605; Nur 25160, 34376; Stone 8936; UNESCO 427. *A. roxburghii* Kunth: Chin 394, 1614; Henderson 25214; Nur 34394. *Artobotrys grandifolius* King: King's coll. 7222. *Arthraxon priomedes* (Steud.)Dandy: Corner & Nauen 25 xi '41. *Ascochilopsis myosurus* (Ridl.)Carr: Henderson 25246. *Asparagus racemosus* Willd.: Curtis 1674. *Asplenium adiantoides* (L.)C. Chr.: Chin 108, 1451, 1607, 1768; Corner & Henderson 22842, 23089; Henderson 22266; Molesworth-Allen 4429; Ridley 14756; Sinclair 9873; UNESCO 246, 261. *A. macrophyllum* Sw.: Chin 4, 320; Henderson 6 x '31; Mahmud 29 v '70; Poore 347; Ridley xii 1896; Samat 523; Samsuri & Mahmud 580; Shimizu & Stone M 13719, T 14376; Stone 7294, 8833. *A. pellucidum* Lamk.: Chin 544, 1075, 1450; Corner & Nauen 25 xi '41; Henderson 19529, 19693, 25236. *A. phyllitidis* Don: UNESCO 244, 471, 656. *A. salignum* Bl.: Chin 3; Henderson 19455, 25207; King's coll. 8130, 8424; Ng FRI 1612; Samat 521; Stone 8831; UNESCO 256, 526. *A. squamulatum* Bl.: Chin 8, 137, 321, 1415; Henderson 25076; Ridley xii 1896; Shimizu & Stone T 14354; Stone 7296, 8843. *A. unilateralale* Lamk.: King's coll. 7188; Molesworth-Allen 1505A; Ridley vii 1897. *Atalantia monophylla* DC.: Chin 516; Corner 37816; Henderson 29161; Kiah 35570; Stone 9085. *A. roxburghiana* Hk.f.: Chin 535, 1680, 1807; Chin & Mahmud 1308; Loh FRI 17197; Stone 8796, 9388; Symington KEP 37404. *Athyrium cordifolium* (Bl.)Copel.: Chin 682. *A. esculentum* (Retz.)Copel.: Chin 529. *A. montanum* (v.A.v.R.)Holt.: Chin 607. *A. pinnatum* (Blanco)Copel.: Henderson 22422. *Athyrium prescottianum* (Wall.)Holt.: UNESCO 517. *Axonopus compressus* (Sw.)Beauv.: Chin 106.

Baccaurea lanceolata (Miq.) M.A.: Henderson 23767. *Balanophora fungosa* Forst.: Henderson 22810. *Barleria siamensis* Craib.: Henderson 29150. *Barringtonia asiatica* (L.)Kurz: Henderson 29149. *B. fusiformis* King: Henderson 23796; Ridley 8284. *Bauhinia acuminata* L.: King's coll. 8288. *B. pottsii* G.Don: UNESCO 139, 653. *Becheria parviflora* Ridl.: Ridley 8250. *Begonia foxworthyi* Burk.: Henderson 25249, 29672; UNESCO 29, 234, 365. *B. guttata* Wall.: Holttum 15127. *B. kingiana* Irmsch.: Burkhill 6300; Burkhill & Haniff 13922; Chin 845, 1958; Curtis s.n. & s.a. (SING); Henderson 29705; UNESCO 395. *B. nurii* Irmsch.: Chin 153, 1121, 1406. *B. phoeniogramma* Ridl.: Burkhill 6362, 6366, 6367; Chin 1668, Kho 1 vii '74; Ridley 2882, 8281; Stone 8971; UNESCO 26. *Beilschmiedia lumutensis* Gamble: UNESCO 504. *Berrya cordifolia* (Willd.)Burret: Henderson 29148. *Bidens pilosa* L.: Chin 1093. *Biophytum adiantoides* Wight ex Edgew. et Hk.f.; Kiah 35246. *Blechnum finlaysonianum* Hk. et Grev.: Chin 672. *Boea acutifolia* Ridl.: Chin 1769; Henderson 23014; Stone 6916. *B. brachycarpa* Ridl.: Henderson 19668; UNESCO 303, 560, 593. *B. caeruleascens* Ridl.: Chin 441, 1066; Henderson 25048; King's coll. 7062, 7175, 8276; Mills & Henderson 15062, 15068a, Ng FRI 1610; Stone 7449; UNESCO 154, 264, 339, 429; Whitmore FRI 4253. *B. divaricata* Ridl.: Corner 20 xi '41; Stone 6915. *B. lanata* Ridl.: Alphonso & Samsuri 89; Chin 1727; Henderson 21400; Holttum 15139; Nauen 37894. *B. minutiflora* Ridl.: Henderson 22392. *B. paniculata* Ridl.: Alphonso & Samsuri 88; Chin 327, 393, 1251; King's coll. 7026, 8271; Mills & Henderson 15068; Sinclair 9872, 40072. *B. parviflora* Ridl.: King's coll 7108. *B. suffruticosa* Ridl.: Corner 37811. *B. treubii* Forbes: Henderson 19459. *B. verticillata* Ridl.: Best 21280; Chin 33, 326, 411, 1252; Henderson 19459, 2 vi '30; Kiah 9 v '38; Nauen 38021; Ng FRI 1628; Nur 34366; Stone 8935; Stone & Mahmud 9399. *Boehmeria nivea* Hk. & Arn.: Kiah 35427. *Boerhaavia chinensis* (L.)Aschrs. &

Schweinf.: Henderson 23115; Ridley 15153. *Boesenbergia curtisii* (Bak.) Schl.: Best 21259; Chew 133; Chin 512; Corner 13 xi '41; Curtis 2678; Haniff & Nur 7494; Henderson 22874, 25015, 25086, xi '29. *Bombax anceps* Pierre: Corner 19 xi '41; Henderson 29098. *Borassodendron machadonis* (Ridl.) Becc.; Whitmore FRI 4031. *Brassaiaopsis polycantha* (Wall.) R.N. Ban.: Henderson 25212. *Breynia vitis -idaea* (Burm.f.) Fisher: Chin 1385; Stone 7464. *Bridelia ovata* Decne: Henderson 21395; Stone 9079. *B. stipularis* (L.) Bl.: Corner 38131. *B. tomentosa* Bl.: Best 21273; Corner & Nauen 25 xi '41; Stone & Wycherley 8978. *Buchanania sessilifolia* Bl.: UNESCO 201. *Bulbophyllum apodium* Hk.f.: Chin 121, 458; UNESCO 212. *B. concinnum* Hk.f.: Allen xii '56; UNESCO 297. *B. fenestratum* J.J.S.: Carr 263; UNESCO 133, 362. *B. flammuliferum* Ridl.: Allen xii '56. *B. lilacinum* Ridl.: Corner 38133; Henderson 22804, 29088. *B. membranaceum* T. et B.: Chin 548, 1115. *B. pulchellum* Ridl.: Stone 7455. *Burmannia championii* Thw.: Chin 1829; UNESCO 50. *B. lutescens* Becc.: Henderson 21383. *Buxus holttumiana* Hatusima: Chew 181; Kiah 35239. *B. malayana* Ridl.: Allen 5 ii '57; Chin 54, 376, 1162; Loh FRI 17226; Mills & Henderson 15078; Nur 34382; Stone 5906, 8944; UNESCO 12 & 180. *B. rupicola* Ridl.: Curtis 2662.

Caesalpinia crista L.: Henderson 29110. *Calamus balingensis* Furt.: Furtado 33073. *C. concinnus* Mart.: Haniff & Nur 7087. *C. ornatus* Bl. var. *horridus* Becc.: Chin 605. *C. siamensis* Becc. var. *malaianus* Furt.: Henderson 23028. *Calanthe ceciliae* Rchb.f.: Carr 14; Henderson 22354, 25002. *C. rubens* Ridl.: Corner 20 xi '41; Curtis 2182, 1890; Ridley 14976. *C. triplicata* (Will.) Ames.: Chin 893, 1033; Henderson 22275, 23761; UNESCO 227. *C. vestita* Lindl.: Ridley xii 1896. *Callicarpa angustifolia* K. & G. Chin 341, 443, 1067; Corner 38127; Henderson 19597, 22265, 23757, 23805, 25049, 29152; Ng FRI 1637, 1798; Nur 34369; Ridley 8207; Stone 5896, 6926; UNESCO 146, 605. *C. lanata* L.: Chin 809; Henderson 23754; UNESCO 63. *Camarotis apiculata* Rchb.f.: Haniff 10331; Henderson 22449; Ridley 1891. *Cananga odorata* (Lamk.) Hk.f. et Th.: King's coll. vii 1883. *Canarium perlisanum* Leen.: Kiah 35311. *C. pilosum* Benn.: Loh FRI 17208. *C. pseudodecumanum* Hochr.: Loh FRI 17257. *Canscora pentanthera* C.B. Clke: Burkill 2554; Chin 340, 437, 803, 1534; Hardial & Sidek 476; Henderson 19458, 21380, 23118; Kiah 35371; Nauen 38026; Ng FRI 1632; Nur 34396; Sinclair 9868, 40065; Spare 36318; Stone 7460; UNESCO 285, 446. *Canthium aciculatum* Ridl.: UNESCO 388. *C. didymum* Roxb.: Chin 27, 1377. Stone 6923. *Capparis diffusa* Ridl.: Chin 870, 1069, 1104; Ridley 15174; Stone 6988. *C. pubiflora* DC.: Henderson 22319. *Capsicum frutescens* L.: Chin 939, 1100. *Carallia brachiata* (Lour.) Merr.: Chin 980; Kiah 35377; Soepadmo ix 68. *Cardiopteris javanica* Bl.: Henderson 22820. *Carex breviscapa* C.B. Clke: UNESCO 56. *C. malaccensis* C.B. Clke: Chin 1712, 1724. *C. perakensis* C.B. Clke: UNESCO 277. *C. speciosa* Kunth: Chin 436, 1378; UNESCO 314, 568. *Caryota mitis* Lour.: Chin 553; Chin & Badaruddin 1691; Henderson 22486, 29068; Ridley 13452. *Casearia capitellata* Bl.: Chin 755; Samsuri 543. *C. grewiaeefolia* Vent.: UNESCO 538. *Cassia timoriensis* DC.: Best 21276. *Catimbium speciosum* (Wendl.) Holtt.: Ridley 14776. *Cayratia japonica* (Thunb.) Gagn.: Nur 3 xi '37. *C. mollissima* (Wall.) Gagn.: Chin 1428, 1513; Henderson 23751. *Celtis philippensis* Blanco: Chin 1758, 1783; Corner 17 xi '41; Kiah 35413; Loh FRI 17176; Stone 6982; UNESCO 214. *Centotheca lappacea* (L.) Desv.: Chin 58, 105, 1380; Corner 22 xi '41; Henderson 29189. *Centranthera hispida* R.Br.: Henderson 29057. *Ceratostylis pendula* Hk.f.: UNESCO 455. *Cheilanthes farinosa* (Forsk.) Hk.f.: Chin 433; Nauen 38027. *Chiocanthus calciculus* (Kerr) Kew: UNESCO 346. *Chirita caliginosa* C.B. Clke: Burkill 2253, 2258; Chin 331, 390; Corner 37832; Curtis 3109; Hardial & Sidek 477; Henderson 22419, 25033, 25223; King's coll. 7028; Ng FRI 1629; Nur 34389; Samsuri & Mahmud 560; Sinclair 10732, 40066; Smith 435; Stone 5897, 6570, 8934; Wycherley & Stone 8988. *C. hamosa* R.Br.: Henderson 29185. *C. rupestris* Ridl.: Corner & Nauen 25 xi '41; Henderson 22816; Nauen 38120A. *C. sericea* Ridl.: Burkill 2552, 6284; Corner & Nauen 25 xi '41; Curtis 3131; Sinclair 9844. *C. viola* Ridl.: Chin 505; Corner 13 xi '41; Curtis 2570; Henderson 28931, 29185; Holttum 17433; Keng et al. 6142 & 6239; Molesworth-Allen 15 xii '50; Nauen 38120B; UNESCO 268. *Chloranthus elatior* R. Br. ex Link: Chin 585, 676, 1666. *Chlorophytum orchidastrum* Lindl.: Burkill & Haniff 13910; Chew 177; Curtis 3211. *Chrysopogon aciculatus* (Retz.) Trin.: Chin 377. *C. fulvus* (Spreng.) Chiov.: Haniff 649. *C. orientalis* (Desv.) A. Camus: Corner & Nauen 37840; Henderson 29058. *Cinnamomum iners* Reinw. ex Bl.: Corner & Nauen 25 xi '41; UNESCO 487. *Cissus discolor* Bl.: Chin 1755; Corner 38138; Corner & Nauen 25 xi '41; Henderson 21472. *C. glaberrima* (Wall.) Steud.: Henderson 29067; Ng FRI 1631; Nur 34399. *C. hastata* Miq.: Chin 110, 404; Henderson 22256, 23807, 25050; Nur 8472; Stone 5909, 7306, 9493; UNESCO 141, 236, 558. *C. novemfolia* (Wall.) Planch.: Burkill & Haniff 13938. *C. pyrrhodiasys* Miq.: Chin 490; Corner 20 xi '41; UNESCO 242. *C. repens* Lamk.: Chew 188; Chin 1741; Corner 37804; Henderson xi '34; Holttum 22 viii '25. *C. rostrata* (Miq.) Planch.: Chin 398, 1384; Corner 38139; Stone 8836. *Citrus macroptera* Montr.: Loh FRI 17183. *C. medica* L.: UNESCO 1017. *Cladogynos orientalis* Zipp. ex Span.: Chew 132;

