

GROUP D: EPIPHYTES (other than ferns)

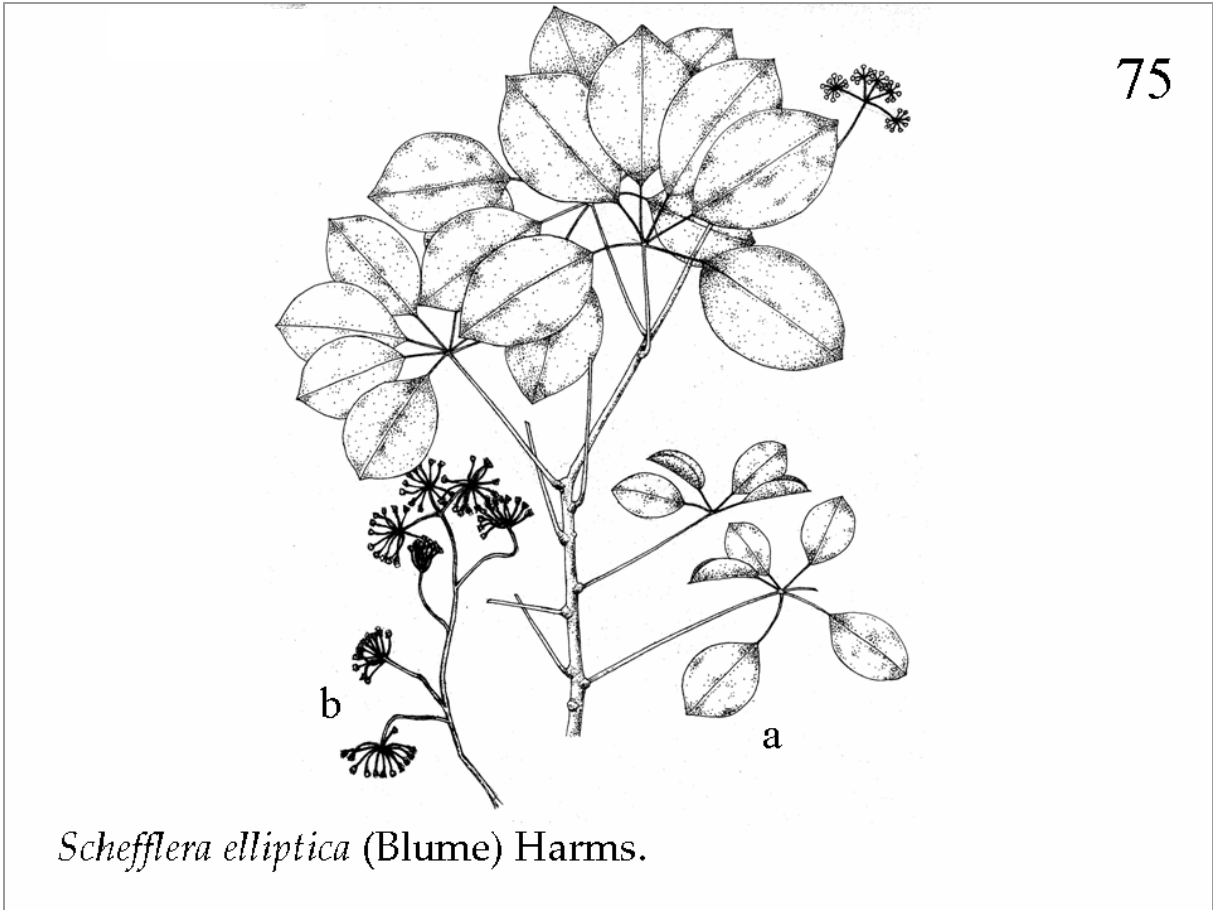


Fig. 75. *Schefflera elliptica* (Blume) Harms. (a) Fruiting branches, and (b) fruit cluster.

ARALIACEAE

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***Schefflera elliptica* (Blume) Harms.**

Synonyms : *Paratropia micrantha* Miq., *Schefflera elliptica* var. *microphylla* Harms., *Schefflera micrantha* (Miq.) Ridley, *Schefflera minimiflora* Ridley, *Schefflera nitida* Merr., *Schefflera venulosa* sensu Ridley, *Schefflera venulosa* var. *curtisii* Ridley, *Sciandophyllum elliptica* Blume

Vernacular name(s) : Unknown.

Description : (Often) epiphytic woody climber to straggling shrub, with broadly spreading and sometimes drooping branches; unarmed. Leaves compound, hand-shaped, leaflets 4-6, smooth, ovate-elliptic to obovate-elliptic, not more than 1.5 times as long as broad. Flower clusters with some branches as long as or shorter than the elongated main axis. Flowers very small; calyx inconspicuous. Fruits usually splitting into 5-6 parts, yellow or orange, later black.

Ecology : Lowland hill forest and scrub, sometimes along rivers and also frequent along coasts and in mangrove formations. In mangroves it usually occurs as an epiphyte. Mangrove associate species.

Distribution : East and Southeast Asian species, recorded from Thailand, Southern China, Malaysia, Singapore, Indonesia (Java, Sumatra, Sulawesi) and the Philippines.

Abundance : Widespread and common.

Use(s) : Unknown.

Source of illustration : Online collection Leiden Herbarium, the Netherlands.

Reference(s) : Stone (1978).

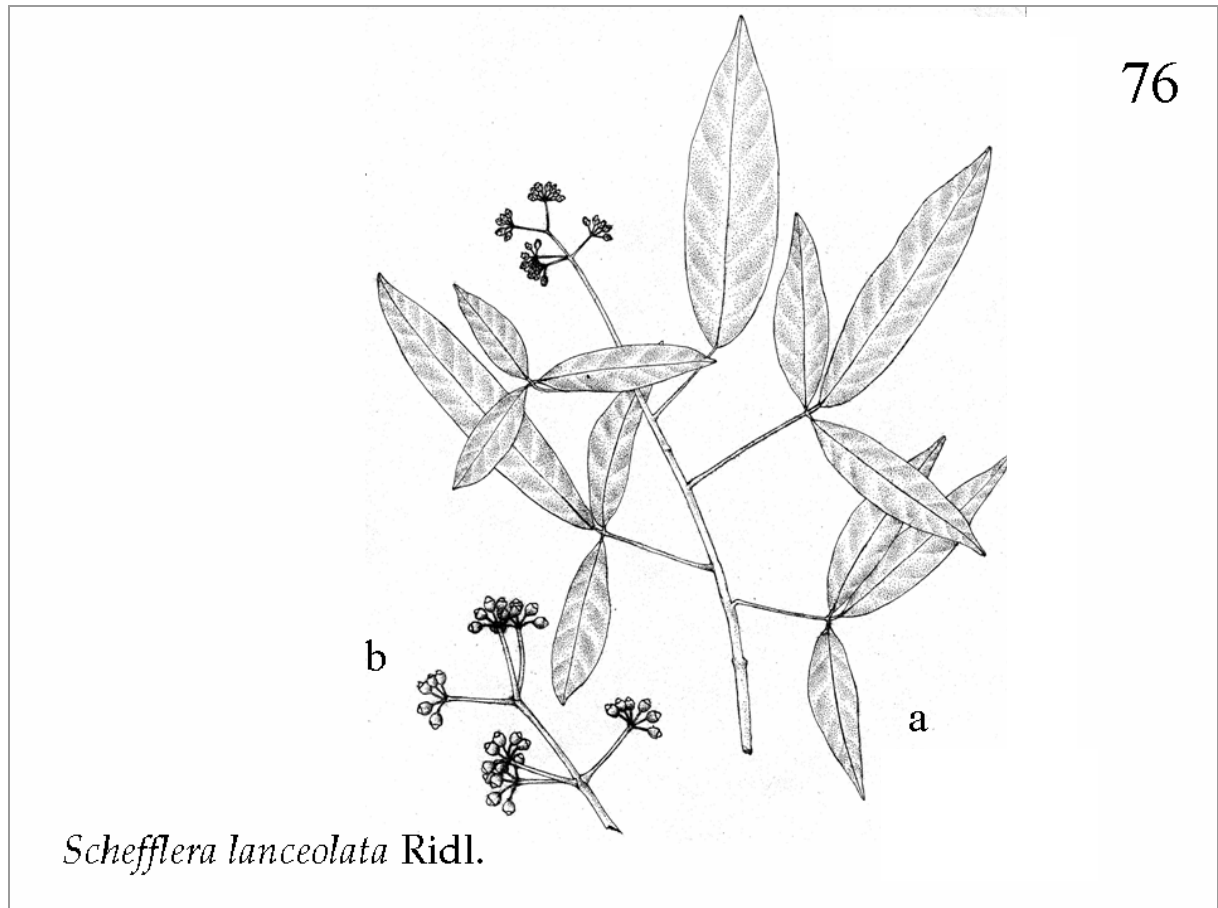


Fig. 76. *Schefflera lanceolata* Ridl. (a) Fruiting branches, and (b) fruit cluster.

ARALIACEAE

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***Schefflera lanceolata* Ridl.**

Synonyms : *Heptapleurum avene* sensu King non Seemann

Vernacular name(s) : Unknown.

Description : A slender, epiphytic, unarmed climber. Leaves simple or trifoliate: simple on the upper parts of the plant, and trifoliate on the lower parts; on the whole, simple leaves predominate; these are spirally or alternately arranged. Leaves thinly leathery, leaf edges flat, venation evident to merely obscure; stipules fused and strap-shaped, like a ligula in grasses. Flower clusters larger than the leaf, drooping. Calyx inconspicuous. In appearance similar to *Schefflera simplicifolia* Merr..

Ecology : Coastal lowlands, occurring on river banks, rocky coasts (where it may occur growing on rocks rather than as an epiphyte) and in mangroves. Mangrove associate species.

Distribution : Southeast Asian species, known from Peninsular Malaysia (Telok Sisik in Pahang; Trengganu) and Singapore (type locality Sungei Murei, where it may have disappeared). Sungei Murei lies in the western part of Singapore and is part of the Western Catchment; nowadays it consists of a series of small, coastal freshwater lagoons, created by damming up river mouths (pers. comm. Dr. Darren Yeo, University of Singapore, November 2004).

Abundance : Uncommon to rare, with a very restricted range. Possibly no longer found in Singapore.

Use(s) : Unknown.

Source of illustration : Based on digital images provided by Royal Botanic Gardens, Kew (RBG Kew) of specimen K000250955, and the type specimen K000250956. With the permission of the Board of Trustees of The Royal Botanic Gardens, Kew.

Reference(s) : Stone (1978);
Journal of the Federated Malay States Museums 10: 137. 1920.

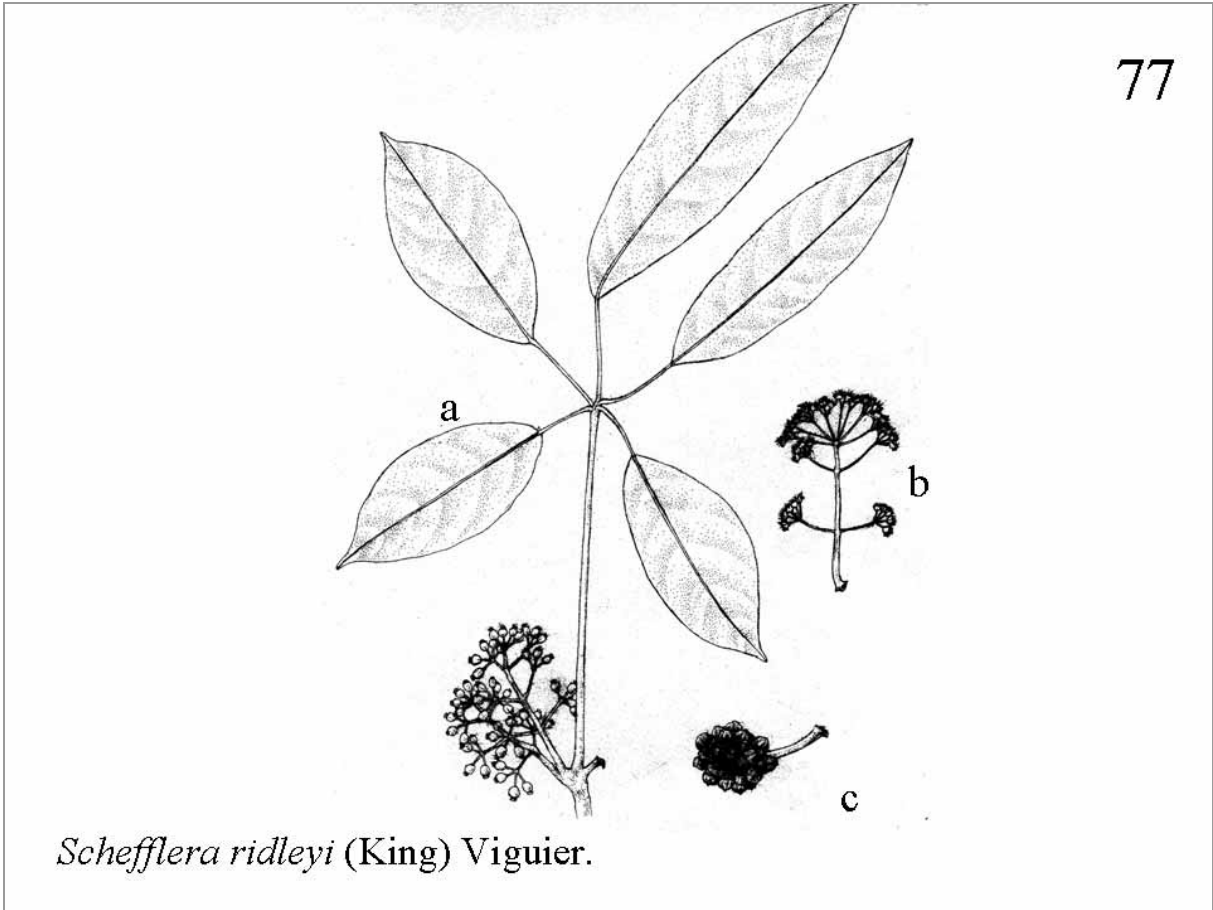


Fig. 77. *Schefflera ridleii* (King) Viguier. (a) 5-lobed leaf with cluster of fruit, (b) flower cluster, and (c) fruit cluster.

ARALIACEAE

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***Schefflera ridleii* (King) Viguier**

Synonyms : *Schefflera musangensis* Hend., *Scheffleropsis polyandra* (Ridley) Ridley

Vernacular name(s) : Unknown.

Description : Epiphytic, sometimes straggling shrub, occasionally terrestrial on rocks near sea coasts; unarmed. Compound leaves, hand-shaped, with 3-7 leaflets; leaflets thin, with narrowed base, pointed tip, and leaf edges coarsely and obscurely toothed; dark green above, lighter below. Flower clusters in panicles that are large and open. Flowers small, cream-coloured and fragrant, ovary 6-8 locular; stamens 6-16. Calyx inconspicuous.

Ecology : Epiphyte, that may occasionally be terrestrial on rocks near sea coasts. Occurs in lowland and hill forest up to an altitude of 900 m asl. sometimes extending into the montane zone up to 1150m asl. Often as epiphyte along rivers. Recorded in mangroves in southern Peninsular Malaysia and Singapore. Mangrove associate species.

Distribution : Southeast Asian species, recorded from Peninsular Malaysia (Malacca, Johore, Pahang, Trengganu, Kelantan) and Singapore.

Abundance : Locally common.

Use(s) : Unknown.

Source of illustration : Photo of herbarium specimens kept at FRIM herbarium (composite of several specimens).

Reference(s) : Stone (1978), FRIM herbarium (Mohd. Shah & Mohd. Noor No. M8. 1805, collected in Ulu Sungai Sat, Pahang on 11 July 1970).

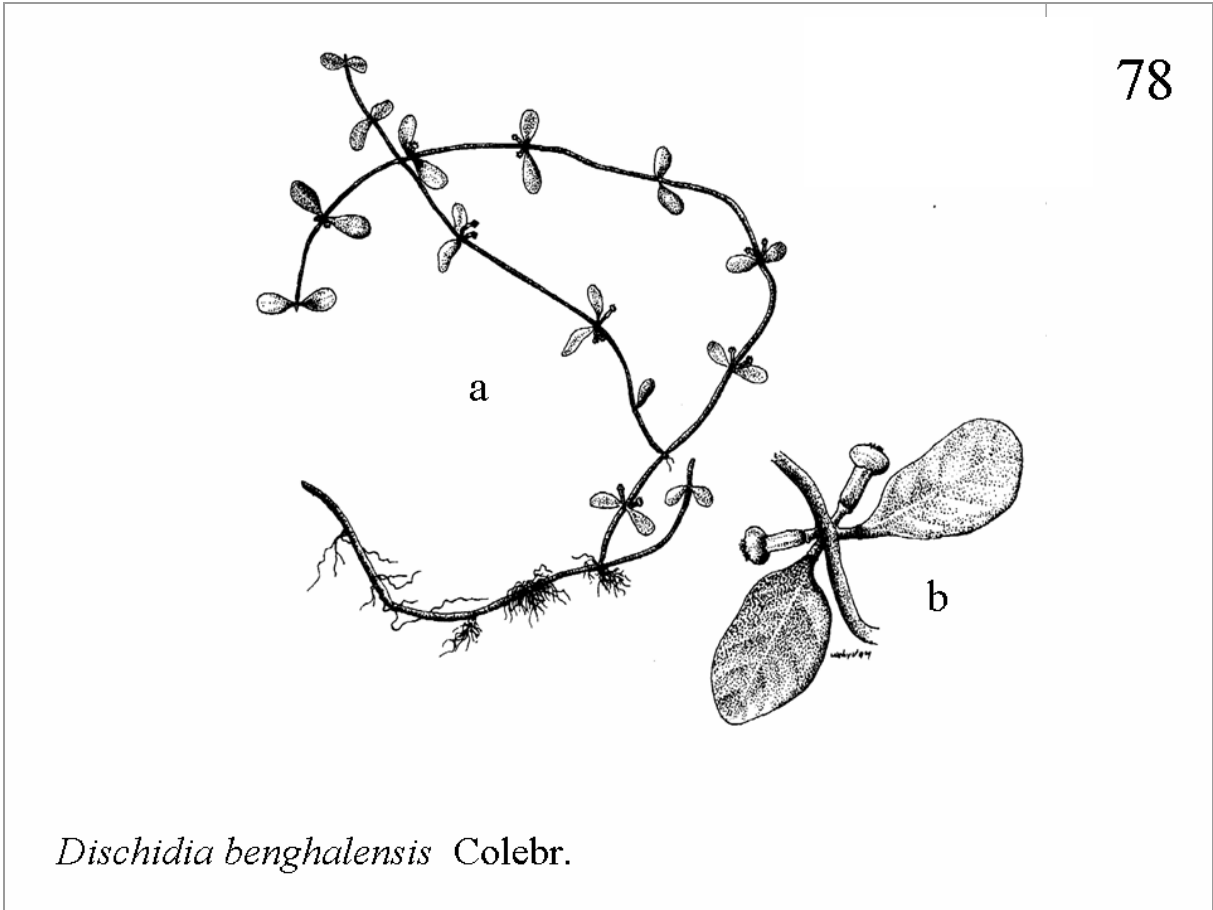


Fig. 78. *Dischidia benghalensis* Colebr. (a) Habit of flowering stem, and (b) detail of two fruits.

ASCLEPIADACEAE

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***Dischidia benghalensis* Colebr.**

Synonyms : *Dischidia benghalensis* var. *cuneifolia* (Wall.) Kuntze, *Dischidia benghalensis* var. *spathulata* (Blume) Kuntze, *Dischidia cuneifolia* Wall., *Dischidia spathulata* (Bl.)

Vernacular name(s) : Daun pitis kecil, Daun korpa (Mal., Ind.)

Description : Climbing, fleshy epiphytic herb, 30-100 cm long, with a smooth stem and pendulous roots emerging from nodes. Leaves have very short stalks, are smooth and occur in widely spaced pairs. They are light green or yellowish-green and may occur in various shapes on the same plant. Some are smooth and round, thickly fleshy, linear or linear-spoon-shaped, 1.5-4 cm long. Other leaves are flat, oblong-lanceolate or oblong-obovate, 1.5-2.5 cm long. Flowers occur between the stalks of a leaf pair or terminally in dense, often umbrella-shaped clusters. The stalk of a flower cluster is at most 5 mm long and bears at most 10 flowers. The corolla is yellowish-white and 4 mm long. Calyx and tube of the corolla are virtually smooth and free of hairs. The circle of scale-like appendages between corolla and stamens is divided into two narrow segments that are recurved. Fruits are 4-6 cm long.

Ecology : Occurs in open forest, on village and roadside trees and in mangroves, up to an altitude of 600 m. Flowering occurs all year round. Mangrove associate species.

Distribution : From India and Bhutan, eastwards to Southeast Asia, where it has been recorded in Myanmar, Cambodia, Thailand, Vietnam, Malaysia (Peninsular) and Indonesia (Sumatra, Java).

Abundance : Relatively common.

Use(s) : Unknown.

Source of illustration : Drawn from herbarium specimen, Bogor Herbarium.

Reference(s) : Backer & Bakhuizen van den Brink (1963-8), Rahman & Wilcock (1995), Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org/>).

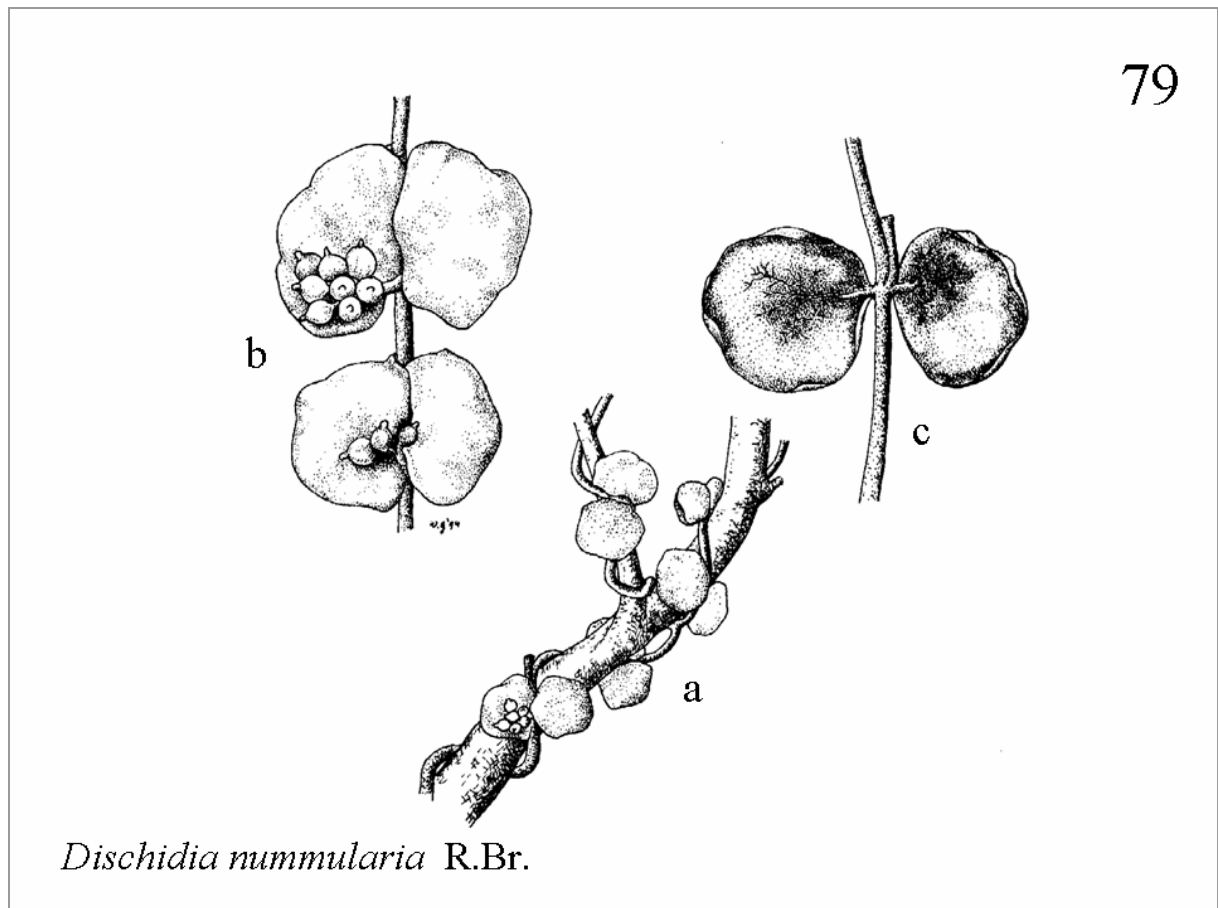


Fig. 79. *Dischidia nummularia* R.Br. (a) Flowering stem, (b) detail of flowering stem showing flower cluster and two leaves, and (c) two leaves.

ASCLEPIADACEAE

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***Dischidia nummularia* R.Br.**

Synonyms : *Collyris minor* Vahl., *Dischidia gaudichaudii* Decne., *Dischidia minor* (Vahl.) Merr., *Dischidia orbicularis* Decne., *Nummularia lactea minor* Rumph.

Vernacular name(s) : Daun Pitis Kecil, Turak (Ind.), Dây môc tiê'n (Viet.)

Description : Epiphytic herb, 10-50 cm long, with a much divided, smooth stem. The flat and smooth leaves are all similarly shaped, broadly oval-orbicular and with a very short point. The top of the leaf appears to be covered with 'powder' and may be dotted, while underneath the leaves are not dotted, but are obscurely veined. Leaves are 1-1.5 times as long as wide, measuring 4-11 by 4-8 mm. Flowers are located between the stalks of a leaf pair or occur at the end of branchlets in dense, often umbrella-shaped groups on stalks. The calyx is smooth, but inside the red, 3 mm-long corolla there is a tuft of hairs at the base of each segment. The circle of scale-like appendages between corolla and stamens is divided into two segments. Fruits are 2.5-4 cm long, and the seeds contain fat particles that attract ants.

Ecology : On wayside trees, in mangroves, and in mixed- and teak forests, up to an altitude of 550 m. Flowering occurs from May to November. The seeds are often dragged away by ants which feed upon the fat particles. Mangrove associate species.

Distribution : From Sri Lanka, India and Bangladesh through Southeast Asia and Australia. In Southeast Asia it has been recorded in Myanmar, Cambodia, Vietnam, Thailand, Malaysia, Singapore, Brunei, Indonesia (throughout) and Papua New Guinea.

Abundance : Very common.

Use(s) : The abundant latex has been used to ease the pain of stings from *Ikan Sembilang* (a spiny catfish) and *Ikan Swaggi*. Leaves are used to treat gonorrhoea and *aphthae tropicae* (tropical sores).

Source of illustration : Drawn from herbarium specimen, Bogor Herbarium, and based on Holttum (1954).

Reference(s) : Heyne (1950), Backer & Bakhuizen van den Brink (1963-8), Rahman & Wilcock (1995), Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org/>).

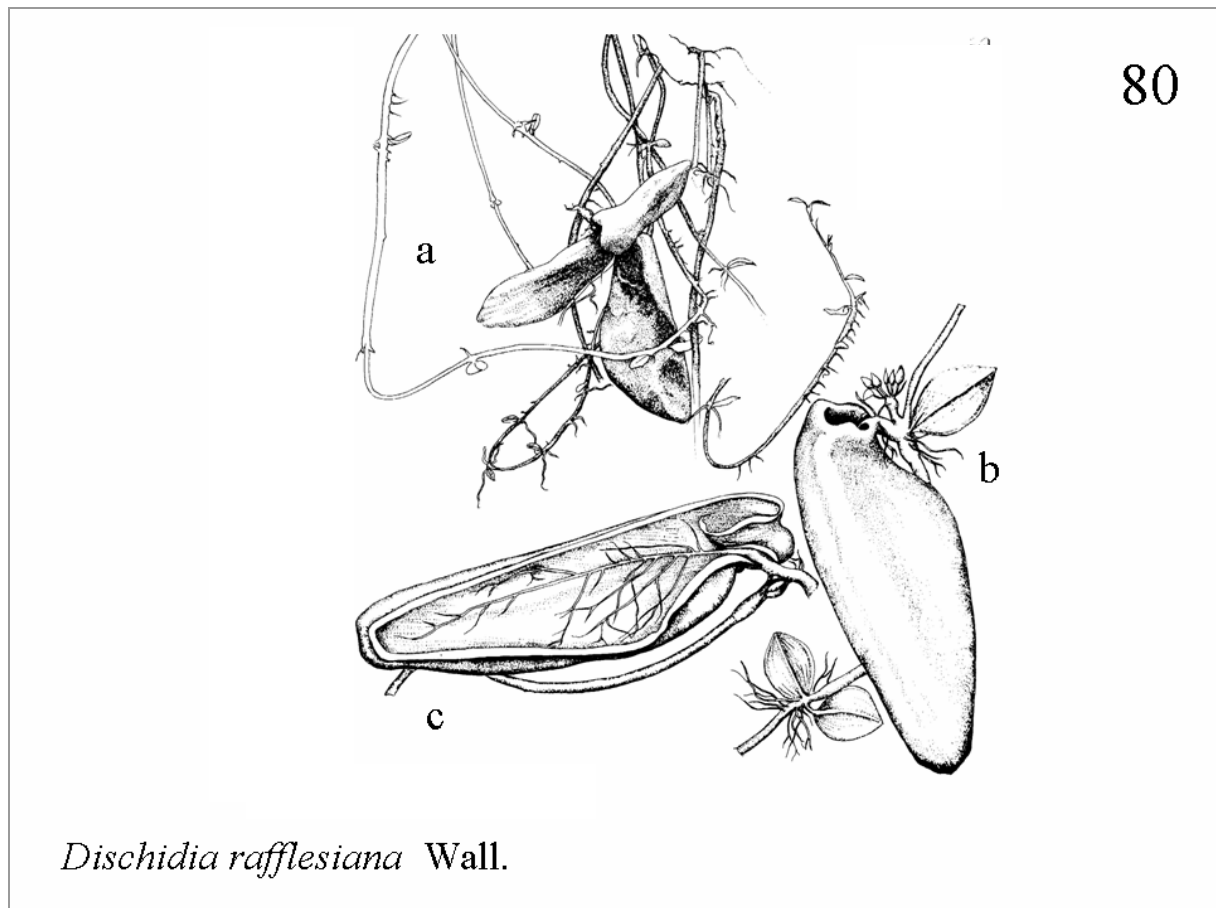


Fig. 80. *Dischidia rafflesiana* Wall. (a) Flowering stem, (b) detail of flowering stem showing large and small leaves, and flower cluster, and (c) detail of underside of large leaf.

ASCLEPIADACEAE

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Dischidia rafflesiana* Wall.*Synonyms :** Unknown.**Vernacular name(s) :** Flower pot plant, Malayan urn vine (E), Akar Kul, Akar Banok, Akar Bani (Ind.), Dâ y Mõ qua (Viet.), Chuk rohini, Gluey mu lang (Thai)**Description :** A climbing and winding epiphytic herb with a smooth stem. Its leaves are partly, and often group-wise, transformed into minutely stalked, bag-shaped, narrow-mouthed ‘vessels’ or ‘pitchers’ (similar to those of the pitcher plant, *Nepenthes*) that are green or yellow on the outside and purple inside, and 5-12.5 cm long. The normal, smooth, ovate-elliptic-orbicular leaves are thick fleshy, have short stalks, occur in widely-spaced pairs and measure 1-2 cm. The calyx is 1 mm long, and, together with the outside of the corolla tube, is sparsely covered with short hairs. The 5 mm-long corolla is pale yellow, and the mouth of the tube is tinged with purple. The circle of scale-like appendages between corolla and stamens are two-lobed. The lobes are recurved, and have a small, bent tip. The fruits are orange-yellow, 5-7.5 cm long with hairs that are 2.5 mm or longer, and contain fat particles that attract ants.**Ecology :** Occurs in sunny or slightly shaded localities, up to an altitude of 600 m, in teak- and secondary mixed forests, on roadside trees and in mangroves. The climbing, winding stems frequently coat the branches and the higher parts of a not-too-shaded tree trunk, often hanging down in long garlands. Flowering occurs all year round. Very frequently the ‘pitchers’ contain rain water and detritus. Near the mouth of the pitcher the stem emits a much-branched root which descends deeply into the pitcher. Pitchers are often inhabited by ants. The seeds are often dragged away by ants, which feed on fat particles produced by the plant. In Thailand recorded on *Sonneratia ovata* and *Excoecaria agallocha*. Mangrove associate species.**Distribution :** From India through Southeast Asia to Australia. In Southeast Asia recorded from Myanmar, Thailand, Vietnam, Malaysia, Brunei and Indonesia.**Abundance :** Common.**Use(s) :** Root may be folded in the betel-nut quid and chewed to cure coughs.**Source of illustration :** Holttum (1954).**Reference(s) :** Burkill (1935), Backer & Bakhuizen van den Brink (1963-8), Aksornkoae (1993), http://florawww.eeb.uconn.edu/acc_num/200300316.html, Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org/>).