Chin 907, 1487, 1561; *Henderson* 29678; *Loh FRI* 17163; *Whitmore FRI* 4236. *Claoxylon longifolium* (Bl.)Endl. ex Hassk.: *Henderson* 21391; *Kerr* 21700. *Clausena excavata* Burm.f.: *Chin* 345, 438, 818, 1086; *Corner & Nauen* 25 xi '41. *C. harmandiana* (Pierre)Guill.: *Henderson* 23820. *Cleidion javanicum* Bl.: *Chin* 57; *Mahmud* 9 v '70; *Whitmore FRI* 4240. *Cleistanthus decurrens* Hk.f.: *King's coll.* 11285; *Loh FRI* 17162. *C. gracilis* Hk.f.: *Chew* 186; *Chin* 103, 826, 898, 1057; *Corner* 20 xi '41; *Henderson* 23830; *Holttum* 15119; *Loh FRI* 17165; *Molesworth-Allen* 4292. *C. hirsutulus* Hk.f.: *King's coll.* 5870. *C. kingii* Jabl.: *Burkill* 6270; *Henderson* 23789, 23801. *C. macrophyllus* Hk.f.: *Chin* 859; *Samsuri & Mahmud* 603. *C. polyphyllus* Wall.: *Chin* 25. *Clerodendron paniculatum* L.: *Best* 21281; *Corner & Nauen* 25 xi '41; *Nauen* viii '41. *C. penduliflorum* Wall.: *Chin & Mahmud* 1278; *Henderson* 19445. *C. serratum* Spr.: *Chin* 29, 796; *Chin & Badaruddin* 1709; *Samsuri & Mahmud* 569; UNESCO 330. *Clidemia hirta* (L.)Don.: UNESCO 600. *Cnesmone javanica* Bl.: *Whitmore FRI* 751. *C. subpellata* Ridl.: *Chin* 330, 1247. *Coelogyne aspera* Lindl.: *Chin* 138, 1440; UNESCO 48, 218. *C. pallens* Ridl.: *Allen* 27 i '57. *C. pandurata* Lindl.: *Chin* 552; *King's coll.* 7176. *Coffea canephora* Pierre ex Froehner: *Chin* 914; *Samsuri & Mahmud* 617. *C. malayana* Ridl.: *Henderson* 23808. *Coix lacryma-jobi* L.: *Chin* 1520. *Colocasia esculenta* (L.)Schott: *Mahmud* 9 iii '71. *C. gigantea* (Bl.)Hk.f.: *Burkill* 2266, 6275; *Chin* 831A; *Henderson* 22331, 22359; *Stone* 9495. *Colona merguensis* (Planch. ex Mast.)Burr.: *Boey* 521; *Chin* 1763; *Corner* 38137; *Henderson* 21387, 23026; *Soepadmo & Mahmud* 1216; *Whitmore FRI* 15065. *Colubrina asiatica* (L.)Brongn.: UNESCO 570. *Combretum latifolium* Bl.: *Chin* 832; *Samsuri & Mahmud* 583. *C. porterianum* (C.B. Clke)Wall ex Craib: *Burkill* 6288. *Connarus* sp.: *Chin* 1424; *Everett FRI* 14391; *Whitmore FRI* 4268. *Congea vestita* Griff.: UNESCO 606. *Cordia griffithii* C.B. Clke: *Henderson* 29155. *C. obliqua* Willd.: *Henderson* 29155; *Kiah* 35418. *Corybas mucronatus* (Bl.)Schltr: *Allen s.n. & s.a.* (SING); *Chin* 94, 355. *Corymborchis rhytidocarpa* (Hk.f.)Holtt.: *Molesworth-Allen* 4435. *C. veratrifolia* Bl.: *Burkill* 6345; *Chin* 1588. *Costus globosus* Bl.: *Chin* 134, 606, 709. *C. speciosus* (Koen.)Sm.: *Chin* 1581, 1754. *Cotylelobium malayanum* V.Sl.: *Chin* 774. *Cratoxylum maingayi* Dyer: *Chin* 113, 1398, 1459; *Stone* 9496; UNESCO 321; *Whitmore* 4271. *Crinum defixum* Kerr.: *Henderson* 26 xi '34. *Croton cascarilloides* Raeusch.: *Chin* 150, 815, 1050; *Corner* 37802; *Henderson* 23012, 28930; *Kiah* 35242; *King's coll.* 8419; *Ng FRI* 5536. *Samsuri & Mahmud* 576; *Stone* 6936, 7450. *C. laevisfolius* Bl.: *Chin* 926; *Samsuri & Mahmud* 618. *Crypsinus enervis* (Cav.)Copel.: UNESCO 103. *Cryptocarya griffithiana* Wight: *Chin* 1246. *Cryptocoryne affinis* N.E.Br.: *Chin* 1480. *C. minima* Ridl.: UNESCO 279. *C. purpurea* Ridl.: UNESCO 607. *Ctenopteris alata* (Bl.)Holtt.: *Chin* 147; UNESCO 59, 361. *C. moultoni* (Copel.)C.Chr. et Tard.: *Henderson* 22253. *Curanga amara* Juss.: *Burkill* 13925. *Curculigo latifolia* Dryand.: *Mill & Henderson* 15074. *Cyathula prostrata* (L.)Bl.: *Chin* 869, *Stone* 8818. *Cycas rumphii* Miq.: *Chin* 799, 1148; *Stone* 9531-A; *Whitmore FRI* 4232. *C. siamensis* Miq.: *Chin* 1788; *Henderson* 23826; *Nauen* 38032; *Ng FRI* 1606; *Ridley* iii '10 (= SING 503403). *Cyclea laxiflora* Miers: *Chin* 985; *Stone* 7451; *Whitmore* 759. *Cyclopeltis crenata* (Fee)C.Chr.: *Chin* 478, 876, 1416; *Corner & Nauen* 25 xi '41; *Holttum* 15141; *King's coll.* 8282; *Nur* 3 xi '37; *Samat* 415; *Shimizu & Stone* T 14391. *Cyclosorus extensus* (Bl.)Ching: *Sinclair* 9869. *C. interruptus* (Willd.)Ching: *Kiah* 35250. *C. megaphyllum* (Mett.)Ching: *Phang* 15 xi '68. *C. unitus* (L.)Ching: UNESCO 262. *Cymaria dichotoma* Benth.: *Fox* 10686; UNESCO 555. *Cymbidium dayanum* Rchb.f.: *Kiah* 13 iv '38. *C. finlaysonianum* Lindl.: *Chin* 1814; *Corner* 19 xi '41. *Cymbopogon calcicola* Hubb.: *Chin* 434, 559, 1106; *Henderson* 21906, 25224; *Kiah* 13 v '38; *Mat* 36256; *Nauen* 38031. *Cynoctonum mitreola* (L.)Britt.: *Curtis* 2114; *Henderson* 28932; *Nauen* 37954. *Cynometra malaccensis* Meeuwen: *Chin* 835; *Loh FRI* 17234. *Cyperus kyllingia* Endl.: *Molesworth-Allen* 4271. *C. trialatus* (Boeck.)Kern.: UNESCO 190. *Cyrtandra cupulata* Ridl.: *Loh FRI* 17261. *C. lanceolata* Ridl.: UNESCO 547. *Cyrtosperma lasioides* Griff.: *Henderson* 22506.

Dacryodes kingii (Engl.) Kalkman ex Leenh.: *Henderson* 23800. *Dalbergia phyllanthoides* Bl.: *Henderson* 25054. *D. scorchedianii* Prain: *Henderson* 29694; UNESCO 322. *Davallia denticulata* (Burm.)Mett.: *Chin* 518, 1076; UNESCO 15, 627. *D. solida* (Frost) Sw.: *Chin* 1603. *Debregeasia squamata* King ex Hk.f.: *Molesworth-Allen* 4880; *Ridley* viii 1897; *Samsuri & Mahmud* 594. *Decaspermum fruticosum* J.R. et G. Forst.: *Allen* xii '56; *Chin* 55, 124, 374, 1164, 1255; *Henderson* 22272, 29695; *Nur* 34373; *Ridley* vii 1893; *Stone* 5911 & 8943; *Whitmore FRI* 4242, 4271. *Deeringia polysperma* (Roxb.)Miq.: *Chin* 442; *Henderson* 19520; *Kiah* 35362; *Molesworth-Allen* 4286; UNESCO 271, 597. *Dehaasia curtisiae* Gamble: *Chin* 155, 328, 375, 912, 1267, 1389, 1458, 1548; *Corner* 34389; *Stone* 5901, 8940, 9515; UNESCO 124; *Whitmore FRI* 753. *D. longipedicellata* (Ridl.)Kosterm.: UNESCO 80. *Dendrobium acerosum* Lindl.: *Chin* 1425; UNESCO 290. *D. aloifolium* (Bl.)Rchb.f.: *Chin* 120, 1567; *Stone* 9507; UNESCO 375. *D. excavatum* (Bl.)Miq.: *Henderson* 23017. *D. farmeri* Paxt.: UNESCO 315. *D. indivisum* (Bl.)Miq.: *Corner* 17 xi '41, 22 xi '41; *Henderson* 29089; *Stone* 6977. *D. langkawiense* Ridl.: *Corner* 19 xi '41. *D. leonis* (Lindl.)Rchb.f.: *Henderson* 22283. *D. pumilum* Roxb.: UNESCO 414. *D. salaccense* (Bl.)Lindl.: *Chin*