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Hoya parasitica (Roxb.) Wall. ex Wight.

Fig. 81. *Hoya parasitica* (Roxb.) Wall. ex Wight. (a) Flowering plant, and (b) detail of flower cluster.

ASCLEPIADACEAE

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Hoya parasitica* (Roxb.) Wall. ex Wight*Synonyms :** *Asclepias parasitica* Roxb., *Hoya hookeriana* Wight**Vernacular name(s) :** Wax plant (E), Nom pi kad, Nom tam lia (Thai)**Description :** Epiphytic, creeping shrub, with stout, smooth branches, 0.8-1.5 m long, somewhat pendulous. Leaves are variable, ovate-elliptic, oblong-elliptic or lanceolate, fleshy and smooth, 10-15.5 cm by 2.5-3.5(-5) cm, with a pointed tip. Copious amounts of white latex are present in all parts of the plant. Flowers are present in umbrella-shaped, pendulous, many flowered clusters; flower cluster stems are stout, about 3-5.5 cm long. Calyx lobes are oblong, with blunt tips, 1.2-1.8 cm long, and whitish. The corolla is smooth on the outside, with a 3-4 mm long tube; corolla lobes are broadly ovate, with sharp tips, 4-5 mm long, pale pink to purplish, with short hairs on the inside. Fruits (called 'follicles') are either solitary or occur in pairs, 10-15 cm long, pointed, smooth, and brown spotted. Seeds are 4-5 mm long, oblong-elliptic, with hairs 3.5-4 cm long.**Ecology :** In spite of the scientific name, the plant is a non-parasitic epiphyte. It is found in a wide variety of habitats including mangroves. In Thailand it has been recorded on *Excoecaria agallocha* (Aksornkoe, 1993). Mangrove associate species.**Distribution :** Found from India to Thailand and Cambodia, including Myanmar and Peninsular Malaysia.**Abundance :** Locally common.**Use(s) :** Not described, but possibly has potential as an ornamental.**Source of illustration :** Ahmed (1997), www.TeessideCacti.org**Reference(s) :** Aksornkoe (1993), Rahman & Wilcock (1995).

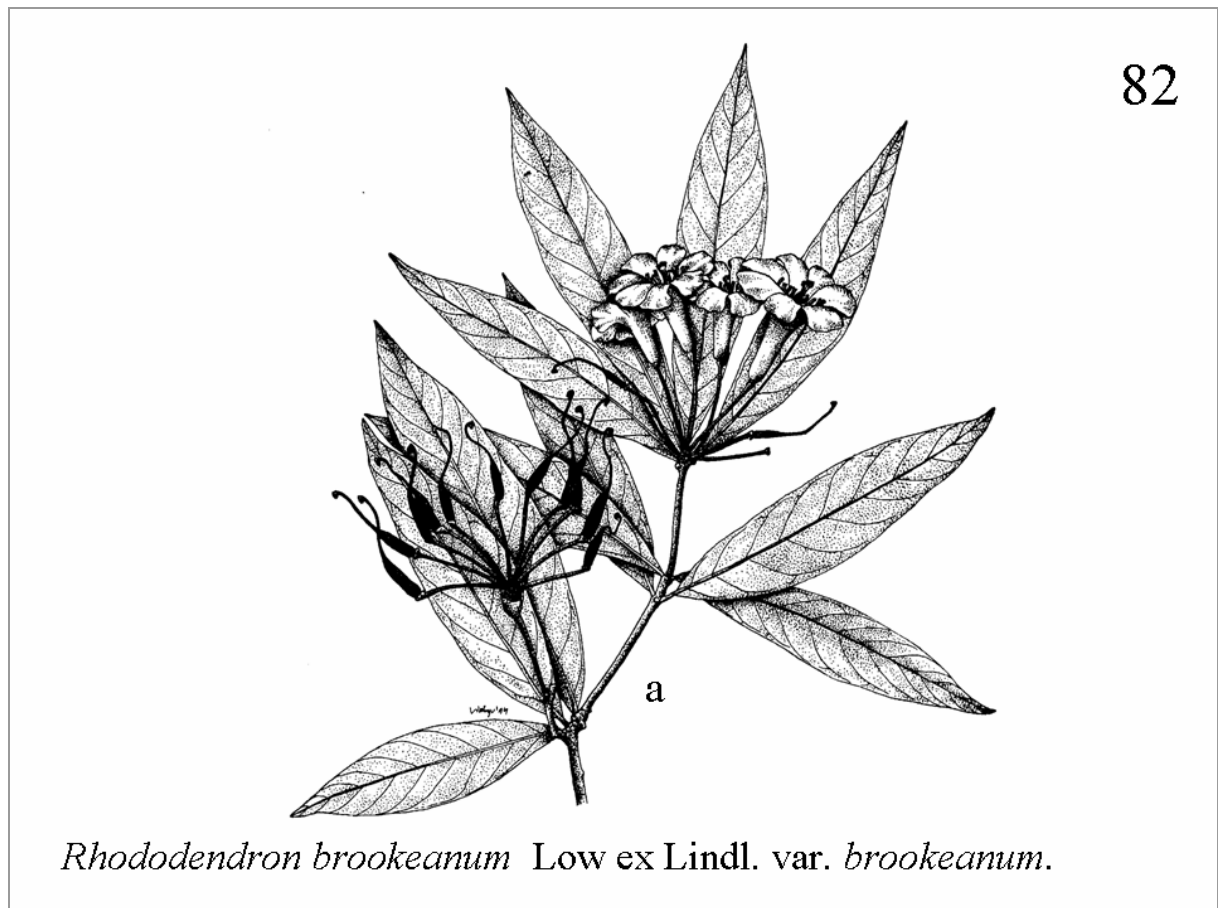


Fig. 82. *Rhododendron brookeanum* Low ex Lindl. var. *brookeanum*. (a) Detail of branchlet with flowers and fruits.

ERICACEAE

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Rhododendron brookeanum* Low ex Lindl. var. *brookeanum**Synonym(s) :** *Azalea brookeana* Low ex Lindl.**Vernacular name(s) :** Unknown.

Description : Epiphytic or terrestrial shrub, up to 2 m, occasionally 4 m tall, with large, fleshy roots. The upper internodes, which measure 2-15 cm by 3-6 mm, are bluntly-angular or almost cylindrical, and set with scales. The lower internodes are cylindrical and smooth. The more or less leathery and smooth leaves, 12-28 by 3-9 cm, occur in 3-4(-5)-merous pseudo whorls on the upper 1-2 nodes. Leaves are oblong or lanceolate-oblong, often almost without a stalk. After falling off, the scales leave dense, minute, dark depressions on the leaves. The flower heads have 5-14 flowers. Flower stalks are 2-5 cm long and often scaly. The calyx is 4-5 mm long. The funnel-shaped, more or less fleshy, often lemon-scented corolla, 5-9 cm long, is a beautiful orange-pink colour, with a white or cream centre. The corolla may occasionally be pale golden-yellow, or more rarely, a brick-red colour with a yellowish throat. When aging, the corolla turns red or rosy-orange on the outside. The nearly cylindrical fruit measures 4-5 by almost 1 cm. It is scaly and covered with short, soft hairs. The fruit stalk is 3-6 cm, and the seeds measure 7-9 mm, including the 'tails'. Four varieties are recognized: *Rhododendron brookeanum* var. *brookeanum* (endemic to Borneo), var. *cladotrichum* (rare, once found in East Kalimantan), var. *gracile* (endemic to Borneo), and var. *extraneum* (found in West Sumatra). The description above is for var. *brookeanum*, which is the only variety found in mangroves.

Ecology : Epiphytic on mangrove trees or rocks, occurring from sea level up to an altitude of 1,525 m in moss forest. It has a preference for trees along rivers. Flowering occurs throughout the year. Mangrove associate species.

Distribution : Endemic to Borneo (Indonesian Kalimantan, Brunei, Sarawak).

Abundance : Unknown. Probably uncommon, but possibly quite rare.

Use(s) : Formerly used for cross-pollination of cultivated *Rhododendrons*; now practically out of cultivation.

Source of illustration : Drawn from herbarium specimen, Bogor Herbarium.

Reference(s) : Sleumer (1966).

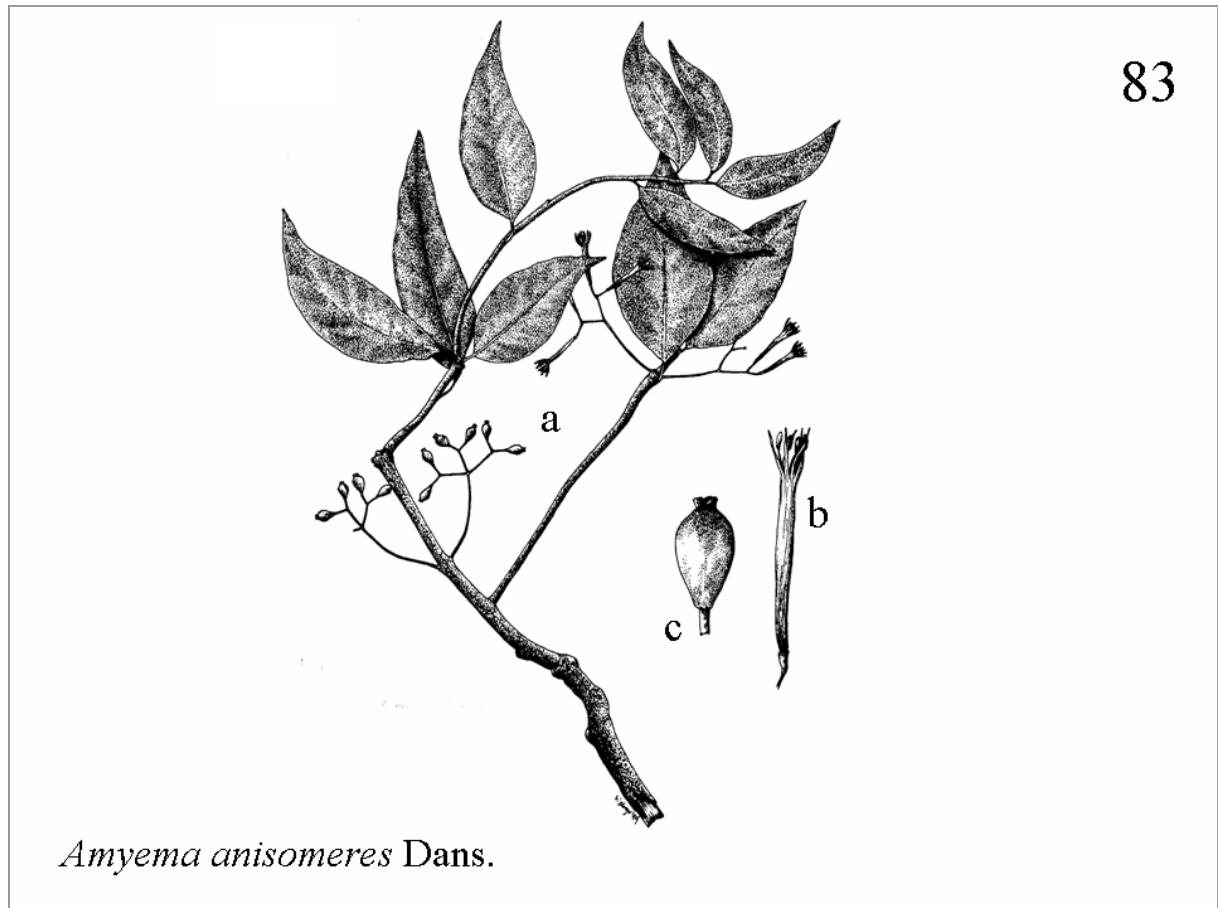


Fig. 83. *Amyema anisomeres* Dans. (a) Flowering and fruiting branchlet, (b) flower, and (c) fruit.

LORANTHACEAE

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Amyema anisomeres* Dans.*Synonyms :** Unknown.**Vernacular name(s) :** Unknown.

Description : Smooth parasitic epiphyte, with round branchlets. Leaves are sparse and opposite, oblong to lanceolate, measuring 5.5-8.5 by 1.25-3 cm. The base of the leaf tapers narrowly to the 8-10 mm-long leaf stalk. Flower clusters occur singularly or paired in leaf axils, with drooping, umbrella-like groups of three flowers. The flower stalk is round and 4-7 mm long. The calyx tube is funnel-shaped and 2.5 mm long. The corolla is orange coloured, almost cylindrical, 19-20 mm long, with 4 or 5 blunt petals that measure 3.5 mm. The loose part of the filaments (of the anthers) is 1.5 mm long, and the anthers themselves are oblong and measure 1 mm. Fruit is unknown. One of the few species that is possibly endemic to Southeast Asian mangroves.

Ecology : Collected only once in *Rhizophora* mangroves. True mangrove epiphyte species, as it is known only from this habitat.

Distribution : Probably very localised, as it has only been collected once, at Kampong Lato-u near Malili in South Sulawesi, Indonesia. Endemic to Sulawesi.

Abundance : Very rare. As the mangroves in the Malili area are under threat due to conversion, this species may be considered endangered.

Use(s) : Unknown.

Source of illustration : Drawn from herbarium specimen, Bogor Herbarium.

Reference(s) : Danser (1931).

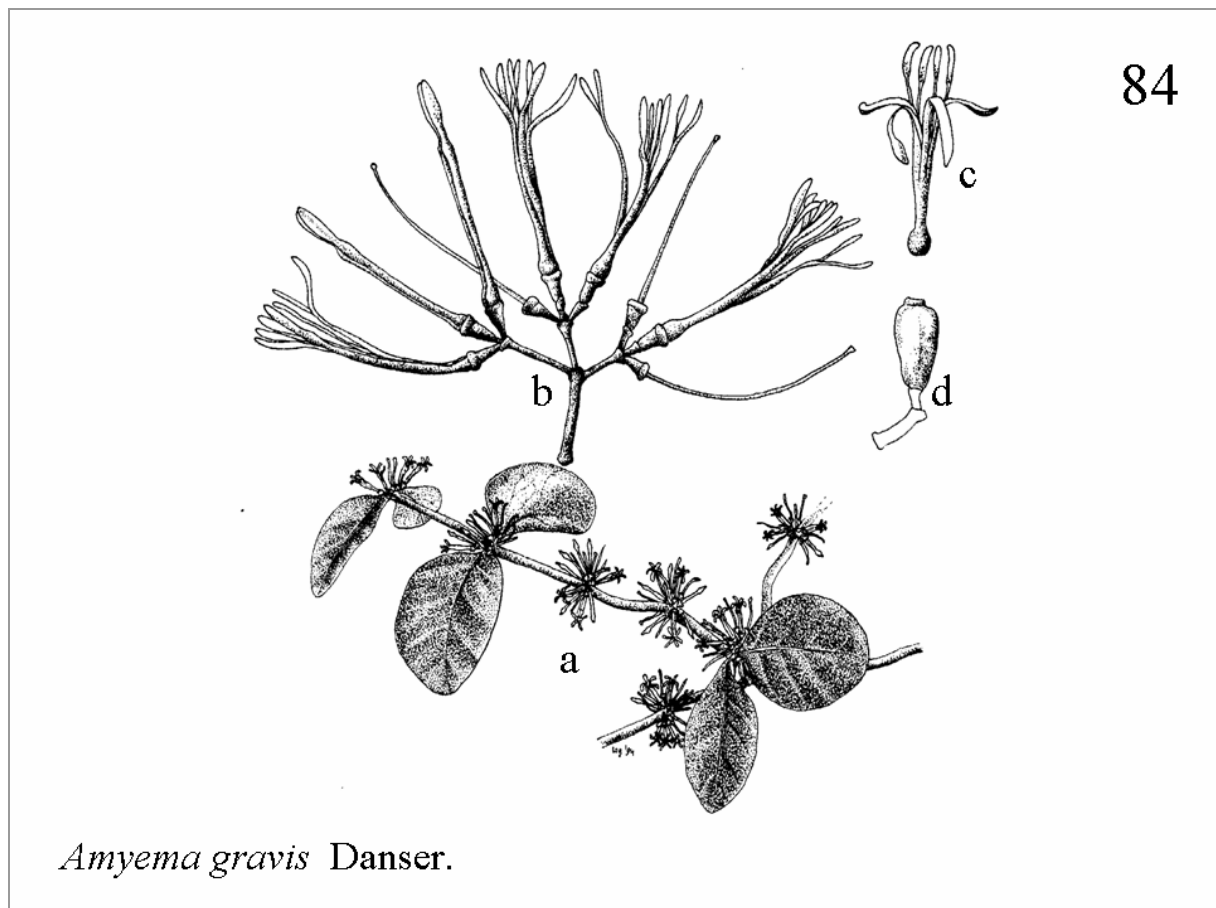


Fig. 84. *Amyema gravis* Danser. (a) Flowering branchlet, (b) cluster of flowers, (c) flower, and (d) fruit.

LORANTHACEAE

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Amyema gravis* Danser*Synonyms :** *Loranthus obovatus* Schröt. & Back.**Vernacular name(s) :** Unknown.**Description :** Hemi-parasite that usually hangs upside down and measures 0.5-1 m. It has very thick, fleshy opposite leaves 1.5-3 by 2.5-5 cm, with a leaf stalk of 3-5 mm. The flower clusters occur solitarily in the leaf axils. The clusters consist of 2-3 stalked groups of three, and therefore number 6-9 flowers. Flower stalks of lateral flowers are 1-2 mm long. The 28-30 mm-long corolla is red and has a greenish-yellow, inflated base. Anthers are about 4 mm long. Fruit is not described, but for the genus these are all ellipsoid to egg-shaped**Ecology :** Hemi-parasite on *Avicennia*, *Rhizophora* and *Sonneratia*. Flowering occurs all year round. True mangrove epiphyte species, as it is known only from this habitat.**Distribution :** Southeast Asian species, found in Malaysia (Sabah) and Indonesia (Borneo, Java, Kangean Archipelago).**Abundance :** Locally abundant.**Use(s) :** Unknown.**Source of illustration :** Danser (1931), Barlow (1997).**Reference(s) :** Danser (1931), Backer & Bakhuizen van den Brink (1963-8), Barlow (1997).

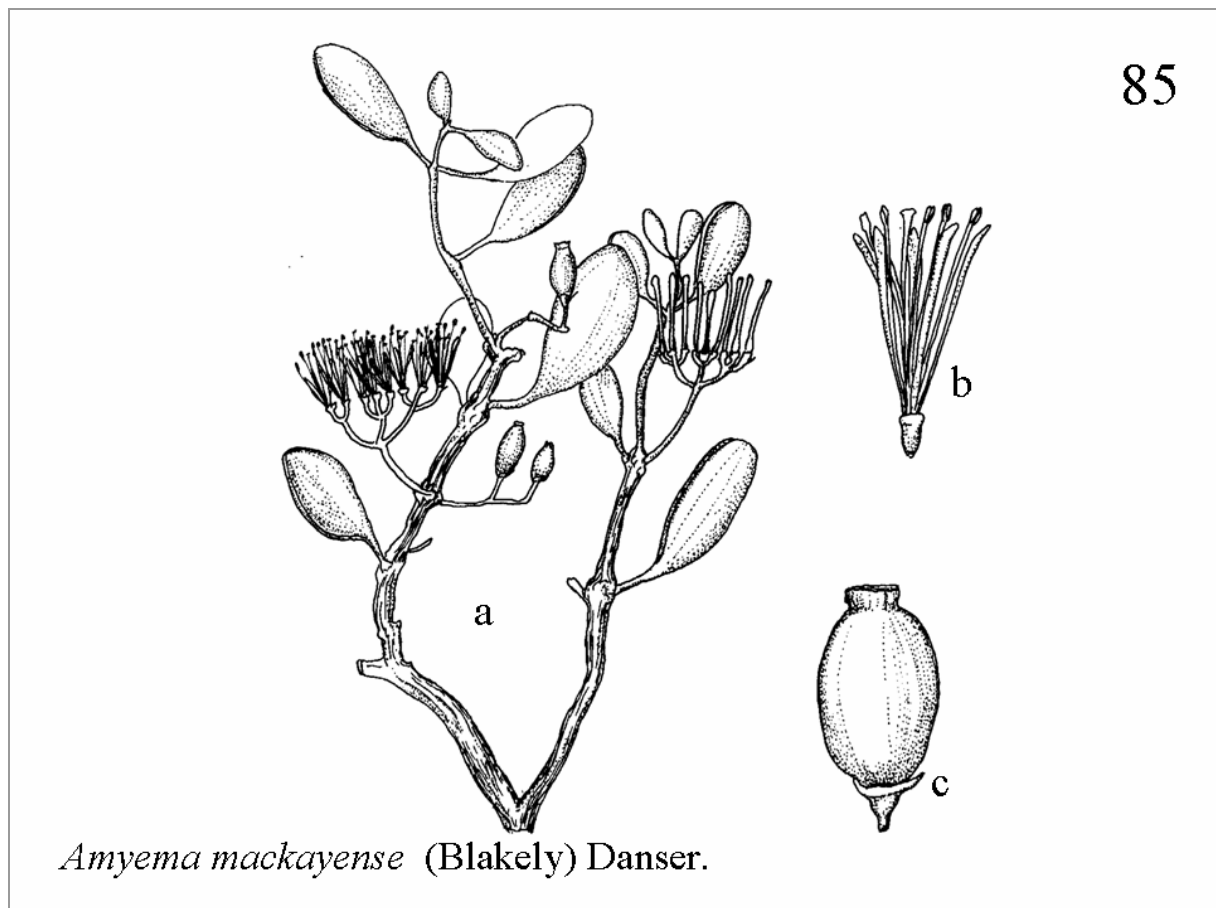


Fig. 85. *Amyema mackayense* (Blakely) Danser. (a) Flowering and fruiting branchlet, (b) flower, and (c) fruit.

LORANTHACEAE

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***Amyema mackayense* (Blakely) Danser**

Synonyms : *Amyema cycnei-sinus*, *Amyema mackayense* ssp. *cycnei-sinus*, *Loranthus cycnei-sinus*, *Loranthus mackayensis* Blakely

Vernacular name(s) : Unknown.

Description : Epiphytic parasite, with smooth stems that are enlarged at the nodes and are much branched. Leaves are opposite, broadly spoon-shaped to ovate, measuring 2.5-4 by 1.5-4 cm, with a distinct leaf stalk measuring 3-6 mm. Flower clusters are solitary or paired in the leaf axils. Flower stalks are usually recurved and 6-15 mm long. The calyx is funnel-shaped. The corolla in the mature bud is slender, 5-merous, trumpet-shaped and 10-28 mm long, red, yellow or green. Anthers are 1.5 mm long, and free parts of the filaments supporting the anthers measure 3-5 mm. Fruit is ellipsoid, crowned by the persistent calyx.

Ecology : Exclusively parasitic on mangroves, recorded on *Avicennia*, *Camptostemon*, *Ceriops*, *Excoecaria*, *Lumnitzera*, *Rhizophora* and *Sonneratia*. True mangrove epiphyte species, as it is known only from this habitat.

Distribution : Northern Australia, Papua New Guinea and Indonesia (Papua, near Merauke).

Abundance : Locally common.

Use(s) : Unknown.

Source of illustration : Barlow, in Henty (1981).

Reference(s) : Barlow, in Henty (1981), Barlow (1997).

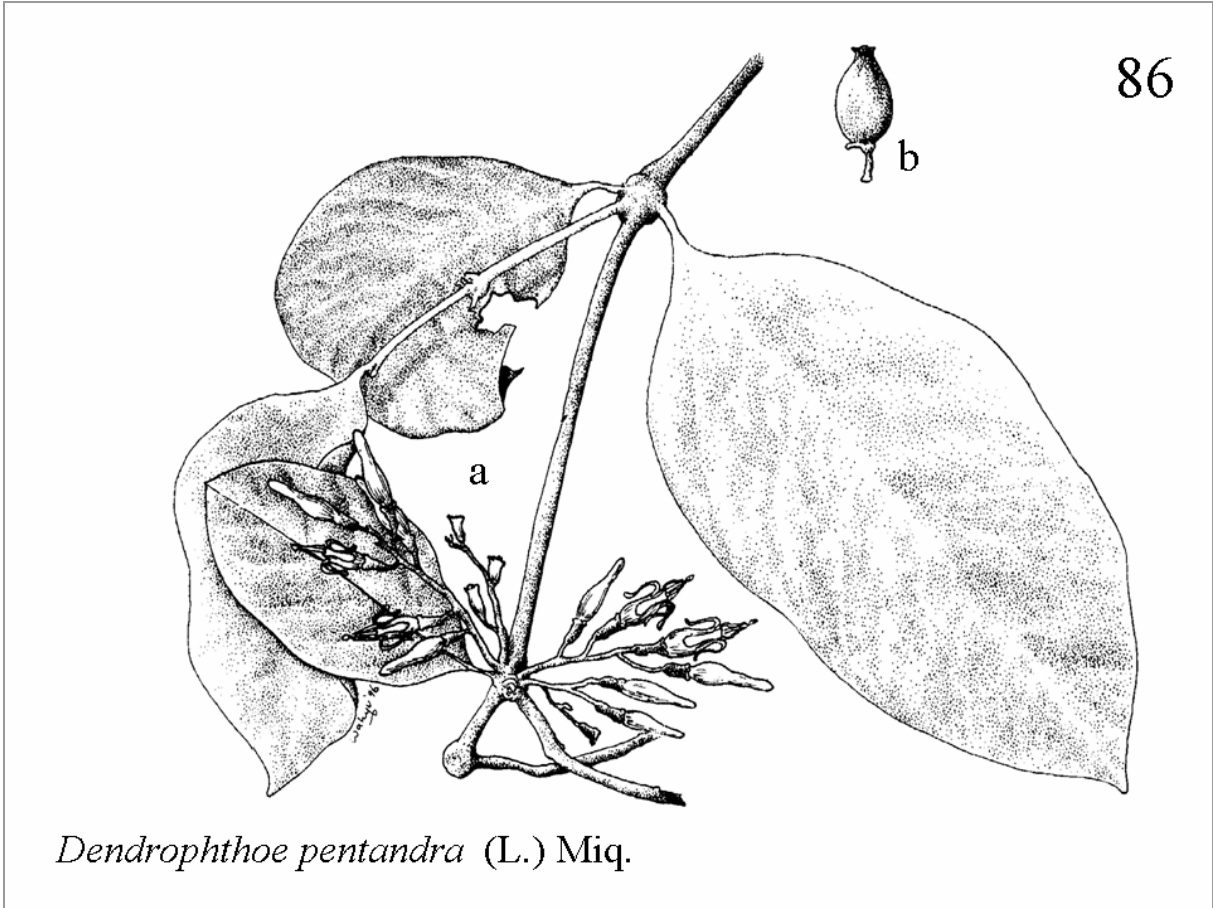


Fig. 86. *Dendrophthoe pentandra* (L.) Miq. (a) Flowering branchlet, and (b) fruit.

LORANTHACEAE

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***Dendrophthoe pentandra* (L.) Miq.**

Synonym(s) : *Dendrophthoe farinosus* Mart., *Dendrophthoe leucobotrya* Miq., *Dendrophthoe venosus* Mart., *Elytranthe farinosa & rigida* G. Don., *Loranthus crassus* Hook. f., *Loranthus farinaceous* Griff., *Loranthus flavus* Bl., *Loranthus pentandrus* L., *Loranthus shawianus* Elm., *Loranthus venosus* Bl., *Loranthus zimmermanni* Warb., *Meiema axillaris* Rafin., *Scurrula pentandra & venosa* G. Don.

Vernacular name(s) : Mistletoe (E) Kemadean, Kemlandean, Mangandeuh, Pasilan (Ind.), Dây chùm gó'i (Viet.), Ka fak ma muang (Thai.)

Description : Rather stout, strongly branched parasitic epiphyte with smooth, almost hairless stems and leaves, but with densely hairy flowers and flower stalks. The overall stem of the plant may measure over 1 m, and occasionally even up to 3 m. Leaves are highly variable, from lanceolate to round, but are usually elliptical or oblong, 5-20 cm by 2.5-12 cm, with a pointed or rounded tip. Leaf stalks are flattened on top, rounded below, and 5-20 mm long. Flower clusters may have a few to 20 flowers, each on 1-4 mm long stalks. The calyx tube is usually small, 1.5-2 mm long and 1.5 mm wide near the base. The corolla is 13-26 mm long, up to 5 mm wide, with five longitudinal folds, later splitting into five lobes down to 2/3's of the length. Colour of corolla is variable, most common being yellow to orange-reddish with greenish lobes, but variations include 'salmon-coloured with green lobes' and 'dirty red with green buds'. Fruit is ovoid, up to 10 mm long and 6 mm diameter, crowned by the remains of the calyx.

Ecology : Common parasite, from sea level to 300 m (occasionally up to 1,500 m), reported on *Dacrydium* and *Araucaria* (Danser, 1931); on *Avicennia* and *Excoecaria agallocha* in Vietnam (Hong & San, 1993); and on *Lumnitzera*, *Bruguiera* and *Hibiscus tiliaceus* in Thailand (Aksornkoae, 1993). Mangrove associate species.

Distribution : Found from eastern India and Bangladesh eastwards throughout Southeast Asia where it has been recorded from Myanmar (Tenasserim), Thailand, the Philippines (rare, on Luzon and Palawan), Singapore, Vietnam, Malaysia (Peninsular) and Indonesia (Sumatra, Borneo, Java).

Abundance : Common to locally very common.

Use(s) : Used to treat cancer (in Java).

Source of illustration : Adapted from Danser (1931) and Holttum (1954).

Reference(s) : Danser (1931), van Steenis *et al.* (1951), Backer & Bakhuizen van den Brink (1963-8), Alam (1986), Hong and San (1993), Aksornkoae (1993), Barlow (1997).

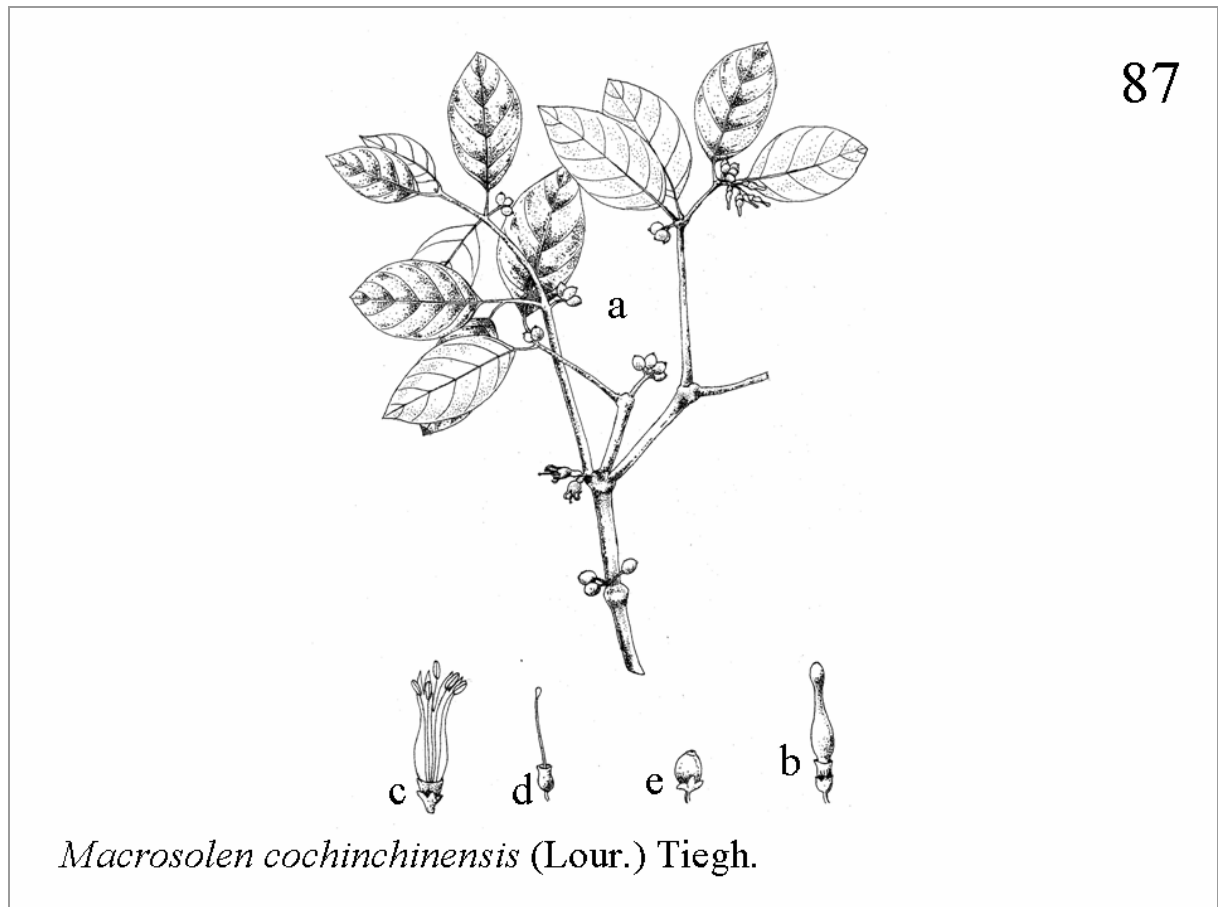


Fig. 87. *Macrosolen cochinchinensis* (Lour.) Tiegh. (a) Flowering and fruiting branch, (b) flower bud, (c) longitudinal section of flower showing the stamens, (d) flower with corolla and stamens removed, showing the stigma and calyx, and (e) fruit.