129, 1084; Chin & Badaruddin 1705; Henderson 23140, 25074; Nur 25156. *D. setifolium* Ridl.: Chin 1560. *D. spurium* (Bl.) J.S.: Chin 420; Henderson 22282, 25233; Nur 34397, 14 x '31; Stone & Anderson 8841; UNESCO 372, 445. *D. subulatum* (Bl.) Lindl.: Dransfield 913. *D. tetrodon* Rchb.f. ex Lindl.: UNESCO 444 & 456. *Dendrocalamus dumosus* (Ridl.) Holtt.: Corner 37839; Corner & Nauen 25 xi '41; Kiah 35409; Nauen 38017. *D. elegans* (Ridl.) Holtt.: Burkill 785; Chin 523; Henderson 29097. *Dendronide sinuata* (Bl.) Chew: Molesworth-Allen 4667, 4846, 4879 & 4887. *D. stimulans* (L.f.) Chew: Molesworth-Allen 4493, 4718, 4878, 4880. *Derris thyrsiflora* Benth.: Corner 22 xi '41. *D. uliginosa* (Roxb.) Benth.: Chin 609; Stone & Wycherley 8980. *Desmodium rugosum* Prain: Corner 37833; Henderson 28935. *D. umbellatum* DC.: Henderson 21 xi '34. *Desmos cochinchinensis* Lour.: Henderson 23762; Molesworth-Allen 4288. *D. dasymaschalus* (Bl.) Saff. var. *wallichii* (Hk.f. et Th.) Ridl.: King's coll. 4564; Stone 7487. *D. dunalii* (Hk.f. et Th.) Saff.: King's coll. 4483. *Dichanthium annulatum* (Forsk.) Stapf.: Corner & Nauen 37859, 25 xi '41; Nur 34367; Reid 29 x '50. *D. caricosum* (L.) A. Camus: Henderson 22270, 6 x '31. *D. mucronulatum* Jansen: Chin 379, 460, 1060, 1158, 1271; Ridley 8129, Stone 8938. *Dichloboea speciosa* (Ridl.) Stapf.: Chin 499; Corner 38134; Henderson 29186; Nauen 37956. *Dicliptera rosea* Ridl.: Ridley 15050. *Digitaria violascens* Link: Chin 575. *Dillenia indica* L.: Henderson 29560; UNESCO 209. *Dimocarpus longan* Lour. var. *longan* Leenah.: Henderson 23812. *Dioscorea bulbifera* L.: Chin 488; Stone 8847. *D. calcicola* Prain et Burk.: Corner & Nauen 25 xi '41; Stone 7462. *D. esculenta* (Lour.) Burk.: Haniff 641; Kiah 35416. *D. filiformis* Bl.: Burkill 2269, Chew 40996, Henderson 21389, 22882, 23004. *D. glabra* Roxb.: Corner 19 xi '41; Henderson 23098, 28939. *D. hispida* Dennst.: Henderson 21 xi '34. *D. polyclades* Hk.f.: Burkill & Haniff 13942. *D. prainiana* Kunth: Burkill 6308. *D. prazeri* Prain et Burk.: Henderson 22884. *D. pyrifolia* Kunth: Burkill 2265; Chin 930; Samsuri & Mahmud 619. *Diospyros adenophora* Bakh.: Chin 1154, 1167, 1168. *D. buxifolia* (Bl.) Hiern: UNESCO 320. *D. caulinflora* Bl.: Chin 775, 1551. *D. ferrea* (Willd.) Bakh.: Chin 126, 1390, 1555, 1592; Corner & Nauen 25 xi '41. *D. frutescens* Bl.: Chin 662. *D. transitoria* Bakh.: Chin 1833. *D. undulata* Wall. ex G. Don.: Stone 6935. *Diploclisia glaucescens* (Bl.) Biels: Stone 9398. *Dipodium pictum* (Lindl.) Rchb.f.: Henderson 22222. *Dipterocarpus oblongifolius* Bl.: UNESCO 343. *Dischidia benghalensis* Colebr.: Chin 1438; UNESCO 144. *D. hirsuta* Decne: Chew 146; Chin 132, 1037; Stone 7459; UNESCO 131, 233, 489. *D. rafflesiana* Wall.: Stone 6983. *D. scorchedianii* K. et. F.: UNESCO 681. *D. tomentella* Ridl.: Henderson 22802. *Distyliopsis dunnii* (F.H. Hemsl.) Endress: Chin 109, 1072, 1081; Stone 9492. *Distylium stellare* Ktze: Spare 36326. *Donax grandis* Ridl.: Chin 716, 1545. *Doryopteris allena* Tryon: Chin 1270; Ridley 8135. *D. ludens* (Wall.) J. Sm.: Chin 1726; Corner 17 xi '41, 19 xi '41; Corner & Henderson 22815; Henderson 29066. *Dracaena angustifolia* Roxb.: Chin 324; Kassim 17 viii '62; Ng FRI 1593; Stone 7297. *D. congesta* Ridl.: Chin 526; Corner 13 xi '41, 17 xi '41; Nur 34395. *D. curtisii* Ridl.: Haniff ix 1900; Wooldridge vi 1896. *D. graminifolia* Wall.: Chin 764; Samsuri 548. *D. nutans* Ridl.: UNESCO 178. *D. porteri* Bak.: Chin 1584. *D. yuccaeifolia* Ridl.: Chin 514. *Drynaria bonii* Christ.: Chin 1764. *D. quercifolia* (L.) J. Sm.: Chin 519; Corner 17 xi '41, 22 xi '41; UNESCO 474. *D. rigidula* (Sw.) Bedd.: Chin 406; Corner 19 xi '41; Henderson 29069, 29168; Nur 34368; Stone 8925. *D. sparsisora* (Desv.) Moore: Chin 1452. *Dryobalanops aromatica* Gaertn.f.: Chin 660. *D. oblongifolia* Dyer: Chin 620. *Drypetes nervosa* (Hk.f.) P. et H.: Scortechini s.n. & s.a. (SING). *D. oxyodonta* Airy Shaw: Chin 1169, 1387, 1453, Loh FRI 17174. *Dysoxylum arborescens* Miq.: Chin 954; Samsuri & Mahmud 633.

Echinodorus ridleyi Steen.: Ridley 8464. *Ehretia timorensis* D.C.: Chin 336, 777, 1248; Henderson 29115. *Elaeocarpus pedunculatus* Wall.: Chin 1262. *Elastostema curtisii* (Ridl.) H. Schrot.: Molesworth-Allen 4652. *E. latifolium* (Bl.) H. Schrot.: Burkill 13580; Chin 540, 597, 1611; Henderson 19503, 22329, 29083; Sinclair 9857. *Eleusine indica* (L.) Gaertn.: Chin 573. *Endospermum diadenum* (Miq.) Airy Shaw: Henderson 7 vi '30. *Enicosanthum congregatum* (King) Airy-Shaw: Ridley 24 vi 1889 (= SING 1367), xii 1896 (= SING 1368). *Ephemerantha fimbriata* (Bl.) P.F. Hunt et Summ.: Kiah 35365. *E. luxurians* (J.J. Sm.) Hunt et Summ.: Chin 47, 1101. *Epipremnum giganteum* Schott: Chin 971, 1681; Corner 20 xi '41; Henderson 23131. *Epithema saxatile* Bl.: Burkill 4223, 6274; Chin 392, 1404, 1759; Corner 20 xi '41; Corner & Nauen 25 xi '41; Henderson 19406, 22382, 22580, 22823, 22875, 25010, 25205, 29079; Holtum 15125; Keng et al. 6140; King's coll. 5872, 7046; Molesworth-Allen 4272, 4654; Ng FRI 1795; Sinclair 9846; Stone 8830; Stone & Mahmud 8400; UNESCO 147. *Erechtites valerianifolia* (Wolf) DC.: Chin 572. *Eria citrina* Ridl.: UNESCO 359. *E. leiophylla* Lindl.: UNESCO 301, 325. *E. nutans* Lindl.: UNESCO 453. *E. pannea* Lindl.: Henderson 22225. *E. pulchella* Lindl.: Chin 164, 421, 1144; Henderson 19465; Stone 7480; UNESCO 217, 302. *E. vestita* Lindl.: Chin 1065. *Eriobotrya bengalensis* Hk.f.: Chin 410, 1152, 1550; UNESCO 308, 466; Whitmore 19 iv '57. *Erismanthus obliquus* Wall. ex M.A.: Chin 1061 & 1090. *Ervatamia peduncularis* K. et. G.: Stone 6574. *Erythroxyllum cuneatum* (Miq.) Kurz: Chin 1048, 1268. *Eugenia chlorantha* Duthie: UNESCO 157. *E. claviflora* Roxb.: UNESCO 204. *E. pendens* Duthie:

Chin 902; UNESCO 66, 71, 507. *E. porphyranthera* Ridl.: *Chin* 1031. *E. spicata* Lamk.: King's coll. 4674. *Eulalia quadrinervis* (Hack.) Ktze: Corner & Nauen 37841; Henderson 29051. *Eulophia keithii* Ridl.: Curtis 2 collections, s.n., 1892; Ridley 14973, iii '10; Stone 6928. *Euonymus cochinchinensis* Pierre: *Chin* 1068, 1070, 1082, 1146; UNESCO 347. *E. javanicus* Bl.: UNESCO 150. *Eupatorium odoratum* L.: *Chin* 550. *Euphorbia antiquorum* L.: *Chin* 1749; Henderson 23025, 29167. *E. hirta* L.: Henderson 25052. *Eurycles amboinensis* (L.) Loud.: Ridley 14790. *Excoecaria oppositifolia* Griff.: Henderson 23794, 29164, 29675.

Fagraea auriculata Jack: *Stone* 5915. *F. blumei* G. Don: *Chin* 569. *F. calcarea* Henders.: Henderson 25036. *F. carnosia* Jack: *Chin* 367, 566, 1151; Henderson 6 x '31. *F. curtisii* K. et G.: *Chin* 910, 967, 1524; Samsuri & Mahmud 628; Whitmore FRI 4243. *Ficus annulata* Bl.: Corner 37851. *F. binnendykii* Miq.: Corner 31678; Henderson 29697. *F. botryocarpa* Miq.: Henderson 23771. *F. calcicola* Corner: Burkhill 6283; *Chin* 32, 370; Chin & Badaruddin 1701; Nur 34388; Symington all KEP 37426, 37451 & 39590; Whitmore FRI 12162. *F. curtipes* Corner: Chew 200; *Chin* 503; Corner 38143; Henderson 29073. *F. deltoidea* Jack: Best 21235; *Chin* 423, 972, 986, 1381, 1589; Corner & Nauen 25 xi '41; Henderson 19701, 29689, 35379; Nauen 38028; Nur 25161; Stone 7465; Whitmore FRI 4258. *F. elastica* Roxb. ex Hornem.: Curtis 3305. *F. hispida* L.f.: Corner 37899; Henderson 23132. *F. microcarpa* L.f.: Chew 205; *Chin* 123, 1102, 1149; Corner 38142; Henderson 21384. *F. montana* Burm.f.: Chew 125; Henderson 22441. *F. oligodon* Miq.: Best 21227. *F. parietalis* Bl.: Henderson 10 x '31. *F. racemosa* L.f.: Chew 197. *Ficus sagittata* Vahl.: Burkhill & Haniff 13945; Henderson 23753. *F. scortechinii* King: Best 21286. *F. semicordata* B. Ham. ex J.E. Smith: Turnau 1199. *F. stricta* Miq.: Ng FRI 5873. *F. subulata* Bl.: *Chin* 568, 646, 703, 712. *F. sundaca* Bl.: *Chin* 1272, 1810 & 1827. *F. superba* Miq.: Chew 206; *Chin* 491. *F. tinctoria* Forst.f.: Chew 208; Kiah 35422. *F. trichocarpa* Bl.: Nur 34387. *F. virens* Ait.: Henderson 23752, 25752. *Fimbristylis calcicola* Kern: Corner 19 xi '41. *F. fusca* (Nees) C.B. Clke: Corner & Nauen 37848; Henderson 29683; Nur 34378. *F. malayana* Ohwi: Corner & Nauen 37849; Henderson 29052. *F. trichophylla* Ridl.: Corner 19 xi '41; Corner & Nauen 37847; Henderson 29062, 29683; Nur 34378. *Flacourtie jangomas* (Lour.) Raeusch.: Kiah 35255. *Forrestia monosperma* C.B. Clke: *Chin* & Mahmud 1275A; UNESCO 428, 534.

Garcinia cowa Roxb.: *Chin* 768; Ogata FRI 110202; Samsuri 551. *G. eugeniaefolia* Wall. ex Anders.: Kiah 35368; UNESCO 354. *G. minutiflora* Ridl.: *Chin* 1418, 1596, 1722; Corner 13 xi '41, 37855; Curtis 2802; Henderson 22 xi '34; Kiah 35319. *G. montana* Ridl.: Ng FRI 1600. *G. murdochii* Ridl.: *Chin* 1147, 1253; Loh FRI 17175. *G. nigrolineata* Planch. ex T. Anders.: 556; UNESCO 612. *G. opaca* King: *Chin* 645; Cockburn FRI 10559; Henderson 19654. *Garuga floribunda* Decne: Whitmore FRI 4247. *Geophilia repens* (L.) Johnston: *Chin* 154, 1549; UNESCO 689. *Globba albiflora* Ridl. var *aurea* Holtz.: Henderson 29715. *G. fasciata* Ridl.: *Chin* 1420, 1543; Stone 9524. *G. patens* Miq.: Henderson 25015. *Glochidion obscurum* (Roxb. ex Willd.) Bl.: *Chin* 472; King's coll. 4630. *G. perakense* Hk.f.: *Chin* 835A; Samsuri & Mahmud 587. *G. rubrum* Bl.: *Chin* 350, 1256, 1682; Nur 34377; Reid 51679; Symington KEP 37413, KEP 37453. *Glossocarya mollis* Wall.: Henderson 23 xi '29. *Glycosmis calcicola* Stone: *Chin* 342, 373, 502, 959; Henderson & Symington KEP 43289; Samsuri & Mahmud 634; Stone 5907, 8789, 8846, 8937, 8977, 11004, 11078; Symington KEP 37420; Whitmore FRI 4040. *G. clacicola* Stone, var. *kelantanica* Stone: *Stone* 7479, 9521, 12611; Whitmore FRI 4255. *G. chlorosperma* (Bl.) Spreng.: UNESCO 506, 577. *G. rupestris* Ridl.: *Chin* 816, 904, 1491; Kiah 35229; Samsuri & Mahmud 578; Stone & Mahmud 12615; UNESCO 120. *G. sapindoides* Lindl. ex Wall.: *Stone* 6942. *Glyptopetalum quadrangulare* Prain ex King: *Chin* 334, 473, 1261; Kiah 35405; Ridley s.n. & s.a. (SING). *Gmelina asiatica* L.: *Chin* 937; Keng 6113. *G. villosa* Roxb.: *Chin* 793, 927. *Gnetum cuspidatum* Bl.: *Chin* 530; Chin & Badaruddin 1703; Henderson 19560. *G. gnemon* L.: *Chin* 652. *Gomphandra quadrifida* (Bl.) Sleum.: Kiah 35256. *Gomphia serrata* (Gaertn.) Kanis: *Chin* 555, 1074; Corner 37815, 37854. *Gomphostemma crinitum* Wall.: Burkhill 6298; Sinclair 9848. *G. curtisii* Prain: UNESCO 54. *G. javanicum* (Bl.) Benth.: Corner & Nauen 25 xi '41; Kiah 35381; UNESCO 355. *G. microcalyx* Prain: *Chin* 1558; Poore 16 vii '61. *Gongylosperma lanuginosum* Ridl.: Corner 37836; Curtis 2663; Henderson 29141; Stone 11024; Symington KEP 46742. *Goniothalamus fulvus* Hk.f. et Th.: UNESCO 394 & 532. *G. scortechinii* King: UNESCO 90. *G. subevenius* King: King's coll. 8260. *G. unvarioloides* King: Loh FRI 17192. *Goodyera hispida* Lind.: Allen xii '56; *Chin* 1425A; Chin & Badaruddin 1702; Stone 5925. *Grewia acuminata* Juss.: *Stone* 6930, 9175. *G. paniculata* Roxb. ex DC.: UNESCO 196, 521. *G. viminea* Wall. ex Burr.: *Chin* 1765, 1832; Corner 19 xi '41; Haniff & Nur 7487; Henderson 21377, 22814; Soepadmo & Mahmud 1219; Stone 11009. *Guettarda speciosa* L.: *Chin* 524, 1789; Holttum 15133; Stone 9141. *Gymnanthera insularum* K. et G.: *Chin* 506, 1743; Corner 19 xi '41. *Gymnopetalum cochinchinense* Kurz.: Burkhill 13937. *Gymnostachyum*

decurrens Stapf: Boey 267; Chin 91, 922, 1123, 1456, 1609; Corner 20 xi '41; Spare 36329; Stone 7458. *G. diversifolium* C.B. Clke: Henderson 29094; Holttum 15128.

Habenaria carnea N.E.Br.: Corner 37861, 20 xi '41; Curtis 2104. *H. kingii* Hk.f.: Best 337; Curtis 3342, xii 1895; vii 1896; (Anon.) xii 1895 (SING). *H. reflexa* Bl.: Carr 315; Corner & Nauen 25 ix '41. *Hanguana malayana* (Jack)Merr.: Chin 680; UNESCO 86, 86A. *Hapaline brownii* Hk.f.: Henderson 19510; Ridley 14784. *Hedyotis congesta* R.Br. ex Don: UNESCO 65. *H. coronaria* (Kurz)Craib: Henderson 22809, 29181; Sinclair 9858; UNESCO 155, 270, 490. *H. tenelliflora* Bl.: Chin 1744; Corner 13 xi '41; Henderson 28944, 29105; UNESCO 618. *Helicteres angustifolia* L.: Corner 37826, 37830; Holttum 17430. *H. hirsuta* Lour.: Chin 1711; Whitmore FRI 12995. *Helixanthera coccinea* (Jack)Dans.: Stone 7474. *H. pulchra* (DC.)Dans.: UNESCO 170, 329. *Hemigraphis ridleyi* C.B. Clke: Henderson 28933. *He-mionitis arifolia* (Burm.)Moore: Curtis xi 1890; King's coll. 4174. *Heritiera littoralis* Ait.: Chin 1786; Henderson 29169. *H. pterospermoides* Kosterm. Chin 824, 1183; Ng FRI 1790, 1792. *Heterogonium alderwereltii* Holt.: King's coll. 465; Ridley 864; Samat 599-607; Scortechnini s.n. & s.a. (SING); Smith 1966. *H. pinnatum* (Copel.) Holt.: Chin 426, 584, 594, 665; Evans 265; Henderson 19400, 22303, 22376, 22420, 25004; Keng 282; King's coll. 5871; Molesworth-Allen & Kadim 489; Ridley 13434, xii 1896; Samat 468, 472, 525, 593-598, 608-611; Sinclair 40062; Stone 7299B, 8822. *Heterostemma piperifolium* K. et G.: Burkhill 2556, 6265; Burkhill & Haniff 13931; Chin 28, 387, 413, 1508. *Hippeophyllum scortechnii* (Hk.f.)Schltr: Henderson 25090. *Holarrhena curtisii* K. et G.: Holttum 17428. *Homalanthus populneus* (Geisel.)Pax: Chin 781; Henderson 22301; Samsuri & Mahmud 558. *Homalanthus dasyanthum* (Turcz.)Warb.: Chin 497; Henderson 29116; Holttum 15096; Whitmore FRI 15101. *H. foetidum* (Roxb.)Benth.: Whitmore FRI 8518. *H. kunstleri* King: King's coll. 7109. *H. undulatum* King: Corner 38132; King's coll. 8184. *Homalomena argentea* Ridl.: Chin 648. *H. deltoidea* Hk.f.: Chin 593, 728, 1585. *H. griffithii* Hk.f.: UNESCO 280. *H. humilis* (Jack)Hk.f. var. *pumila* (Hk.f.) Furt.: Burkhill 2559, 6304. *H. rubra* Hassk.: UNESCO 101. *Homonoia riparia* Lour.: Loh FRI 17237. *Hopea ferrea* Llaness.: Corner 38149; Henderson 21 xi '34, 29157. *Horsfieldia tomentosa* Warb.: UNESCO 159. *Hoya coronaria* Bl.: Burkhill 6297; Chin 107, 797; Stone 5918. *H. latifolia* Don.: Chin 42; Stone & Mahmud 29 v '70. *H. maingayi* Hk.f.: UNESCO 125. *H. occlusa* Ridl.: Ridley xii 1890. *Hoya parviflora* Wight: Corner 26 xi '41. *H. revoluta* Wight ex Decne: Chin 95. *H. ridleyi* K. et G.: UNESCO 34, 371. *Humata heterophylla* (Sm.)Desv.: Chin 1437, 1606; UNESCO 230, 670. *H. pectinata* (Sm.)Desv.: Chin 545, 1605; Henderson 19538, 25247; UNESCO 657, 672. *Hunteria zeylanica* (Retz.)Gard. ex Thw.: Henderson 23850. *Hydnocarpus castanea* Hk.f. & Th.: UNESCO 6. *H. ilicifolia* King: Chew 194; Chin & Badaruddin 1693; Kiah 35272; Loh FRI 17174; UNESCO 541. *H. woodii* Merr.: Chin & Badaruddin 1693. *H. wrayi* King.: Loh FRI 17191. *Hydnophytum formicarium* Jack: UNESCO 638. *Hygrophila angustifolia* R. Br.: Samsuri & Mahmud 589. *Hypserpa cuspidata* Miers: Chew 190. *Hyptis rhomboidea* Mart. & Gal.: UNESCO 614. *H. suaveolens* (L.)Point.: Chin 837.

Iguanura polymorpha Becc.: Burkhill 6299; Chin 871; Henderson 22685, 23792, 25059; Samsuri & Mahmud 604. *Ilex maingayi* Hk.f.: King's coll. 8177. *Illigera pulchra* Bl.: Corner & Nauen 25 xi '41 (= SING 645109); Henderson 23015, 29174. *Impatiens cryptoneura* Hk.f.: Curtis 3172. *I. mirabilis* Hk.f.: Chin 1756; Enoch 8; Henderson 23023. *I. opinata* Craib: Chin 1312, 1495, 1610; Henderson 19509, 19558, 22374, 25087, 29677; UNESCO 5, 491, 535, 580, 602. *I. ridleyi* Hk.f.: Burkhill 2260; Chin 332 & 1275; Henderson 22324; Sinclair 40064. *I. scortechnii* Hk.f.: Curtis 3115; Haniff 13904; Henderson 23839. *I. tipusensis* Henders.: Henderson 19339. *Imperata cylindrica* (L.)Beauv. var. *major* (Nees)Hubb. ex Hubb. et Vaugh.: UNESCO 616. *Iodes cirrhosa* Turcz.: Chin 792, 953, 994; Samsuri & Mahmud 565, 653. *I. ovalis* Bl.: Mills & Henderson 15067; Sinclair 9875. *Isachne langkawiensis* Jansen: Chin 1787; Corner 37843; Corner & Nauen 37845, 37959; Henderson 28945 & 29054; Holttum 17423. *Ischaemum timorense* Kunth: Corner 37844. *Isonandra perakensis* K. & G. var. *kelantanensis* Ng: Loh FRI 17179, 17212; UNESCO 654. *I. perakensis* K. & G. var. *perakensis* Ng: Ng FRI 1598, 1599, 1906, 1908, 1914, 1915, 1916, 5846. *Ixora brunonis* Wall. ex Don: Best 21274. *I. clerodendron* Ridl.: Henderson 25245; 30 vii '29, 6 viii '29. *I. congesta* Roxb.: Kiah 35366; UNESCO 383. *I. grandifolia* Zoll. & Mor.: UNESCO 379. *I. lobbii* K. & G.: UNESCO 208. *I. nigricans* Wight & Arn.: UNESCO 40. *I. nigricans* Wight & Arn. var. *ovalis* Pitard: Chin 1402, 1594; Stone 9179. *I. pendula* Jack: Chin 161; Samsuri & Mahmud 615; Stone 6575; UNESCO 96, 381. *I. scortechnii* K. & G.: Henderson 19518. *I. umbellata* Koord. et Valet.: Kiah 7 v '38; Stone 9137.

Jacquemontia paniculata (Burm.f.)Hall.f.: Henderson 28941; Ridley 14900a. *Jasminum adenophyllum* Wall.: Kiah 35424. *J. bifarium* Wall.: UNESCO 661. *J. cordatum* Ridl.: Chin 366; Mills

& Henderson 15064; Molesworth-Allen 4289; Stone 5893. *J. curtisii* K. & G.: Henderson 23010. *J. insularum* Kerr: Chin 454. *J. wrayi* K. & G.: King's coll. iv 1884; UNESCO 19. *Justicia henicophylla* C.B. Clke: Henderson 22312. *J. hirticarpa* J.B. Imlay: Henderson 29176. *J. pectinella* Ridl.: Chin 915; Kiah 35359. *J. ptychostoma* Nees: Henderson 29136; Nauen 38123; Nur 34391. *J. robinsonii* Ridl.: Henderson 29133. *J. subcymosa* C.B. Clke: Sinclair 9889. *J. uber* C.B. Clke: Chin 397; Henderson 19508, 22399; Stone 5921. *J. vasculosa* Wall.: Burkill 2553; Samsuri & Mahmud 582.

Kaempferia elegans Wall.: Curtis 2637. *K. pulchra* Ridl.: Henderson xi '29. *Kibara chartacea* Bl.: Henderson 25070. *Knema cinerea* (Poir.) Warb. var. *patentinervia* (Sinclair) Sinclair: Loh FRI 17243. *K. cinerea* (Poir.) Warb. var. *rubens* (Sinclair) Sinclair: UNESCO 200. *K. globularia* (Lamk.) Warb.: Corner 22 xi '41; Haniff & Nur 7569; Henderson 22978. *K. hookeriana* (Hk.f. et Th.) Warb.: Loh FRI 17188. *K. laurina* (Bl.) Warb.: Kiah 35398. *Knoxia corymbosa* Willd.: Burkill 1392. *Koilodepas longifolium* Hk.f.: Stone 6946. *Kopsia macrophylla* Hk.f.: Henderson 25044.