LORANTHACEAE

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***Macrosolen cochinchinensis* (Lour.) Tiegh.**

Synonyms : *Elytranthe ampullacea* G. Don., *Elytranthe cochinchinensis* G. Don., *Elytranthe elmeri* Merr., *Hillia longiflora* Blanco, *Loranthus ampullaceus* Roxb., *Loranthus carinatus* D.C., *Loranthus cochinchinensis* Lour., *Loranthus globosus* Roxb., *Loranthus oleoides* D.C., *Loranthus pallens* D.C., *Loranthus patulus* Jack., *Loranthus sphaeocarpus* Bl., *Loranthus sphaerocephalus* Wurm., *Loranthus subglobosus* D.C., *Loranthus subumbellatus* Bl., *Loranthus tribracteatus* Ridl., *Loranthus viridiflorus* Wall., *Macrosolen tribracteatus* Dans., *Tristerix viridiflorus* Mart.

Vernacular name(s) : Mistletoe (E), Kemaduhan, Pasilan, Mangandeah (Ind.)

Description : Epiphytic parasite, many branched, nodes swollen, base of plant swollen at the attachment to the host plant, the adventitious roots running along the host. Smooth or rarely with some short hairs on the flowers. Leaves opposite or scattered, the normally developed ones sometimes alternating with vestigial scale-like leaves; leaf blade narrowly to broadly elliptic or ovate, 2-7 by 4-16 cm, wedge-shaped or squared at the base, with a leaf stalk of (1-)3-10 mm; leaf shiny on top, dull below, with a conspicuous mid-rib, flat above, prominent below. Flowers clustered at the nodes in (2-)3-6(-7) opposite pairs of flowers, on stalk of 5-20(-40) mm that has 1-2 pairs of small leaflets at its' base; stalks of individual flowers are 0-6 mm long. Corolla is 6-merous in mature bud, 8-18(-23) mm long, gradually widened or slightly inflated upwards, weakly winged near the middle, angular, club-shaped (or rarely pointed) towards the tip; mostly yellow or green, or rarely pink or red below, dark coloured at the neck and yellow or red above. Tube in open flower 5-10(-14) mm long with the lobes recurved; tips of lobes often purplish. Anthers 0.5-2 mm long, pointed, about one half to one third as long as the free part of the filament. Fruit rounded, 6-8 mm long, successively green, yellow and dark purple, supported by leaflets at the base and tipped with the remains of the style; seeds ellipsoidal.

Ecology : Humid and open forests and disturbed sites; very common in the lowlands but occasionally reaching as high as 2270m altitude; many hosts recorded. Also recorded in mangroves. Mangrove associate species.

Distribution : Southern Asia from the Himalayas (Sikkim) eastwards to southern China and Southeast Asia. In Southeast Asia recorded from Thailand, Cambodia, the Philippines, Singapore, Malaysia (Peninsular, Sabah), Brunei and Indonesia (Sumatra, Borneo, Java, Papua). Possibly also occurs in Myanmar and Vietnam. It's easternmost extension appears to be the Bird's Head Peninsula of Indonesian Papua.

Abundance : Common.

Use(s) : Glue extracted from the fruit pulp is used for trapping birds.

Source of illustration : Alam (1986)

Reference(s) : Danser (1931), van Steenis *et al.* (1951), Alam (1986), Barlow (1997).

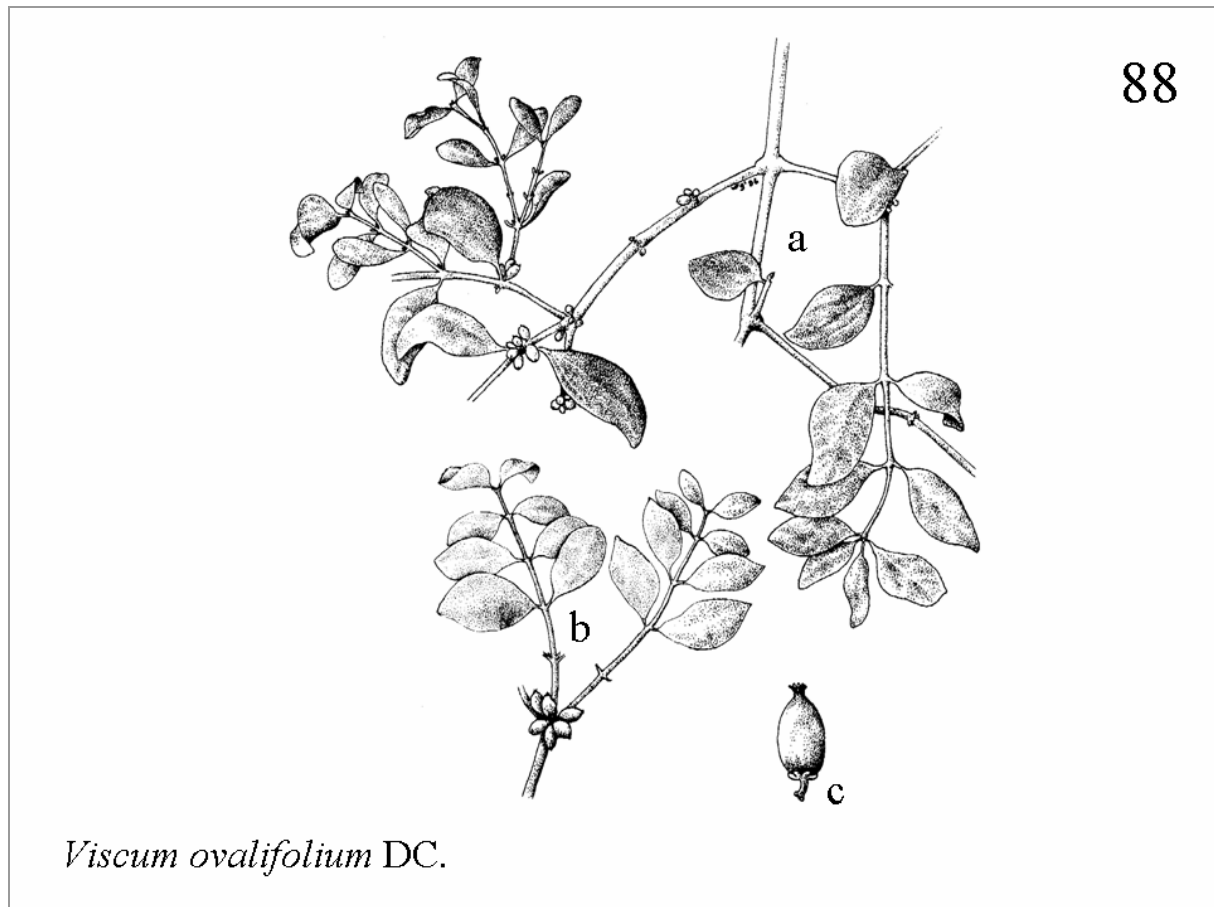


Fig. 88. *Viscum ovalifolium* DC. (a) Flowering and fruiting branchlet, (b) detailing of fruiting branchlet, and (c) fruit.

LORANTHACEAE

88

***Viscum ovalifolium* DC.**

Synonym(s) : *Viscum heyneanum* DC., *Viscum monoicum* Presl., *Viscum navicellatum* Kirth., *Viscum obtusum* DC., *Viscum orientale* auct. non Willd., *Viscum pamattonis* Korth., *Viscum pedunculatum* Barlow, *Viscum roxburghianum* Korth., *Viscum verticillatum* Roxb.

Vernacular name(s) : Mistletoe (E) Bingalo, Jingalo (Ind.), Dâ y ghi (Viet.), Ka fak mai ta tum (Thai)

Description : Small, much branched, entirely smooth parasitic shrub, erect to 1.5 m high; stem internodes round, sometimes flattened. Leaves measure 3.5-8.5 cm by 2-3.5 cm and are lanceolate-obovate. They are stemless or have a very short stalk, with a blunt or rounded tip and a gradually-narrowed base. Leaves are opposite, leathery, with 3-5 main veins arranged in a fan-shaped pattern. Between these they have a fine, net-like venation. Flowers are arranged in groups of three, the central one female and the lateral ones male. The lobes of the female flowers measure 0.75-1 mm, and those of the male flowers 1.5-2 mm; these segments are shorter than the flower tube. Fruit is almost round, and warty until shortly before maturity. Fully ripe fruit is smooth, yellowish-green, brownish-green or orange-red, measuring 5 by 4 mm, and is tipped by the conical style. Often recorded as *Viscum orientale* in Southeast Asian literature.

Ecology : Parasite growing on various woody plants, generally in lowlands up to an altitude of 500 m asl (occasionally up to 1400 m), often in swamp forests. In mangroves it is often recorded on *Excoecaria agallocha*, e.g. in Indonesia (Danser, 1931) and Thailand (Aksornkoae, 1993). Most commonly recorded on wild fig (*Ficus*) species. Mangrove associate species.

Distribution : From Bangladesh and Myanmar eastward to Hong Kong and southeast towards northern Australia (Queensland). Recorded throughout Southeast Asia.

Abundance : Locally common.

Use(s) : Unknown.

Source of illustration : Drawn from herbarium specimen Bogor Herbarium.

Reference(s) : Danser (1931), Backer & Bakhuizen van den Brink (1963-8), Alam (1986), Aksornkoae (1993), Barlow (1997).

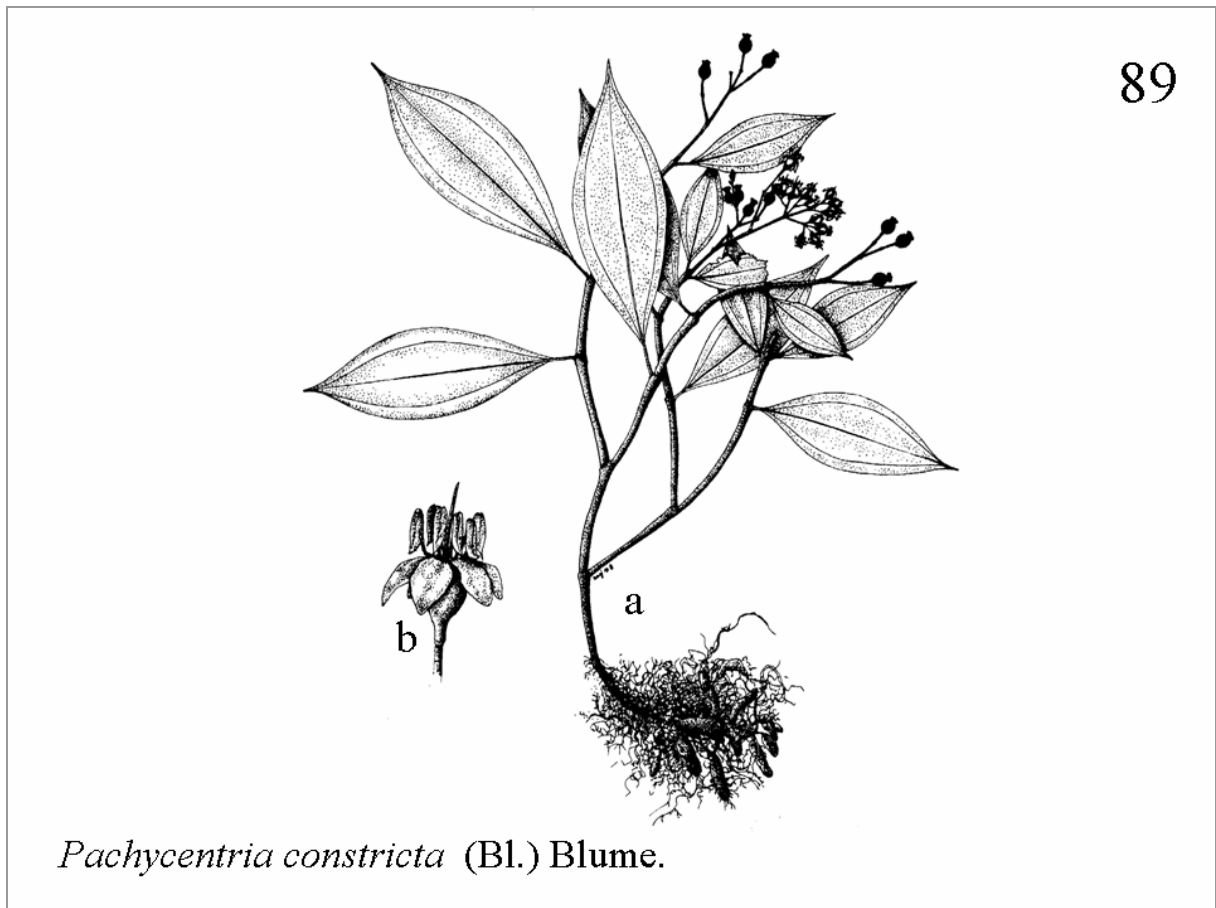


Fig. 89. *Pachycentria constricta* (Bl.) Blume. (a) Habit of flowering and fruiting specimen, and (b) flower.

MELASTOMATACEAE

89

***Pachycentria constricta* (Bl.) Blume**

Synonyms : *Melastoma constrictum* Blume, *Pachycentria cordata* Blume, *Pachycentria elliptica* Blume, *Pachycentria formicaria* Merr., *Pachycentria javanensis* Hochr., *Pachycentria junghuhniana* Miq., *Pachycentria lanceolata* O.Schwartz, *Pachycentria laxiflora* Blume, *Pachycentria macrorhiza* Becc., *Pachycentria oligosperma* O.Schwartz, *Pachycentria rigida* Blume, *Pachycentria tuberculata* Korth., *Pachycentria varingiaefolia*, *Pachycentria zollingeriana* Naudin, *Pogonanthera pulverulenta*

Vernacular name(s) : Kayu Semilit (Ind.)

Description : Erect to drooping, epiphytic shrub with tuberous roots. The tops of the stems are compressed and fleshy, while leaves are opposite, variable (oval-oblong-lanceolate-obovate), and measure 5.5-24 by 2-8.5 cm. Flower clusters occurring at the ends of branches or in the axils, 2-12 cm across, have 1-3 bisexual flowers grouped together. These have a bright red stalk and a quadrangular 0.5-5 cm-long individual flower stalk. The constricted petals/sepals, 3-4 mm long, are located above the ovary. The upper margin of the flower is shortly toothed, persistent, and its base is pale yellow with a fine, scaly pattern. Petals are red and pale at both ends, 6-7 mm long. Anthers are beaked and white. The fruiting stalk is equally thick over the entire length, 1-3 mm long. The round berry is 5-7 mm in diameter. An extremely variable species.

Ecology : Occurs in open forest and on wayside trees, up to an altitude of 1,000 m. Flowering occurs throughout the year. The system of holes inside the tubers is usually inhabited by numerous ants. Mangrove associate species.

Distribution : Occurs from Myanmar, through Peninsular Malaysia, Singapore, Brunei and Indonesia (Sumatra, Java, Borneo and Sulawesi).

Abundance : Common.

Use(s) : Tubers are boiled and eaten to treat haemorrhoids.

Source of illustration : Drawn from herbarium specimen, Bogor Herbarium.

Reference(s) : Bakhuizen van den Brink (1943-1945), Backer & Bakhuizen van den Brink (1963-1968), Taylor & Wong (1987), www.rbgekew.org/herbarium/brunei/fams/68.htm.