Lagerstroemia langkawienis Furt. et Mont.: Chin 486; Corner 19 xi '41. *Lantana camara* L. var. *aculeata* (L.) Moldenke: Chin 804. *Laportea interrupta* (L.) Chew: Molesworth-Allen 4643. *Lasia aculeata* Lour.: Chin 836A; Henderson 22487; Kiah 35429; Ridley 23 vi 1889. *Lasianthus stipularis* Bl. var. *hirtus* Ridl.: Ridley 8575. *Lasiobema curtisii* (Prain) De Wit: Corner 13 xi '41; Kiah 35415. *L. flavum* De Wit: Henderson 29146. *L. strychnoideum* (Prain) De Wit: Chin 840; Samsuri & Mahmud 590; Stone 9530. *Leea aequata* L.: Kiah 35234; Samsuri & Mahmud 566. *L. rubra* Bl.: Kiah 35421. *L. sambucina* Willd.: Chin 127, 476, 779, 1110; Samsuri & Mahmud 556; Stone 6940; Whitmore 4246. *L. saxatilis* Ridl.: Merton 4098; Poore 800. *Lemmaphyllum accedens* (Bl.) Donk: UNESCO 601. *Lepisorus longifolius* (Bl.) Holtt.: Chin 1414. *Lepistemon binectariferum* (Wall.) Ktze: Stone & Wycherley 8976. *Leptaspis urceolata* (Roxb.) R.Br.: Chin 886. *Leptochilus decurrens* Bl.: UNESCO 27. *Leptonychia glabra* Turcz.: Chin 887 & 921; Henderson 23760. *Leptopus australis* (Zoll. et Mor.) Pojark.: Best 21233; Chin 879; Corner 37802, 13 xi '41; Henderson 19513, 22839; Kelsall s.n. 1891; Kiah 35249; Nauen 38012; Ridley 8203; Samsuri & Mahmud 638. *Leucaena leucocephala* (Lamk.) De Wit: Chin 979. *Leucas mollissima* Wall. ex Benth.: Chin 1776; Kiah 35381. *L. zeylanica* R. Br.: Chin 846. *Licuala modesta* Becc.: Chin 884; Henderson 23804. *Ligustrum confusum* Decne: Chin 400, 414, 440, 574; Henderson 22865, 22941; Stone 8942. *Liparis caespitosa* (Thou.) Lindl.: Chin 4178; Nur 14 x '31; Stone 5926. *L. gibbosa* Finet: Carr 162; Chin 163, 456, 1176; Henderson 19456, 22242, 25046; UNESCO 37, 250, 366. *Lithocarpus elegans* (Bl.) Hatus. ex Soepadmo: Henderson 23806. *L. urceolaris* (Jack) Merr.: UNESCO 344. *Litsea glutinosa* (Lour.) C.B. Rob.: Chin 31; Chin & Badaruddin 1689; Corner & Nauen 25 xi '41; Kiah 35372; Stone & Wycherley 8987. *L. noronhae* Bl.: Burkill 6289; Henderson 23810. *Livistona saribus* (Lour.) Merr. ex Chev.: Henderson 7 vi '30 (= SING 39682). *Loeseneriella pauciflora* (DC.) A.C. Smith: Henderson 29688. *Loxogramme avenia* (Bl.) Presl: Chin 1447; King's coll. 8280. *L. scolopendrina* (Bory) Presl: Chin 26, 139; Henderson 19449; Kiah 12 v '38; Molesworth-Allen 18 i '56; Shimizu & Stone T 14396; Stone 7311, 8828, 8842; Stone & Mahmud 9397; UNESCO 245, 435. *Ludwigia hyssopifolia* (G. Don) Exell.: Chin 838; Samsuri & Mahmud 588. *Luvunga eleutherandra* Dalz.: Keng 6174. *Lycopersicon esculentum* Mill.: Chin 863. *Lygodium flexuosum* (L.) Sw.: UNESCO 188. *L. polystachyum* Wall. ex Moore: Chin 904; Henderson 7 vi '30; UNESCO 83. *Lysimachia peduncularis* Wall. ex Kurz: Henderson 21371; Keng et al.: 6211.

Macaranga tanarius (L.) M.A.: Chin 444, 577 & 1804; Samsuri & Mahmud 597. *Macrosolen cochinchinensis* van Tiegh.: Chin 398 & 447. *Madhuca ridleyi* Lam: Chin 1071; Henderson 25055; Stone 6924; UNESCO 113. *Maesa pahangiana* K. & G.: UNESCO 410, 530. *M. striata* Mez, Chin 1580. *Malaisia scandens* (Lour.) Planch.: Chin 857, 928; Samsuri & Mahmud 599. *Malaxis calophylla* (Rchb. f.) Ktze.: Kiah 13 v '38; UNESCO 357. *M. latifolia* Sm.: Henderson xi '34. *M. micrantha* (Hk.f.) Ktze: Henderson 22332. *M. reniloba* (Carr) Holtt.: Henderson xi '29. *Malleola dentifera* J.J.S.: UNESCO 35, 240, 1014. *Mallotus brevipetiolatus* Gage: Chew 209; Chin 753, 819, 850, 1488; Molesworth-Allen 4644; Ng FRI 1601; Ogata KEP 110159; Samsuri 542; Samsuri & Mahmud 595; Sinclair 9853, 9856. *M. cuneatus* Ridl.: Chew 198; Henderson 23020; Kiah 35238. *M. dispar* (Bl.) M.A.: Chew 199; Chin 83, 314, 917, 1488A; Corner 13 xi '41 (= SING 28327); Henderson 29143; Kiah 35375; Poore 352; Samsuri & Mahmud 620; Stone 6947, 7478, 9178; Stone & Wycherley 8974. *M. eriocarpus* (Thw.) M.A.: Henderson 25211. *M. griffithianus* (M.A.) Hk.f.: King's coll. 4602. *M. miquelianus* (Scheff.) Boerl.: Chin 1552, 1597; Henderson 19543. *M. oblongifolius* (Miq.) M.A.: Molesworth-Allen 4269. *M. peltatus* (Geisel.) M.A.: Sinclair 9859. *M. philippensis* (Lamk.) M.A.: Chin 830; Kiah 35423. *M. repandus* (Willd.) M.A.: Stone 8849. *M. wrayi* King ex Hk.f.: Henderson 23803. *Mammea brevipes* (Craib) Kosterm.: Chin 1729; Henderson 29163.

Mangifera sp.: Chin 329, 911; Ng FRI 5577; UNESCO 399; Whitmore FRI 15626. *Marsdenia tinctoria* Br.: Burkhill 13928; Chin 77; Kiah 35245. *Maxburretia gracilis* (Burr.)Dranfield: *Curtis* 2661; Fox xii '04; Stone 9147; Stone & Mahmud 6951; Whitmore FRI 15053. *M. rupicola* (Ridl.)Furt.: Chin 362, 363 & 364; Durant 56257; Nur 34370; Ridley 8285; Stone 8920; Symington KEP 39585; Whitmore FRI 699, 12167, 15173, 15174, 15560 & 15636; Wong FRI 99501. *Maytenus curtisii* (King) Ding Hou: Chin 1462, 1725, 1835; UNESCO 143; Whitmore FRI 4261. *Medinilla crassifolia* (Reinw. ex Bl.)Bl.: Chin 528. *M. scortechinii* King: Chin 1595; UNESCO 629. *Meiogyne virgata* (Bl.)Miq.: Chin & Badaruddin 1692; Henderson 19609; UNESCO 1007. *Melaleuca cajuputi* Powell: 'Students' 45. *Melanolepis multiglandulosa* (Reinw. ex Bl.)Rchb.f. et Zoll.: Chin 855, 951, 952. *Melastoma polyanthum* Bl.: UNESCO 619. *Melochia umbellata* (Houtt.)Stapf: Chin 982, 989; Samsuri & Mahmud 648; Stone 9176. *Melodinus orientalis* Bl.: King's coll. 4530. *Melothria affinis* King: *Curtis* 3784; Ridley xii 1902. *Memecylon acuminatum* Sm.: Corner 13 xi '41 (= SING 54941). *M. dichotomum* C.B. Clke. ex King: Corner 17 xi '41; Henderson 22 xi '34, 25064. *M. edule* Roxb.: Chew 207; Chin 313; Stone & Wycherley 8972. *M. floribundum* Bl.: Henderson 22881; Kiah 35280. *M. laevigatum* Bl.: Chin 112, 371, 372, 452, 1161; Kiah 35281; Molesworth-Allen & Kadim 494. *M. pauciflorum* Bl.: Chin 823; Henderson 22 xi '34; Nur 34371; Samsuri & Mahmud 579; Stone 6934. *M. wallichii* Ridl.: UNESCO 95, 609. *Mesua ferrea* L.: UNESCO 76. *Microdesmis casearifolia* Planch.: Chin 346, 879; Kiah 35231; Samsuri & Mahmud 607. *Microlepia speluncae* (L.)Moore: Shimizu & Stone M 13726, M 13728, T 14417. *M. speluncae* (L.)Moore var. *villosoissima* C. Chr.: Chin 427; Henderson 25210; Ridley 8641; Stone 7483. *Micromelum minutum* (Forst.)W. & Arn.: Whitmore: FRI 4260. *Microrhynchium pubescens* C.B. Clke: Corner 37857; Henderson 29184; 'Students' 148. *Microsaccus ampullaceus* J.J.S.: Carr 69; Nur 25153. *M. brevifolius* J.J.S.: Chin 417A; Henderson 22621. *M. javensis* Bl.: Chin 396; Nur 34402; Stone 5927; UNESCO 300. *Microsorium musifolium* (Bl.)Ching: Henderson 19704; UNESCO 635. *M. punctatum* (L.)Copel.: Chin 786. *Mikania cordata* (Burm.f.)B.L. Robins.: Henderson 23781. *Miliusa amplexicaulis* Ridl.: Chin 900; Kiah 35363; Samsuri & Mahmud 614; UNESCO 516. *M. longipes* King: Henderson 25038. *M. parviflora* Ridl.: Corner 19 xi '41 (= SING 4818); Henderson 28949; Ridley 15249 & 15340. *Millettia hemsleyana* Prain: Loh FRI 17238; UNESCO 195. *M. pterocarpa* Dunn: Fox 10788. *M. sericea* (Vent.)W. et Arm.: UNESCO 122. *Mimosa pudica* L.: UNESCO 620. *Mimusops elengi* L.: Chin 1737, 1782; Corner 38141; Henderson 21363, 21369; Stone 11002. *Mitraphora maingayi* Hk.f. et Th.: King's coll. 4701. *Moghania strobilifera* (L.)St. Hill. ex. Jacks.: Stone 9078. *Momordica subangulata* Bl.: *Curtis* 3329. *Monophyllaea glabra* Ridl.: Henderson 29072. *M. hirticalyx* Franch.: Allen v '46; Burkhill 4222; Chin 773, 2107; Curtis 3136; Henderson 19380, 19404, 22578, 29790; King's coll. 7052; Spare 36324; Tomlinson ix '55. *M. horsfieldii* R.Br.: Chin 391, 546, 881, 1539; Henderson 25067, 29714; Kassim 375; Keng & Keng 70; Ng FRI 1594; Sinclair 9848; Stone 7298; UNESCO 10, 21, 396, 533, 1001; Wray 597. *Morinda elliptica* Ridl.: Chin 805, 828; Chin & Mahmud 1313; Kiah 35408; Stone 6985; UNESCO 8. *M. umbellata* L.: Burkhill 2555; Chin 53, 96, 388; Stone 5904, 7305A, 7477, 8929, 9501. *Mucuna biplicata* Teysm. et Binn.: Samat 417; Start 23 i '72. *Muntingia calabura* L.: Chin 445. *Murraya koenigii* (L.)Spreng.: Henderson 28947. *M. paniculata* (L.)Jack: Chin 756, 794, 822, 991, 1509; Molesworth-Allen 4647; Samsuri & Mahmud 571; UNESCO 177, 536. *Musa malaccensis* Ridl. var. *minor* Ridl.: Ridley 15202. *Mycetia malayana* Craib: Burkhill 13571; Chin 760, 783; Kiah 7 v '38; Mills & Henderson 15069; Poore 16 vii '61; Stone 8786; UNESCO 493, 525. *Myrsine porteriana* Wall.: Chin 415, 547, 1565; Corner & Nauen 25 xi '41; Kiah 35373; Stone 5892; Whitmore FRI 12161.

Naravelia dasyoneura Korth.: UNESCO 219. *N. laurifolia* Wall.: Chin 128. *Nauclea junghuhnii* Merr.: King's coll. 8179. *Neesia synandra* Mast.: UNESCO 589. *Neolitsea zeylanica* Merr.: Chin 145; Stone 7474; UNESCO 284, 645. *Neonauclea calicina* Merr.: Chin 1481; UNESCO 206. *Nephrolepis biserrata* (Sw.)Schott: Chin 135. *N. dicksonioides* Chr.: Allen xii '56; Best 21236, 21284; Chin 405, 1602; Evans 202; Henderson 19528, 22263; Kiah 35407; Nauen 38023; Stone 5895. *N. falcata* (Cav.)C.Chr.: Chin 527, 570, 813; Henderson 19405, 22304; Poore 348; UNESCO 198, 376. *N. hirsutula* (Forst.)Pr.: Chin 561. *Neyraudia reynaudiana* (Kunth)Keng ex Hitch.: Chin 974, 1421; Samsuri & Mahmud 641.

Oberonia dissitiflora Ridl.: Corner 20 xi '41. *O. flava* Ridl.: UNESCO 309. *O. spathulata* Lindl.: UNESCO 420, 421. *O. transversiloba* Holtt.: UNESCO 248, 422. *Oldenlandia rosettifolia* Geddes: Chin 1721; Henderson 28929; Holttum 15138. *Oleandra undulata* (Willd.)Ching: Kadim K491. *Ophiorrhiza communis* Ridl.: Kiah 25376. *O. discolor* R. Br. ex Don: Chin 335, 537, 890; Chin & Badaruddin 1688; Stone 8975. *O. fruticosa* Ridl.: Ng FRI 1639; Nur 34374; Ridley 8237. *O. hispidula* Wall. ex Don.: UNESCO 393, 1006. *O. kunstleri* King: Chin 1394, 1732; Corner 38147; Henderson 21382, 29711; Kiah 35251; UNESCO 53. *O. longerepens* Ridl.: Chin 85, 1395, 1454, 1563; Henderson 19524; Stone 7457 &

9519. *O. pallidula* Ridl.: Henderson 29677; Nur 34374; Spare 36322. *O. remotiflora* Ridl.: Chin 1612. *Oplismenus compositus* (L.)P. Beauv.: Corner & Nauen 25 xi '41; Henderson 23130, 28934. *Ornithobosca flexuosa* (Ridl.) Burtt: Chew 203; Haniff 640; Kiah 35419, 18 v '38. *Orophea cuneiformis* King: Haniff 10335. *O. enterocarpa* Maingay ex Hk.f. et. Th.: Henderson 25040; Stone 7496. *O. hirsuta* King: Henderson 35402; Kiah 35276; King's coll. 4283; UNESCO 43, 412, 595. *O. maculata* King: Chin 769, 780; Chin & Badaruddin 1687; Henderson 43281; Md. Shah & Md. Ali 2999; Samsuri 552; Samsuri & Mahmud 559. *O. polycarpa* A. DC.: Chin 149; Henderson 22443; Ng FRI 1595, 5836; Ogata KEP 110158 & 110160; Sinclair 9892; UNESCO 136. *Orthosiphon aristatus* (Bl.)Miq.: Chin 1715; Henderson 29092. *Oxymitra biglandulosa* (Bl.)Scheff.: Chin 1040.

Pachycentria constricta (Bl.)Bl.: Henderson 25242. *Paedaria tomentosa* Bl.: Henderson 29147. *Palaquium obovatum* (Griff.)Engl.: Loh FRI 17207. *Pandanus alticola* Holtt. & St. John: Chin 1684A; Stone 5885, 5886. *P. calcicola* Holtt. & St. John: Chin 321A, 1274, 1663, 1664; Kiah 35285; Stone 8969; Whitmore FRI 15625. *P. irregularis* Ridl.: Chin 1529, 1530, 1531, 1532, 1617; Henderson 19468; Stone & Mahmud 7448. *P. ordoratissimus* L.f.: Henderson 29153. *P. piniformis* Holtt. & St. John: Henderson 23759; Stone & Mahmud 9182. *P. recurvatus* St. John: UNESCO 47. *Panicum sarmentosum* Roxb.: Chin 938. *Paphiopedilum lowii* (Lindl.)Pfitz.: UNESCO 443. *P. niveum* (Rchb. f.)Pfitz.: Chin 1723; Curtis '20's; Stone 6979. *Paraboea bakeri* Henders.: Henderson, 25094. *P. bettiana* Henders.: Henderson 25250. *P. capitata* Ridl.: Burkhill 6276, 13557; Chin 831; Curtis xii 1895; Henderson 22252; King's coll. 4325; Samsuri & Mahmud 581; Spare 36327; UNESCO 409. *P. ferruginea* Ridl.: Curtis 2566. *P. laxa* Ridl.: Alphonso & Samsuri 122; Chin 1731, 1785; Corner 13 xi '41, 17 xi '41; Henderson 21366, 29187. *Parameria polyneura* Hk.f.: Henderson 23758. *Paramignya scandens*(Griff.)Craib subsp. *ridleyi* (Burkhill)Swing.: Stone 8981. *Paranephelium macrophyllum* King: Chin 841, 856; Samsuri & Mahmud 598. *Parashorea lucida* (Miq.)Kurz: UNESCO 377. *Paspalum conjugatum* Berg.: Chin 378. *Passiflora foetida* L.: Chin 976. *Pavetta naucleiflora* R.Br. ex G.Don: Henderson 21374. *P. pauciflora* Ridl.: Ridley 13 xii '20, xii '20, xii '27. *Peliosanthes lurida* Ridl.: Chin 543, 564; Corner 17 xi '41; Henderson 29180; Kiah 35426. *P. violacea* Wall.: Nur 31 xi '37. *Peltophorum pterocarpum* (DC.)Back. ex Heyne: Stone 10994. *Pentacme siamensis* (Miq.)Kurz: Chin 510; Henderson 29102; Stone 6990; Whitmore 10 xii '69, FRI 12969, 15066, 15104. *Peperomia dindigulensis* Miq.: Chin 1172; Chin & Mahmud 1310; Henderson 22560, 25237. *P. kotana* C. DC.: Corner & Nauen 25 xi '41; Stone 7454. *Peperomia* sp. A (= *P. maxwelliana* C.DC.): Chin 539, 1695; Stone 14086. *Petunga hirta* Ridl.: Mills & Henderson 15070. *Phaeomeria mangayi* (Bak.)K. Schum.: Chin 1583. *Phalaenopsis cornu-cervi* (Breda)Bl. et Rchb.f.: Carr 289; Henderson 22274, 25073; UNESCO 221, 417. *P. decumbens* (Griff.)Holtt.: Henderson 22235, 25244; UNESCO 413. *Phanera integrifolia* (Roxb.)Benth.: Chin 541. *Phaseolus mungo* L.: Chin 483. *Pheobe lanceolata* (Wall. ex Nees)Nees: UNESCO 511. *Pholidota pallida* Lindl.: Best 21279; Chin 419, 459; Corner 19 xi '41; Corner & Nauen 25 xi '41; Henderson 25241; Holttum 15136; Nur 34386; Ridley xii 1896; Stone 7312, 7481, 7484; UNESCO 418. *Photinopteris speciosa* (Bl.)Presl.: Best 21237; Chin 1163, 1559; UNESCO 266. *Phreatia secunda* (Bl.)Lindl.: Carr 250; Chin 322, 416; Henderson 25235; Nur 34406; UNESCO 288, 416. *Phyllanthus columnaris* M.A.: Chin 1710; Corner 38135; Henderson 22840, 29056. *P. filicifolius* Gage: Henderson 29053. *P. oxyphyllus* Miq.: Chin 316, 348, 761; Henderson 22271; Ridley 8509; Samsuri 546; Stone 8966. *P. pulcher* Wall. ex M.A.: Henderson 29690; Loh FRI 17216. *P. ridleyanus* Airy Shaw: Chin 114, 790, 966, 1059, 1386; Henderson 23764; King's coll. 8219; Ogata KEP 11061; Samsuri & Mahmud 564, 627; Stone 9494; Whitmore FRI 4273. *P. sikkimensis* M.A.: Henderson 22872. *Phymatodes nigrescens* (Bl.)J. Sm.: Burkhill 13930; Chin 43, 88; Corner & Nauen 25 xi '41; Henderson 22397; Nur 34393; Samat 511; Shimizu & Stone M 13721; Stone 8824. *P. scolopendria* (Burm.)Ching: Chin 1150, 1604; Corner & Henderson 22801; UNESCO 434. *Physalis minima* L.: Samsuri & Mahmud 592. *Pilea fruticosa* Hk.f.: Burkhill 2560, 6264; Burkhill & Haniff 13927; Chin 24, 765, 1405; Corner & Nauen 25 xi '41; Henderson 19385, 22375, 22436, 25008, 29710; Molesworth-Allen 4015, 4432; Ng FRI 1609; Samsuri 549; Sinclair & Forman 9851; Spare 36325; Stone 7461, 8797, 8835. *P. microphylla* (L.)Lieb.: Chin 975; Samsuri & Mahmud 641. *Piper boehmeriaefolium* Wall.: Henderson 23756. *P. caninum* Bl.: Kiah 35396. *P. mucronatum* C. DC.: Poore 801. *P. nigrum* L.: Ridley 8180. *P. porphyrophyllum* N.E.Br.: Chin 611. *P. umbellatum* L.: Burkhill & Haniff 13923. *Pisonia aculeata* L.: Henderson 23121, 29175. *P. umbellifera* (Forst.)Seem.: Burkhill 6291; Chin 860; Henderson 25011; Ridley 9681; Samsuri & Mahmud 600. *Pistacia malayana* Henders.: Chin 401, 1064, 1808. *Pittosporum ferrugineum* Ait.: Ng FRI 5572. *Pityrogramma calomelanos* (L.)Link: UNESCO 259. *Planchonella obovata* (R. Br.)Pierre: Allen 5 ii '57; Chin 81, 339, 365, 1182; Ng FRI 1623, 1625, 1796, 1802; Stone 5898, 8937; UNESCO 312, 369; Whitmore FRI 4248. *Plectocomia griffithii* Becc.ex Hk.f.: Chin 1273. *Plectranthus kunstleri* Prain: Chin 1760. *Plethiandra sessiliflora* Ridl.: Chin 565; Stone 11081. *Poaephylum*