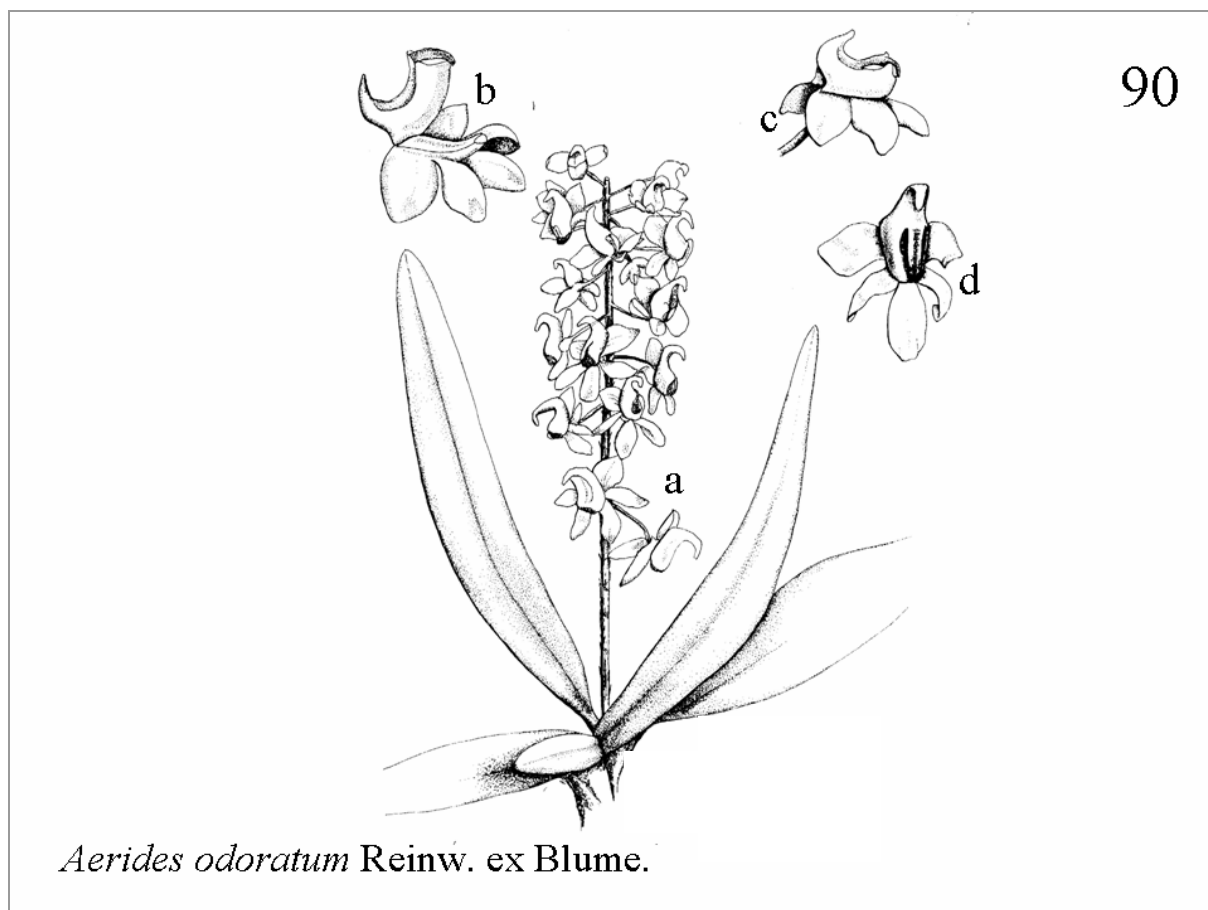


Fig. 90. *Aerides odoratum* Reinw. ex Blume. (a) Habit, and (b,c,d) flowers, viewed from different angles.

ORCHIDACEAE

90

***Aerides odoratum* Reinw. ex Blume**

Synonyms : *Aerides cornuta* Roxb., *Aerides dayanum* hort., *Aerides nobile* Warn., *Aerides odoratum* Lour., *Aerides odoratum* var. *majus* Ortgies., *Aerides rohanianum* Rchb. f., *Aerides suavissimum* Lindley, *Aerides virens* Lindley, *Aerides wilsonianum* R.H. Torr., *Epidendrum odoratum* Poir., *Orxera cornuta* Raf.

Vernacular name(s) : Fragrant Aerides, Cat's tail orchid, Fox's tail orchid (E), Angkrek lilin, Lau bintang (Ind.)

Description : Rather robust, epiphytic orchid, measuring 30-75 cm. The stem is usually long, often branched, and it has thick roots. Leaves are 2.5-3.25 by 10-25 cm, strap-shaped, with a 2-lobed, pointed tip. They are stiffly leathery, shiny, often violet-blotched and have overlapping leaf-sheaths. Buds are very sticky. Flower clusters are located on the nodes and perforate the leaf-sheaths. As the name indicates, the flowers are waxy and very sweet scented, reminiscent of Lilies of the Valley (*Convallaria*). Flower clusters are 20-40 cm long, which includes the up to 10-20 cm long, rather lax stalk. Flowers number 20-30, each measuring 2-3 cm across. The 11-12 mm long sepals and petals are white, usually with violet-red blotches. Sepals are ovate-obovate and blunt; the unpaired sepal is 6-7 mm broad, while the lateral ones are 8-9 mm long. Petals are recurved, oblong-obovate and measure about 5 mm across. The lip of the flower is white and the median segment with an incurved top measures 9-10 mm by 3-5 mm. The lateral segment of the lip is more than half the length of the median segment, often being almost the same length. The column-foot (see glossary) of the flower is 1-1.25 cm long. The fruit is about 2 cm long. A completely white-flowering variety occurs on Java.

Ecology : Occurs in open forest, on wayside trees and on (older) mangrove trees. It is found in moderately exposed positions. Flowering has been recorded in Java from October to December. From sea level up to 500 m asl (occasionally up to 2000 m asl.). Mangrove associate species.

Distribution : From Myanmar and southern China through Vietnam, Thailand, Malaysia and Indonesia (Java, Sumatra, Borneo, Sulawesi) to the Philippines.

Abundance : Locally common.

Use(s) : Has potential as an ornamental plant because of its beautiful, scented flowers. In Java the scented flowers are plaited into the hair during special occasions.

Source of illustration : Icones Rijksherbarium Leiden.

References : Anon. (1928), Krajenbrink (1928), Coomans de Ruyter (1935), Backer & Bakhuizen van den Brink (1963-8), Shuttleworth *et al.*, (1973), Sastrapradja *et al.* (1980), <http://orchidweb.org/orchids/az/aerides.html>, Missouri Botanical Garden TROPICOS database, <http://www.orchidspecies.com/indexa.htm>.

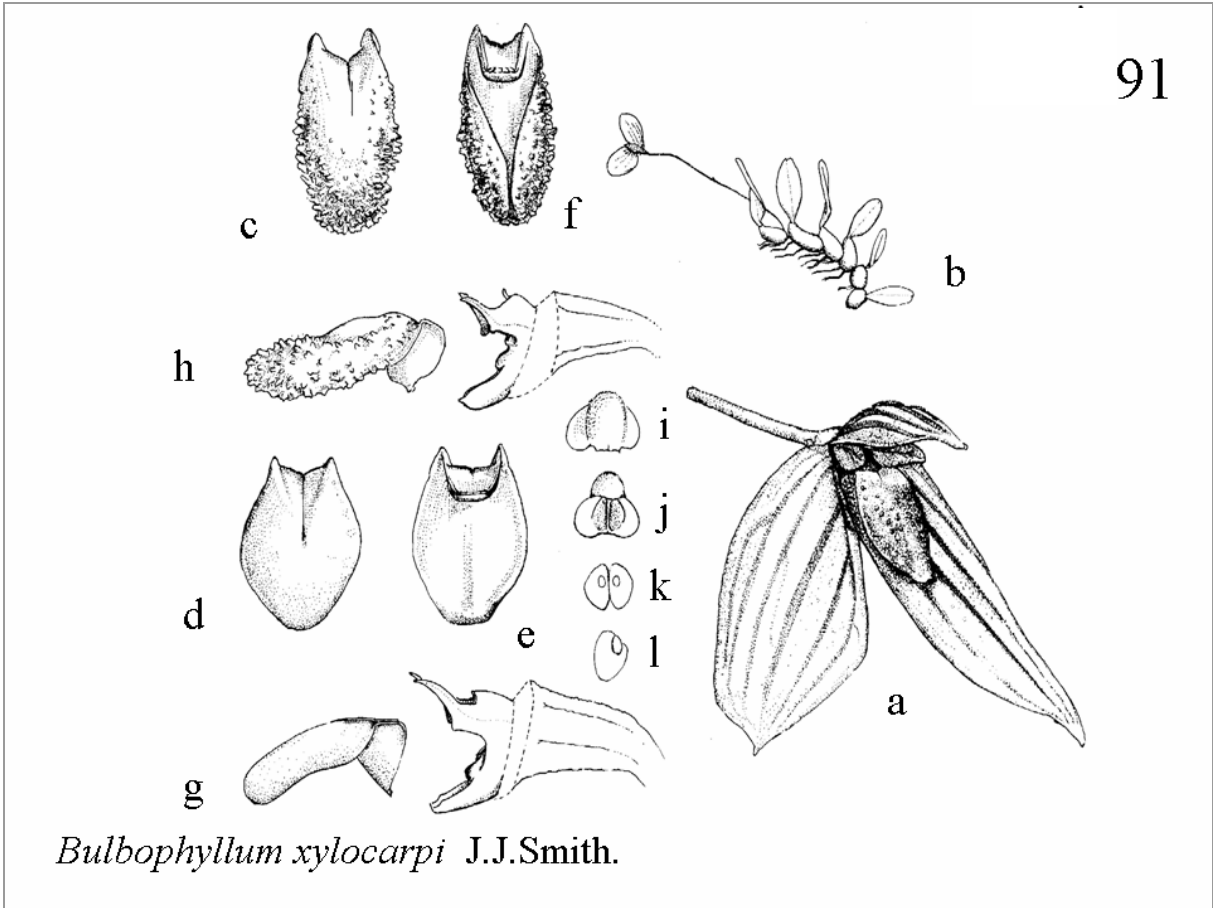


Fig. 91. *Bulbophyllum xylocarpi* J.J.Smith. (a) Flower, (b) habit, and (c-l) flower segments.

ORCHIDACEAE

91

***Bulbophyllum xylocarpi* J.J.Smith**

Synonyms : *Bulbophyllum ovalifolium* Lindl. *sensu lato*, *Bulbophyllum catenarium* Ridl., *Diphyes ovalifolia* Blume

Vernacular name(s) : Unknown.

Description : Very small epiphyte with stiff, elliptic leaves that measure 6-7 by 3-4 mm. The pseudo-bulbs are oval-oblong, 5-7 by 2-4 mm. The solitary flower cluster is borne on the rhizome and is located on a 20-24 cm-long flower stalk. Flowers are orange, often with deep-red veins, and measure 6 mm across. The column (see glossary) of the flower has rectangular broadened margins and an almost straight foot. The lateral sepals are broadly oval-obovate, pointed, and about 4 mm long. The odd, unpaired sepal is almost 3 mm long, ovate-oval, blunt or with a small point, and has three dorsally prominent veins. The deep red lip is very much recurved, above the erect base, which has two thickened parts. It is apparently a highly variable species.

Ecology : Occurs in mangroves in constantly humid regions, epiphytic on *Xylocarpus* and *Heritiera*. In Malaysia, it has also been recorded on trees in mountainous areas at 1,500 m. Flowering in Java recorded in May. On Borneo apparently found only at 1,700-2,000 m. Mangrove associate species.

Distribution : The species is reportedly common and widespread in Thailand, peninsular Malaysia, Java, Flores and Sulawesi; in Borneo it is relatively uncommon. Found on the south coast of Central Java in the mangroves of Segara Anakan.

Abundance : Locally abundant.

Use(s) : Unknown. Potential ornamental species.

Source of illustration : Comber (1990), Vermeulen (1991).

Reference(s) : Ridley (1924), Backer & Bakhuizen van den Brink (1963-8), Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org>).

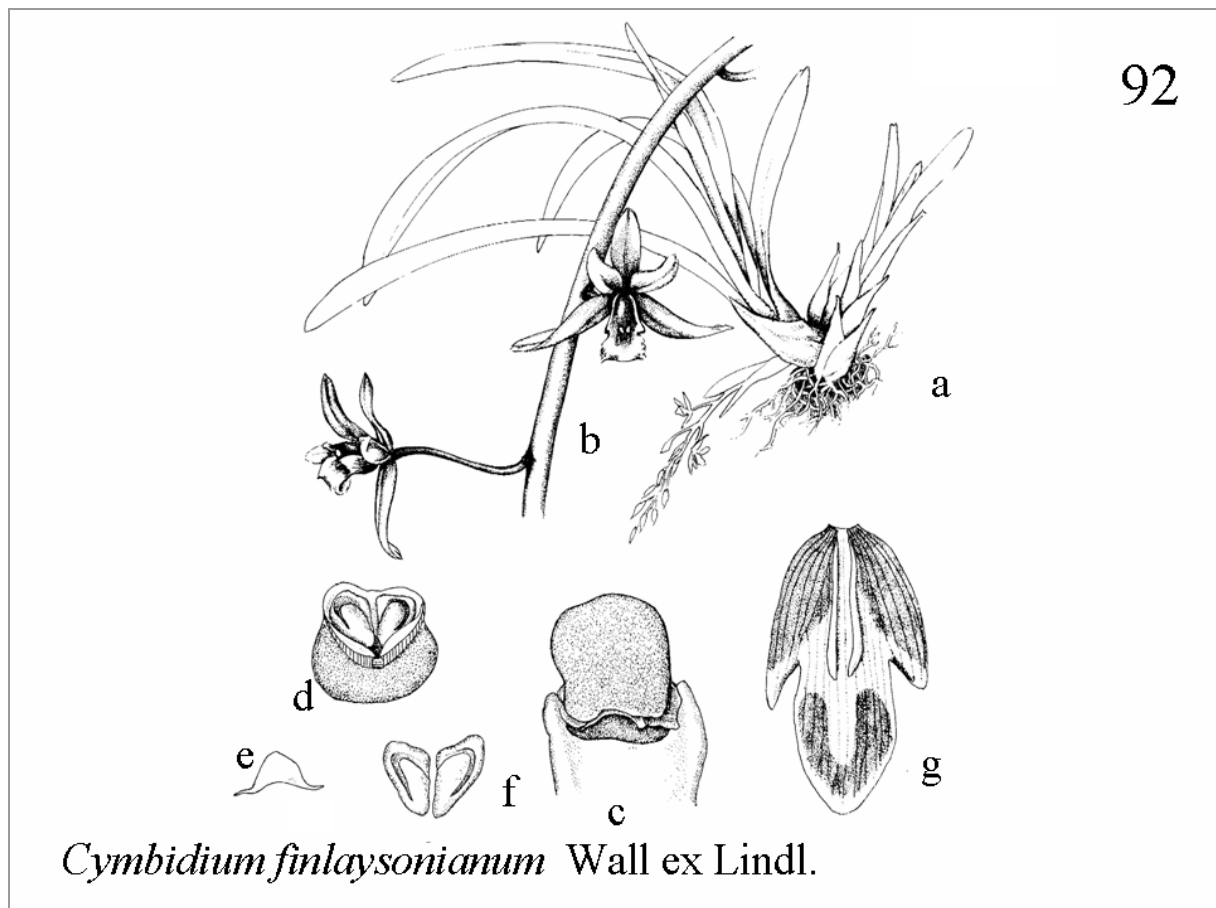


Fig. 92. *Cymbidium finlaysonianum* Wall ex Lindl. (a) Habit of flowering specimen, (b) detail of flower cluster with two flowers, and (c-f) flower segments.

ORCHIDACEAE

92

***Cymbidium finlaysonianum* Wall ex Lindl.**

Synonyms : *Cymbidium aloifolium* (L.) Sw., *Cymbidium pendulum* (Roxb.) Sw. *sensu lato*, *Cymbidium pendulum* var. *brevilabre* Lindl., *Cymbidium tricolor* Miq.

Vernacular name(s) : Lau pandan (Ind.)

Description : Epiphytic orchid with about five 2-lobed, thick, stiff leaves that are unequal at the base and measure 45-80 cm by 4.5-5 cm. They are individually attached to a pseudo-bulb that is hidden by leaf sheaths measuring about 11 cm in length. The many-flowered (up to 25), drooping flower spikes have very short individual flower stalks, and measure 75-100 cm (to well over 1 m). Individual flowers are 5.5-6.5 cm across. The sepals and petals are dull greenish-yellow, flushed with dull purple down the centre. The side lobes are dull purplish outside, paler within, and have deep purple veins. The midlobe is white with a yellow patch at the base and a broadly sickle-shaped, purple patch on the inside of the tip. The middle of the lip has two continuous, straight, deep red keels that are yellow towards the front and are located between the side lobes. The column (see glossary) of the flower is curved, yellowish-green, and flushed with purple at its base. The colour of the flowers may occasionally be somewhat brownish, and the lip may have extra purple spots on the midlobe.

Ecology : Found in teak plantations and open mixed forest up to an altitude of 300m (occasionally up to 1,350m), and in mangroves in constantly humid regions. Flowering occurs all year round. In addition to the normal, dangling rootlets, special vertically raised rootlets apparently serve to trap detritus (esp. falling leaves and twigs) and nourish the plant. Flowering has been recorded in March-June, and September-November on Borneo. Recorded in South Sulawesi mangroves, and South Borneo freshwater swamps. Mangrove associate species.

Distribution : Southeast Asian species, found from Cambodia, South Vietnam, Thailand and the Philippines, to Malaysia (Peninsular, Sabah), Singapore, Brunei and Indonesia (Sumatra, Java, Borneo, Sulawesi). In Java it is commoner on the western half of the island. It has been recorded in East Java only once, but this may have been a cultivated specimen. In Peninsular Malaysia it is most abundant in the north.

Abundance : Relatively common.

Use(s) : Frequently cultivated as an ornamental.

Source of illustration : Du Puy & Cribb (1988).

Reference(s) : Ridley (1924), Coomans de Ruiter (1935), van Steenis *et al.* (1951), Backer & Bakhuizen van den Brink (1963-8), Giesen, Baltzer & Baruadi (1991), <http://www.geocities.com/RainForest/Jungle/5532/finlayso.html>.

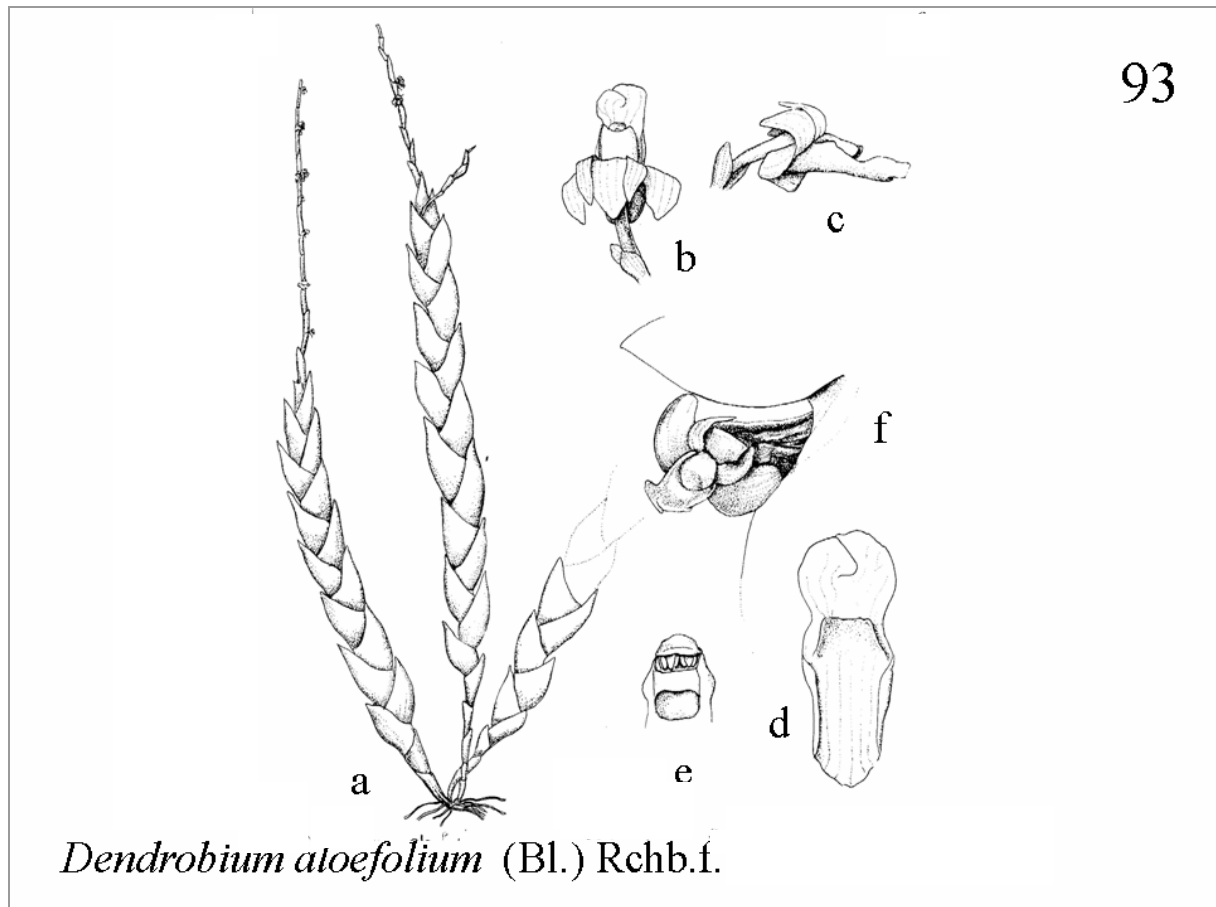


Fig. 93. *Dendrobium aloefolium* (Bl.) Rchb.f. (a) Habit, (b) flower, viewed from above, (c) flower, viewed from side, and (d-f) flower segments.

ORCHIDACEAE

93

***Dendrobium aloefolium* (Bl.) Rchb.f.**

Synonyms : *Dendrobium aloifolium*, *Dendrobium serra*, *Macrostomium aloefolium*, *Oporum serra*.

Vernacular name(s) : Unknown.

Description : Epiphytic orchid, with stems hanging down, about 45 cm long. Only the last 15 cm or so bear sheathing leaves. Leaves are dull green, often much interspersed with violet, and measure about 2.5 cm along the lower margin, to about 9 mm wide. Flowers are white or yellowish-white, and measure about 4 mm across. The odd, unpaired sepal is ovate in shape and is about 2 mm long. Both sepals and petals are bent backwards. The lip of the flower is 3.5 mm long, straight, the sides distinctly curved upwards, with ends that appear to be cut off abruptly. The middle lobe is not widened, but deeply bilobed, about 1 mm wide; anthers are green. Flower stalk and ovary are just over 4 mm long.

Ecology : Occurs in various types of forests. In humid regions it is also found on mangrove trees and on wayside trees. Flowering occurs all year round. Mangrove associate species.

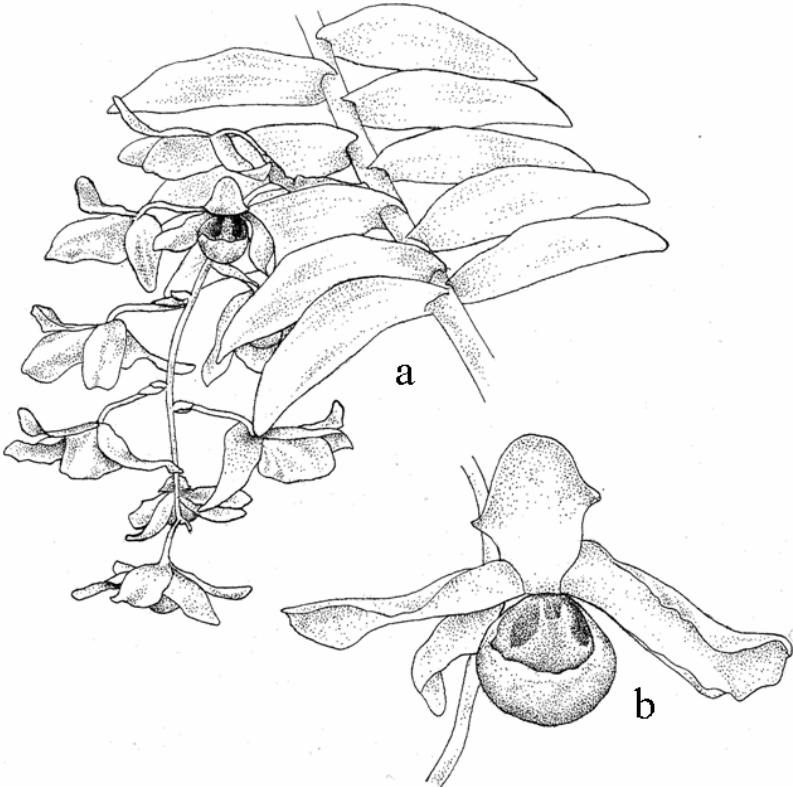
Distribution : Southeast Asian species, found in Malaysia (Peninsular and Sarawak), Brunei, Indonesia (Borneo, Sumatra, Java, Papua) and probably in Papua New Guinea.

Abundance : Locally common.

Use(s) : Pounded leaves are used as a medicine to treat headache. The species has potential as an ornamental plant because of its beautiful flowers.

Source of illustration : Opera Botanica (1985), Comber (1988).

Reference(s) : Ridley (1924), Burkill (1935), Backer & Bakhuizen van den Brink (1963-8), <http://www.angelfire.com/or3/orchidsnz/denframes/den-a.htm>, http://www.rbgekew.org.uk/data/monocots/orchid_synonyms.pdf.



Dendrobium moschatum (Buch.-Ham.) Sw.

Fig. 94. *Dendrobium moschatum* (Buch.-Ham.) Sw. (a) Flowering stem, and (b) flower.

ORCHIDACEAE

94

***Dendrobium moschatum* (Buch.-Ham.) Sw.**

Synonyms : *Callista moschata* Kuntze., *Cymbidium moschatum* Willd., *Epidendrum moschatum* Buch.-Ham., *Thicuania moschata* (Sw.) Raf.

Vernacular name(s) : Musky smelling Dendrobium (E), Anggrek hutan (Mal.)

Description : Large epiphytic orchid, with fleshy stems and alternate leaves up to 1-2 m tall; leaves may be tinged with purple. Sprays of flowers emerging from the base, also 1-2 m long, with pendulous clusters of 7-12(-15) flowers. Individual flowers are 8-10 cm across, with a cup-shaped lower lip. Bracts of each individual flower are often tinged with purple. Flowers are creamy coloured to light yellow, with purple-tinged tips of petals; the lower cup-shaped lip is tinged purple on the outside, with a deep purple coloured interior.

Ecology : Epiphyte, occurring in a variety of lowland habitats, including mangroves. Mangrove associate species.

Distribution : Occurs from Northwest India and the Himalayas to Southeast Asia, where it is found in Myanmar, Laos and Thailand. Cultivated elsewhere as an ornamental.

Abundance : Locally common.

Use(s) : Ornamental species, widely cultivated.

Source of illustration : Shuttleworth *et al.* (1973)

Reference(s) : Shuttleworth *et al.* (1973),
<http://www.orchidspecies.com/indexde.htm>.

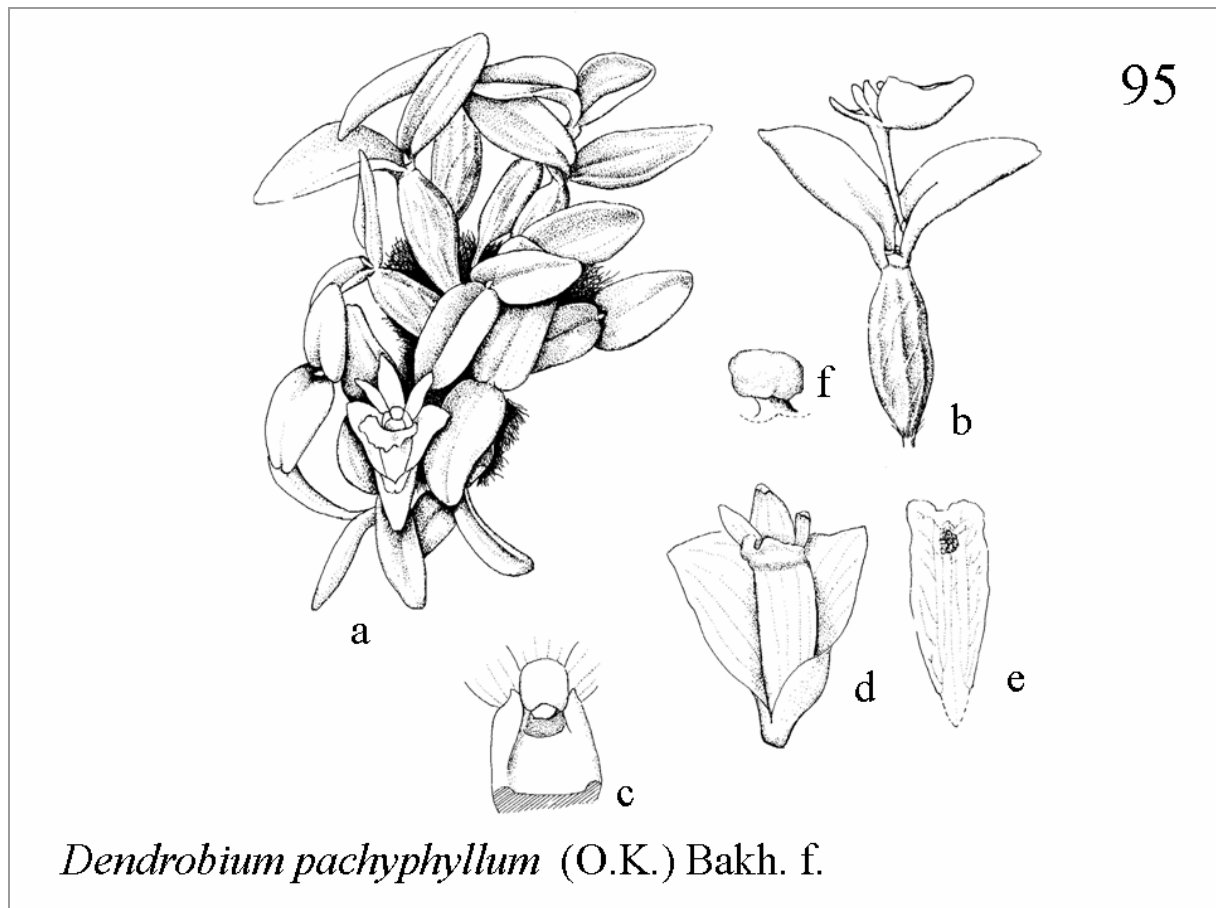


Fig. 95. *Dendrobium pachyphyllum* (O.K.) Bakh. f. (a) Habit of flowering specimen, (b) part of plant with two leaves and one flower, and (c-g) segments of flower.

ORCHIDACEAE

95

***Dendrobium pachyphyllum* (O.K.) Bakh. f.**

Synonyms : *Callista carnosum*, *Callista pachyphylla* Kuntze., *Callista pumila*, *Dendrobium borneense* Finet., *Dendrobium carnosum* Teijsm. et Binn., *Dendrobium perpusillum* Balakaristan, *Dendrobium pisibulbum* Guillaumin, *Dendrobium pumila* Roxb., *Dendrobium pussilum* (Bl.) Lindl.

Vernacular name(s) : Broad-stemmed Dendrobium (E), Anggrek, Sakot Kelembai (Ind.)

Description : Small epiphytic orchid, with trumpet-shaped stems, 3-6 cm long. The two oblong-lanceolate, fleshy leaves have a notch at the end and measure 1.25-2.25 by 0.75 cm. The flower cluster produces several flowers intermittently and has small basal leaflets. Individual flower stalks are very short. The scented flowers bloom for only a short time; they are delicate, pale yellow, often red-veined, and measure 1 cm across. The mentum (see glossary) is large and conical. The lip is immobile, with rounded end lobes and a triangular, yellow thickening beneath the end incision. Ovary plus flower stalk is about 8.5 mm long.

Ecology : Occurs in forests and mangroves, in humid regions and in teak forest, up to 1,000 m. Flowering occurs from April to December (in Java). Mangrove associate species.

Distribution : Occurs in Southeast Asia from Myanmar to the Greater Sundas; recorded from Myanmar, Malaysia (Peninsular, Sarawak), Thailand, Brunei and Indonesia (Borneo, Sumatra, Java).

Abundance : Relatively common.

Use(s) : Ornamental species, cultivated.

Source of illustration : Opera Botanica (1985).

Reference(s) : Backer & Bakhuizen van den Brink (1963-8), <http://www.orchidspecies.com/indexde.htm>.