pauciflorum (Hk. f.)Ridl.: Spare 36323. *Podocarpus nerifolius* D. Don: Ng FRI 1634. *P. polystachyus* R.Br. ex Mirb.: Chin 157, 368, 369, 538, 1811, 1260; Loh FRI 17214; Ng FRI 1634; Stone 5905. *Podochilus lucescens* Bl.: Corner 20 xi '41; Henderson 29075. *P. microphyllus* Lindl.: Chin 466, 1401; UNESCO 373. *P. tenuis* (Bl.)Lindl.: Symington 10 x '34. *Pogonanthera pulverulenta* (Jack)Bl.: Chin 30. *Pogonatherum paniceum* (Lamk.)Hack.: Chin 435, 1521; Chin & Mahmud 1306A. *Poikilospermum suaveolens* (Bl.)Merr.: Chew 126, 195, 210; Chin 788; Henderson 22453; Loh FRI 17199; Samsuri & Mahmud 570. *Pollia sorzogonensis* Endl.: Henderson 22703, 14 vii '35. *P. sumatrana* Hassk.: Burkill & Haniff 13907. *P. thrysiflora* Endl.: Chin 360. *Polyalthia brunneifolia* Sinclair: Chin 141, 149, 312, 1062, 1094, 1170, 1407, 1507; Ng FRI 5548; Whitmore FRI 757; Stone & Wycherley 8982. *P. caulinflora* Hk.f. et Th. var. *beccarii* (King)Sinclair: Loh FRI 17239. *P. cinnamomea* Hk.f. et Th.: Whitmore FRI 468. *P. hypogaea* King: Mills & Henderson 15075. *P. lateritia* Sinclair: Chin 877; Samsuri & Mahmud 608. *P. rumphii* (Bl.)Merr.: Stone & Wycherley 8983. *P. stenopetala* (Hk.f. et Th.)Ridl.: Loh FRI 17252. *Polygala cardiocarpa* Kurz: Corner xi '41; Henderson 29104. *P. malesiana* Adema: Allen 27 i '57; King's coll. 4814. *P. triphylla* Buch. et Ham. ex Don: Henderson 22254. *Polygonum chinense* L.: Ng FRI 1918. *Polypodium pilosulum* Bl.: King's coll. 7206. *Polystachya flavescens* (Bl.)J.J.S.: Chin 422; Curtis ix 1890; Henderson 25075, xi '34; Ng FRI 1922. *Polystichum lindsaeifolium* Ridl.: Henderson 19651, 22321; Molesworth-Allen 4105. *Polytrema cupreum* Ridl.: Burkhill 6285. *P. vulgare* C.B. Clke: Burkhill 6307; Henderson 25001. *Pomatocalpa kunstleri* (Hk. f.)J.J.S.: UNESCO 228. *P. latifolium* (Lindl.)J.J.S.: UNESCO 215. *P. naevatum* J.J.S.: Kelsall i 1891; UNESCO 275. *P. setulense* (Ridl.)Holtt.: Ridley 15226. *P. spicatum* Breda: Boey 301; Chin 1499; Henderson 23825; Nur 14 x '31; UNESCO 225A, 374. *Popowia velutina* King: King's coll. 4418. *Pothos latifolius* Hk.f.: Furtado 4 vi '37. *P. macrocephalus* Scort. ex Hk.f.: Chin 999; Henderson 19557, 23835; Kiah 35282; Molesworth-Allen 4116; Samsuri & Mahmud 638; Wary 4254. *P. scandens* L.: Curtis 2394; Kiah 35428; UNESCO 2394. *Premna pyramidata* Wall.: Henderson 23766. *P. rubens* Ridl. UNESCO 407. *Prismatomeris malayana* Ridl.: Chew 187; Kiah 35271. *Procris pendunculata* (J.R. & G. Forst.)Wedd.: Chin 16; Stone 8834. *Pseuderanthemum crenulatum* Radlk.: Burkhill 6273; Chin 667; Corner 13 xi '41; Henderson 21 xi '34, 23091; Stone 8821. *P. graciliflorum* (Nees ex Wall.)Ridl.: Henderson 21396; Stone 6941, 9080. *Pseuduvaria macrophylla* (Oliv.)Merr.: Best 21262; UNESCO 69. *P. setosa* (King)Sinclair: Chin 955; Henderson 29713; Ogata KEP 110156. *Psychotria angulata* Korth.: Nur 34372; UNESCO 323. *P. cantleyi* Ridl.: Burkhill 6363. *P. montana* Bl.: Burkhill 6286; Henderson 23774. *P. rhinocerotis* Reinw. ex Bl.: Burkhill 6310; Chin 811, 1099, 1439; Stone 6939; UNESCO 163, 225. *P. rostrata* Bl.: Henderson 22400. *P. sarmentosa* Bl.: Stone 6938. *P. viridiflora* Reinw. ex Bl.: Henderson 25218. *Pteridium aquilinum* (L.)Kuhn var. *wightianum* (Ag.)Tryon: Chin 99. *P. caudatum* (L.) Maxon var. *yarrabense* Domin.: Chin 383; Corner & Nauen 25 xi '41. *Pteridrys syrmatica* (Willd.)C.Chr. et Ching: Best 21225; Chin 782, 849; Corner & Nauen 25 xi '41; Henderson 22320; King's coll. 8178. *Pteris ensiformis* Burm.: Chin 1174, 480; Johnson s.n. & s.a. (KLU); King's coll. 8334; Samat 524; Shimizu & Stone T 14389, T 14409; Stone & Wycherley 8990; UNESCO 553. *P. longipinnula* Wall.: Burkhill 13929; Chin 79, 428, 534; Henderson 19505; Samat 469; Shimizu & Stone M 13722; Stone 8823. *P. mertensioides* Willd.: Ridley 8640. *P. scabripes* Wall. apud Hk.: 'Students' 19. *P. tripartita* Sw.: Henderson 29581; Holttum 8975. *P. vittata* L.: Chin 100, 381, 432, 1423; Henderson 19517; Nur 3 xi '37; Samat 590; Shimizu & Stone M 13729. *Pterisanthes coriacea* Korth. ex Miq.: UNESCO 87. *Pteroceras ciliatum* (Ridl.)Holtt.: UNESCO 298 & 415. *P. hirsutum* (Hk.f.)Holtt.: Chin 1533; Stone 9509. *P. tanyphyllum* (Ridl.)Holtt.: Carr 142; Chin 93; Ridley 1891; UNESCO 349, 363, 380. *Pterolobium densiflorum* Praen: Chin 352. *Pterospermum jackianum* Wall. ex Masters: Chin 839; UNESCO 448. *P. pectiniforme* Kost.: Stone 9134, 10993. *Pterygota alata* Roxb.)R.Br.: Chin 942. *Pyrrosia adnascens* (Sw.)Ching: Chin 424, 448, 495, 1108; Corner 17 xi '41, 19 xi '41, 22 xi '41; Corner & Henderson 23105; Henderson 21378; Nur 34408; UNESCO 137. *P. penangiana* (Hk.)Holtt.: Best 21230; Chin 1446; Henderson 19447, 22238, 25239; King's coll. 7083; Nauen 38035; Shimizu & Stone T 14353; Stone 7442; UNESCO 216, 243, 639. *P. stigmosa* (Sw.)Ching: Chin 431, 1080, 1449; Corner & Henderson 22811; Henderson 19453, 22572; King's coll. 8361; Stone 6573. *P. varia* (Kaulf.)Farwell: Best 21231; Chin 101, 430, 1053, 1109, 1436; Henderson 19450, 22575, 25154, 29076; Stone 9508; UNESCO 161, 628, 660.

Quisqualis parvifolia (Ridl.)Exell. Stone 9082.

Radermachera lobpii (T.&B.)Miq.: Chin 116, 1400; Ng FRI 5570; Stone 9506; UNESCO 482, 651. *Randia densiflora* (Wall.)Benth.: Burkhill 6290; Chin 23, 337, 489, 851, 973; Henderson 29156; Molesworth-Allen 4656; Samsuri & Mahmud 596; Stone 6996, 8790, 8837; UNESCO 3, 515; Whitmore FRI 12159. *Raphidophora beccarii* Engl.: UNESCO 281. *R. korthalsii* H. Schott: Chin 997. *R. kunstleri*

Hk.f.: *Chin* 754; *Samsuri & Mahmud* 573; *Sinclair* 9852; *Stone* 9174. *R. maingayi* Hk.f.: *Chin* 592; *Nur* 8965; *Ridley* xii 1896. *R. silvestris* (Bl.) Engl.: *Nur* 8965; *Ridley* xii 1896. *Rauwolfia reflexa* Teys. et Binn.: *Burkill* 6280. *Renanthera elongata* Lindl.: *Best* 21232. *R. histrionica* Rchb.f.: *Carr* 133; *Chin* 1244; *Poore* 12 ix '60. *Rhododendron longiflorum* Lindl.: *Stone* 5887. *Rhoeo spathacea* (Sw.) Stearn: *Chin* 806; *Samsuri & Mahmud* 557. *Rhynchelytrum repens* (Willd.) Hubb.: *Burkill* 2273; *Chin* 848; *Samsuri & Mahmud* 593. *Rhynchoglossum obliquum* Bl.: *Henderson* 19402. *Richeriella malayana* Henders.: *Burkill* 6281; *Henderson* 23790. *Rinorea anguifera* (Lour.) Ktze: *UNESCO* 385, 1005. *R. bengalensis* (Wall.) Ktze: *Burkill* 6278; *Chew* 201; *Chin* 82, 861, 885, 920, 1492; *Ng FRI* 1804; *Samsuri & Mahmud* 601, 610 & 630; *Stone* 5923, 6933, 8848; *UNESCO* 610; *Whitmore FRI* 15078, 15167. *R. horneri* (Korth.) Ktze: *Chin* 338, 475, 758, 1030, 1096; *Cockburn FRI* 10569; *Henderson* 19495, 22277; *Stone & Wycherley* 8967; *UNESCO* 1, 108, 596. *Rostellaria procumbens* Nees: *Corner* 37829; *Henderson* 28942; *Holtum* 17425. *Ruellia repens* L.: *Chin* 500. *Rungia minutiflora* C.B. Clke: *Chin* 1557; *Henderson* 21 xi '34.

Sageraea elliptica (A. DC.) Hk.f. et Th.: *Chin* 469, 1266. *Salacia grandiflora* Kurz: *Henderson* 23811; *Wyatt-Smith KEP* 79149. *S. korthalsiana* Miq.: *Henderson* 22565. *S. macrophylla* Bl.: *Chin* 771, 874; *Henderson* 19602, 22708; *Samsuri* 553, 605. *Salomonia ciliata* D.C.: *Corner* 19 xi '41; *Henderson* 29059; *Holtum* 17426. *Saraca delinata* (Jack) Miq.: *Chin* 776, 872; *Ogata KEP* 110197. *S. indica* L.: *Henderson* 19562. *S. thaipingensis* Cantley ex Prain: *Chin* 1568; *Cockburn FRI* 10565; *Henderson* 22700; *Loh FRI* 17193. *Sarcanthus machadonis* (Ridl.) J.J.S.: *Stone* 9510; *UNESCO* 391. *S. rugulosus* (Ridl.) Holt.: *UNESCO* 38, 358. *S. sacculatus* Ridl.: *Chin* 1777; *Henderson* 22805, 29129. *S. scortechinii* Hk.f.: *Chin* 1141, 1442; *UNESCO* 213. *S. subulatus* (Bl.) Rchb.f.: *Chin* 1505; *Corner* 20 xi '41; *Henderson* 29170; *UNESCO* 340. *S. termissus* Rchb.f.: *Henderson* 23821. *Sauropolis brevipes* M.A.: *Henderson* 23022. *S. calcareus* Henders.: *Henderson* 22316. *S. suberosus* Airy Shaw: *Chin* 827, 1522; *Henderson* ii vi '30; *Molesworth-Allen* 4651. *S. villosus* (Blanco) Merr.: *Henderson* 22846, 25202; *Nauen* 38118. *Schefflera elegans* (Ridl.) Ridl.: *UNESCO* 432. *S. junghuhniana* (Miq.) Harms.: *Chin* 882, 970; *Samsuri* 609; *Samsuri & Mahmud* 610, 631. *S. musangensis* Henders.: *Chin* 1828. *S. subulata* (Seem.) Vig.: *Chin* 1257, 1258, 1259, 1518; *Poore* 16 vii '61; *Stone* 8973; *UNESCO* 121. *S. tomentosa* (Hassk.) Vig.: *Chin* 757; *Sinclair* 9843; *Stone* 13 ii '66; *UNESCO* 666. *S. venolusa* (Seem.) Harms.: *Chin* 7. *Schismatoglottis calyptrata* Zoll. & Morr.: *Chin* 595, 697; *UNESCO* 528. *S. mutata* Hk.f.: *Henderson* 22427. *Schizaea inopinata* Selling: *Chin* 455, 1378A; *Henderson* 19460, 22246, 25157; *Nur* 34379; *Ridley* xii 1896; *Shimizu & Stone* T 14419; *Stone* 5908, 7310, 7463; *UNESCO* 451. *Schoenorchis micrantha* Bl.: *Ridley* xii 1896. *Sciaphila asterias* Ridl.: *Holtum* 15113; *UNESCO* 51. *Scindapsus hederaceus* Schott: *Kiah* 35230; *Ridley* 1897. *S. perakensis* Hk.f.: *Burkill & Haniff* 13563; *Molesworth-Allen* 4273; *Ridley* 23 vi 1889; *Sinclair* 9845. *S. scortechinii* Hk.f.: *UNESCO* 437. *Scleria lithosperma* Swartz: *Chin* 1105; *Corner* 19 xi '41; *Henderson* 21364, 22467, 25047; *UNESCO* 313. *S. purpurascens* Steud.: *Chin* 969. *Sclerophyrum wallichianum* Arn.: *Henderson* 22278; *Kiah* 35374. *Scolopia spinosa* (Roxb.) Warb.: *Chin* 354, 603; *Stone* 8838; *Stone & Wycherley* 8985. *S. steenisiana* Sleum.: *Chin* 399, 2104; *Ng FRI* 5580; *UNESCO* 127, 127A. *Scoparia dulcis* L.: *Turau* 743. *Scurrula ferruginea* Dans.: *Henderson* 21386. *Scutellaria discolor* Wall. ex Benth.: *Chin* 905; *Samsuri & Mahmud* 616. *Secamone micrantha* Decne: *Chin* 351, 987; *Samsuri & Mahmud* 647; *Stone & Mahmud* 12602; *UNESCO* 162. *Setaria palmifolia* (Koen.) Stapf.: *Chin* & *Badaruddin* 1700. *Shorea guiso* (Blanco) Bl.: *UNESCO* 497. *S. leprosula* Miq.: *UNESCO* 498A. *S. ovalis* (Korth.) Bl.: *UNESCO* 497A. *Sida javensis* Cav.: *Henderson* 23117. *Solanum biflorum* Lour.: *Henderson* 22709. *S. ferox* L.: *Stone* 9497. *S. nigrum* L.: *Burkill* 13939. *Sonerila tenera* Royle: *Henderson* 21375, 28928. *Spathogolotis hardingiana* Par. et Rchb.f.: *Corner* 19 xi '41; *Curtis* 2150, xi '01. *Spondias dulcis* Forst.f.: *Loh FRI* 17184. *Stachyphrynum cylindricum* (Ridl.) Schum.: *Kiah* 35410. *Stauranthera grandifolia* Benth.: *Henderson* 19395, 10 viii '29; *Nur & Foxworthy* 11813; *UNESCO* 44, 387. *S. umbrosa* C.B. Clke: *King's coll.* 7144. *Staurochilus fasciatus* (Rchb.f.) Ridl.: *Stone* 6980. *Steleocharpus cauliflorus* (Scheff.) R.E.Fr.: *Henderson* 23802; *Loh FRI* 17194. *Stemona tuberosa* Lour.: *Ridley* 14780. *Stenotaphrum helferi* Munro ex Hk.f.: *Kiah* 35360. *Stenothysrus ridleyi* C.B. Clke: *Curtis* 3149; *Henderson* 23765. *Stephania venosa* (Bl.) Spreng.: *Chin* 511, 932; *Symington* 46790. *Sterculia lancaviensis* Ridl.: *Corner* 17 xi '41 (2, from different localities); *Stone* 7004. *S. rubigniosa* Vent.: *Chin* 798, 894; *Henderson* 23837, 29162; *Loh* 17242, 17250; *Ng FRI* 5858; *Samsuri & Mahmud* 567. *Streblus asper* Lour.: *Chin* 144; *Kiah* 20 vi '38. *S. ilicifolius* (Vidal) Corner: *Chew* 131, 41021; *Chin* 151, 785, 832A, 833A; *Holtum* 15118; *Keng et al.* 6198; *Loh FRI* 17166; *Molesworth-Allen* 4789; *Ng FRI* 5537; *Samsuri & Mahmud* 586; *Stone* 6931; *UNESCO* 13. *S. laxiflorus* (Hutch.) Corner: *Chew* 202. *S. taxoides* (Heyne) Kurz: *Chin* 940, 962; *Corner* 17 xi '41; *Henderson* xi '34; *Samsuri & Mahmud* 629; *Stone* 6929. *Strobilanthes leucopogon* Ridl.: *Henderson* 29140. *Strychnos axillaris* Colebr.: *Chin* 984; *Corner* 38136; *Henderson* 21379, 21 xi '34. *S. ignatii* Berg.: *UNESCO* 311. *Sumbaviopsis albicans* (Bl.) J.J.Sm.: *Chin* 1088.

Taeniophyllum culiciferum Ridl.: Henderson 22240. *T. filiforme* J.J.S.: Ridley xii 1896; UNESCO 183. *T. obtusum* Bl.: UNESCO 334. *Taenitis blechnoides* (Willd.)Sw.: UNESCO 91. *Tamarindus indica* L.: Stone 6950. *Tarennia appressa* (King)Corner: Stone 6932. *T. calcarea* Ridl.: Burkhill 13944; Ridley i '21. *T. curtisii* (King)Ridl.: Allen 5 ii '57; Chin 111, 347, 386, 403, 507, 762, 1058, 1698; Corner 37892, 38140; Henderson 29692, 22568; Holttum 15124; Kerr 21734; Kiah 35310; Molesworth-Allen 4293; Ng FRI 1597, 5576; Nur 34383; Ogata KEP 110162, KEP 110171; Ridley 8241; Stone 5902, 5903, 7476, 8927, 8928, 9522; UNESCO 164, 331. *T. pulchra* Ridl.: UNESCO 16, 272, 545. *T. ridleyi* (Pears.)Ridl.: Chin 451; Henderson 23827. *Tectaria amplifolia* (v.A.v.R.)C.Chr.: Burkhill 13940; Chin 2, 770; Chin & Mahmud 1309; Curtis 3374; Henderson 19394, 19511, 22276, 22379, 23755, 29708; King's coll. 4713, 5908; Nur 3 xi '37; Sinclair 9867; UNESCO 551. *T. barberi* (Hk.)Copel.: Chin 650. *T. devexa* (Ktze)Copel.: Chin & Mahmud 1307; Curtis 3375; Henderson 22432; Keng 281; Shimizu & Stone T 14377, 14382, 14383; UNESCO 253, 260. *T. griffithii* (Bak.)C.Chr.: Chin 425; Shimizu & Stone M 13730. *T. macrodonta* (Fee)C.Chr.: Curtis 3376. *T. variolosa* (Wall.)C.Chr.: Chin 517, 1739; Corner 19 xi '41; Corner & Henderson 22807; Holttum 15123; Kiah 35315. *Terminalia calamansanai* (Blanco)Rolle: Corner 29399; Henderson 28946. *T. triptera* Stapf.: Chin 515; Corner 38128; Keng 6214; Kiah 35414. *Tetracera scandens* (L.)Merr.: UNESCO 194. *Tetragastigma kunstleri* (King)Craib: Chin 494, 787, 833, 1254; Henderson 25201; Stone 8827. *T. lanceolarium* (Roxb.)Planch.: Kiah 35243. *T. peduncularis* (Wall.)Planch.: Chin 789, 810; Samsuri & Mahmud 562. *T. scortechinii* (King)Gagn.: Henderson 23793. *T. wrayi* (King)Craib: Corner & Nauen 25 xi '41; Ridley 27 xii '20. *Thecostele alata* (Roxb.) Par. et Rchb.: Henderson 22251; UNESCO 169. *Thelasis carinata* Bl.: Henderson 22255. *T. micrantha* (Bronn.)J.J.S.: Chin 162, 457, 1399; Henderson 22460, 25248, 29684; Ng FRI 1911; UNESCO 67, 158. *T. succosa* Carr: Chin 429, 1403. *T. triptera* Rchb.f.: Chin 467; Dransfield 912; Henderson 22249, 22461; Nur 25155; UNESCO 145, 294, 295. *Thelypteris immersa* (Bl.)Ching: Carr 22382, 22384; Chin 80, 1805; Corner & Nauen 25 xi '41; Henderson 22357; Phang 15 xi '68. *Thespisia populnea* (L.)Sol. ex Corr.: Chin 520. *Thrixspermum album* (Ridl.)Schltr: Stone 6989. *T. amplexicaula* (Bl.)Rchb.f.: Henderson 22944. *Thunbergia fragrans* Roxb.: Chin 1740. *Timonius atropurpureus* Craib: Chin 1834; Corner 37852; Henderson 29101; Holttum 15129; Spare 36328; Stone 6993, 9143. *Tinomiscium petiolare* Miers: ex Hk.f. et Thoms.: Whitmore FRI 4241. *Tinospora crispa* (L.)Miers ex Hk.f. et Thoms.: Chin 960; Samsuri & Mahmud 636. *Toxicocarpus curtisii* K.et G.: Chin 402; Stone 6925; UNESCO 237; Whitmore FRI 12163. *T. pauciflorus* Henders.: Chin 353, 791; Stone & Mahmud 12620; UNESCO 184. *Trema orientalis* (L.)Bl.: Chin 382. *T. tomentosa* (Roxb.)Hara: Chin 1379. *Trichoglossis misera* (Ridl.)Holtt.: Henderson 21 xi '34. *T. retusa* Bl.: Carr 87; Chin 115, 1253, 1540, 1599; Henderson 22243, 22573, 29685; Kelsall i 1891; UNESCO 168, 292. *T. winkleri* J.J.S. var. *minor* J.J.S.: Carr 423. *Trichomanes bipunctatum* Poir.: Chin 89, 554, 693, 1044, 1124, 1465; Henderson 19512; Ridley 8143; UNESCO 81, 186, 591. *T. christii* Copel.: UNESCO 39. *T. humile* Forst.: Chin 687. *T. motleyi* Bosch: Chin 695. *Trichosanthes tricuspidata* Lour.: Corner 20 xi '41; Henderson 25225; Stone 9077. *Tridax procumbens* L.: Chin 978. *Trigonostemon aurantiacus* (Kurz ex Teijsm. et Binn.) Boerl.: Burkhill 6302, 6311; Chew 40995; Henderson 29080; Nauen 38124. *T. villosus* Hk.f.: Whitmore FRI 752. *T. viridissimus* (Kurz)Airy Shaw: Chin 1034, 1097, 1179; Strugnell KEP 20275. *Tristania merguensis* Griff.: Nur 25100. *T. subauriculata* King: King's coll. 8253. *Trivalvaria macrophylla* (Bl.)Miq.: Burkhill 6342; Chin 470, 531, 998; Chin & Badaruddin 1697; Sinclair 40060. *Tropidia curculigoides* Lindl.: Kiah 35400. *Tupistra grandis* Ridl.: Henderson 29179; UNESCO 565. *Turpinia ovalifolia* Elmer: UNESCO 683. *Tylophora calcicola* Henders.: Henderson 19583, 25204. *T. perakensis* K.et G.: Haniff 635. *T. tenuis* Bl.: Burkhill 6351; Henderson 22916. *Typhonium filiforme* Ridl.: Henderson 22824; Ridley 9620. *T. fultum* Ridl.: Henderson 25041; Ridley 8165.

Uncifera tenuicaulis (Hk.f.)Holtt.: Carr 233; Chin 1665; Henderson 21399, 22236. *Urena lobata* L.: Chin 579. *Urophyllum corymbosum* Korth.: UNESCO 546. *U. glabrum* Wall.: Stone 7495; UNESCO 94. *Utricularia minutissima* Vahl: Holttum 17427. *Uvaria javana* Dunal: King's coll. 5945; Whitmore FRI 700.

Vaccinium littoreum Miq.: Chin 56; UNESCO 644A. *Vandopsis gigantea* (Lindl.)Pfitz.: Ridley ii 1897; Stone 6981. *Vatica cinerea* King: Kiah 35257, UNESCO 174, 307. *Ventilago gladiata* Pierre: Chin 981; UNESCO 138. *V. oblongifolia* Bl.: Chin 533; Ridley 13349. *Vernonia cinerea* (L.)Less.: Samat 5. *V. curtisii* Craib & Hutch.: Chin 508. *V. rupicola* Ridl.: Corner 37828; Henderson 28927; Ridley 15863. *Viburnum sambucinum* Bl.: UNESCO 117. *Villebrunea sylvatica* (Miq.)Bl.: Burkhill 4419; Chin 78; Stone 8816; Whitmore FRI 12155. *Viscum orientale* Willd.: Chin 1747. *Vitex pubescens* Vahl: Henderson 28943. *V. siamica* Willd.: Best 21283; Chew 191; Chin 46, 1388; Corner 38148, 13 xi '41; Henderson 22269, 22464.

25053, 29696; Holttum 15095; Keng et al. 6223; Kiah 35309, 35380; Nur 25151, 34381; Ogata KEP 110180; Ridley 8535; Smith FRI 72558; Stone 5894, 6922, 6994, 8931; Turnau 773, UNESCO 173, 319; Whitmore FRI 12158. *Vitis martinelli* Kew ex Planch: Kiah 35392. *Vittaria angustifolia* Bl.: Corner & Henderson 22813, 23131; Henderson 29070. *V. elongata* Sw.: Chin 1705, 1762A.

Wikstroemia androsaemifolia Decne: Chin 146, 412, 1159; Stone 5888, 7308; Whitmore FRI 12164. *W. indica* (L.)C.A. Mey.: Chin 521, 1748, 1837; Corner 37837, 37856; Hashim Jaafar 238; Henderson 25093, 29055; Ridley xii 1896; Symington FMS 46733; Whitmore FRI 15063. *W. polyantha* Merr.: UNESCO 338. *Wrightia dubia* (Sims)Spreng.: Kiah 11 iv '38. *W. laevis* Hk.f.: Henderson 19599; Kiah 35275.

Xylocarpus granatum Koen.: Henderson 29159.

Zingiber spectabile Griff.: Henderson 23818. *Zippelia begoniaefolia* Bl.: Henderson 19556. *Zizyphus oenoplia* Mill.: Allen 3 iii '57; Henderson 28940, 7 vi '30; Kerr 21742; Molesworth-Allen 4291; Samsuri & Mahmud 591; Stone 7471, 9527; Stone & Lewis 9574; UNESCO 468. *Z. pernettyoides* Ridl.: Chin 343.