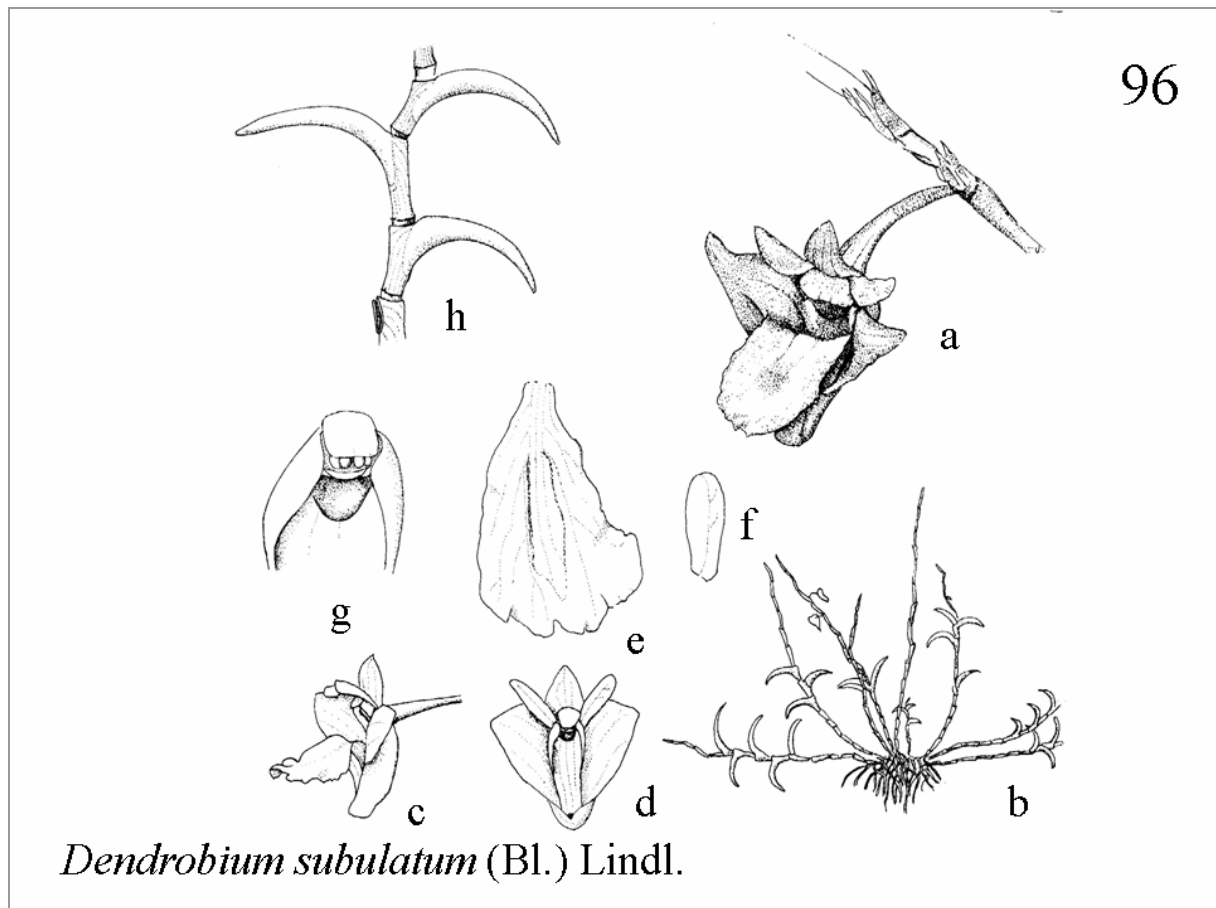


Fig. 96. *Dendrobium subulatum* (Bl.) Lindl. (a) Flower, viewed from angle above, (b) habit, (c-g) segments of flower, and (h) detail of stem with leaves.

ORCHIDACEAE

96

Dendrobium subulatum* (Bl.) Lindl.*Synonyms :** *Onychium subulatum* Bl.**Vernacular name(s) :** Anggrek (Mal., Ind.)

Description : Small epiphytic orchid, measuring up to 10 cm. Stems are erect, simple and thin, with 5 mm-long internodes. The leafless top of the stem is comparatively long and slender. Leaves are much longer than the internodes, partly recurved, fleshy, often reddish brown, round in cross-section, measuring about 11 mm by 2-3.5 mm. The upper leaves are rudimentary. There is no pseudo-bulb. Flowers are about 2.5 mm long and about 6 mm broad, pale yellow, often finely violet-veined. The odd, unpaired sepal is convex and about 2 mm long. The lateral sepals are broader and triangular. The mentum (see glossary) is rather large, slightly curved upwards and blunt. The lip is obovate with a broader base, while on the inner side it has a thickened, (towards the top) 3-ribbed band in the middle. Lateral segments are recurved and rounded. The central segment is erect, short and curved, while the column foot (see glossary) of the flower occurs at right angles to the ovary, curved upwards, with a short, yellow rib at the top. Flower stalk and ovary measure about 6.5 mm in length.

Ecology : Occurs in various types of forest, including mangroves, in humid regions. In Thailand recorded as epiphyte on *Sonneratia ovata*. Often found on older trees on sheltered places in villages. Flowering occurs all year round. Mangrove associate species.

Distribution : Recorded from Malaysia (Peninsular), Thailand and Indonesia (Borneo, Sumatra, Java).

Abundance : Locally often abundant.

Use(s) : Unknown.

Source of illustration : Opera Botanica (1985), Comber (1988)

References : Ridley (1924), Backer & Bakhuizen van den Brink (1963-8), Aksornkoae (1993).

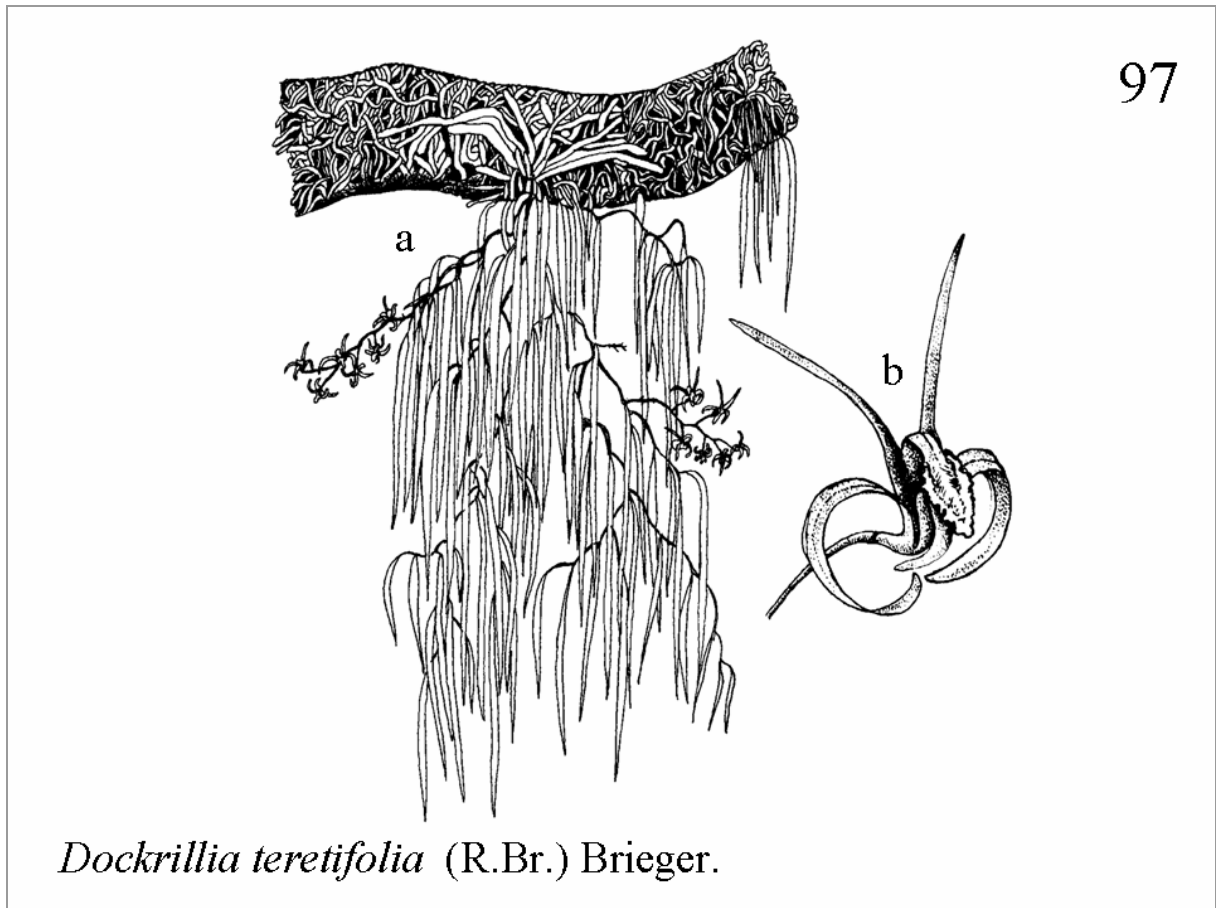


Fig. 97. *Dockrillia teretifolia* (R.Br.) Brieger. (a) Habit of flowering plant, and (b) flower.

ORCHIDACEAE

97

***Dockrillia teretifolia* (R.Br.) Brieger**

Synonyms : *Callista teretifolia* (Lindl.) Kuntze., *Dendrobium baseyanum* St. Cloud, *Dendrobium calamiforme* Lodd. ex Lindley, *Dendrobium teretifolium* R. Br., *Dendrobium teretifolium forma aureum* (F.M. Bailey) Clemesha, *Dendrobium teretifolium* var. *aureum* F.M. Bailey, *Dendrobium teretifolium* var. *fasciculata* Rupp., *Dockrillia calamiforme* (Lodd. ex Lindl.) M.A. Clem. & D.L. Jones

Vernacular name(s) : Bridal Veil Orchid, Pencil Orchid, Ratstail Orchid, Clematis Orchid, Terete-Leafed Dockrillia

Description : Epiphyte, measuring 50-75 cm, with a widely-branched stem, consisting of numerous, curved, 5-6 cm-long internodes each bearing one leaf. Leaves are cylindrical with a narrowed top, and measure 7.5-30 by 0.5 cm. The flower spikes are lateral and drooping, up to 7(-30) cm long, often branching, and have up to 12 fragrant flowers that arise from near the leaf bases or from the rhizome. Sepals and petals are narrowly linear-subulate with a pointed, often recurved tip. They are 2-3.5 cm long and yellowish-white with small, brownish-red basal streaks. The mentum (see glossary) is about 5 mm long. The lip is recurved. Its median segment is dotted with brownish-red spots, and has three prominent ridges. The column (see glossary) of the flower is speckled with brownish-red spots. Commonly termed *Dendrobium teretifolium* in Southeast Asian literature.

Ecology : In Australia, it is found in rainforests along stream banks, rivers, lakes or swamps and are pendant, cool to hot growing epiphytes. They are also occasionally found growing on rocks. Flowering occurs from winter through the end of spring, with the end of spring as the most prolific time. Also occurs in mangroves. Mangrove associate species.

Distribution : Found in northern Australia, Papua New Guinea, East Timor and Indonesia (Papua).

Abundance : Locally common.

Use(s) : Cultivated as an ornamental.

Source of illustration : Saenger, Hegerl & Davie (1983) and Suryowinoto (1987).

Reference(s) : Heyne (1950), Backer & Bakhuizen van den Brink (1963-8), Saenger, Hegerl & Davie (1983), Suryowinoto (1987), <http://www.orchidspecies.com/indexdendroc.htm>.

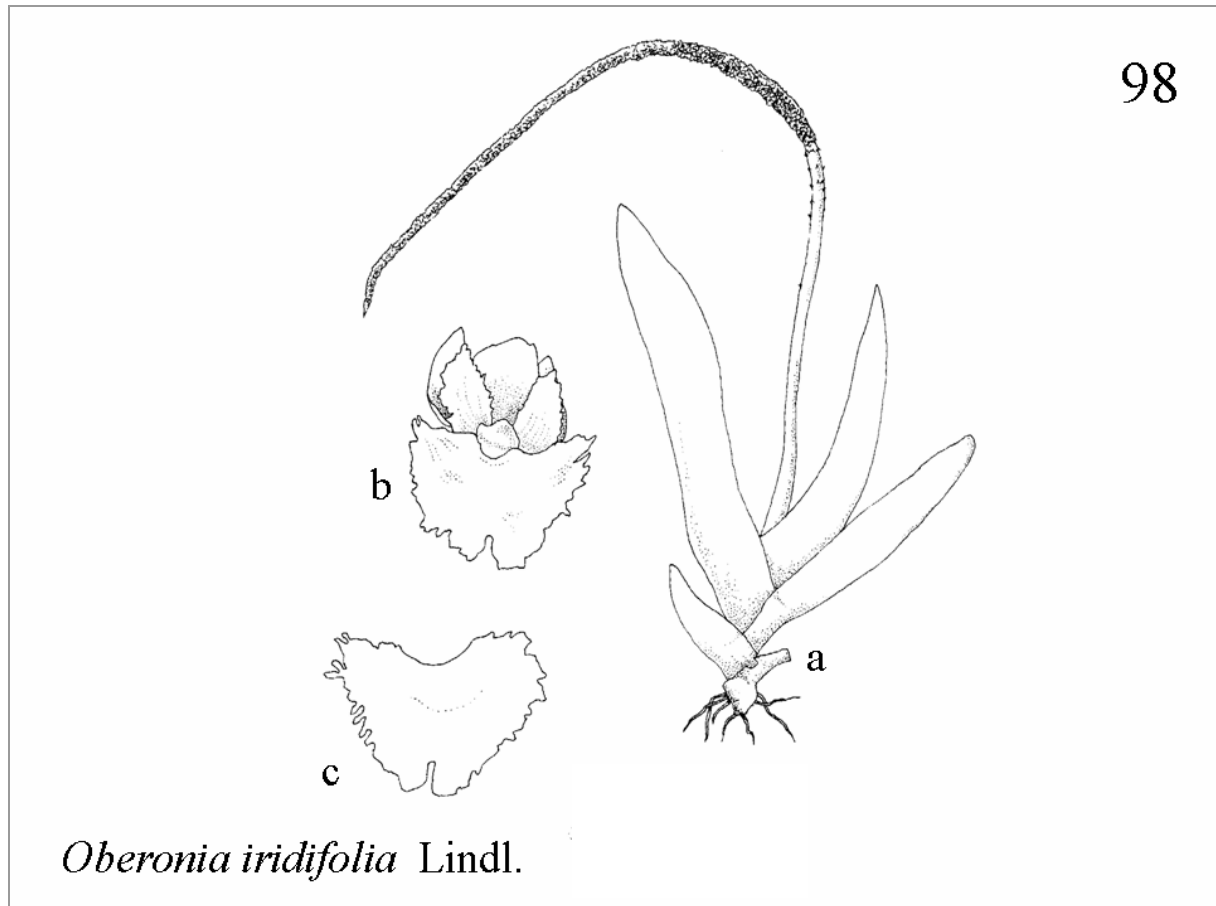


Fig. 98. *Oberonia iridifolia* Lindl. (a) Habit of flowering plant, (b) flower, viewed from front, and (c) flower segment.

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***Oberonia iridifolia* Lindl.**

Synonyms : *Cymbidium iridifolium* Roxb., *Cymbidium iridifolium* Sw. ex Steud., *Iridorchis iridifolia* (Lindl.) Kuntze, *Malaxis iridifolia* (Lindl.) Rchb. f.

Vernacular name(s) : Iris-Like Leaf Oberonia (E)

Description : Epiphyte with a very short stem and (3-)4-6 fleshy, fan-shaped, pointed leaves. Leaves have a faintly curved upper- and an almost straight lower margin, measuring up to 18 by 2 cm. The basal leaves are the smallest. The terminal, many-flowered spikes are drooping, and measure 15-25 cm, including the about 6 cm-long, flat stalk. The pale green or brownish-green flowers are about 2 mm across. They occur in regular, close whorls, more flexible near the top, and are distinctly stalked. Leaflets at the base of the flower are broad, toothed at the tips, and are as long as the individual flower stalk and ovary. Sepals and petals are recurved, while petals are broadly ovate. The lip is nearly quadrangular in outline, shallowly 2-lobed and round, divided into small, pointed and narrow segments.

Ecology : Occurs in teak forests, mixed forests and mangroves, usually up to an altitude of about 100 m, but also once recorded at 1,500 m. Flowering occurs from March to May. Mangrove associate species.

Distribution : From India and the eastern Himalayas throughout Southeast Asia and the Pacific Islands. Recorded from Malaysia and Indonesia. Specimens from southern Peninsular Malaysia are now recognised as being a distinct species: *Oberonia dissitiflora*, not recorded in mangroves.

Abundance : Unknown.

Use(s) : Ornamental.

Source of illustration : Dansk Botanisk Arkiv (1968).

Reference(s) : Ridley (1924), Backer & Bakhuizen van den Brink (1963-8), <http://www.orchidspecies.com/indexo.htm>.

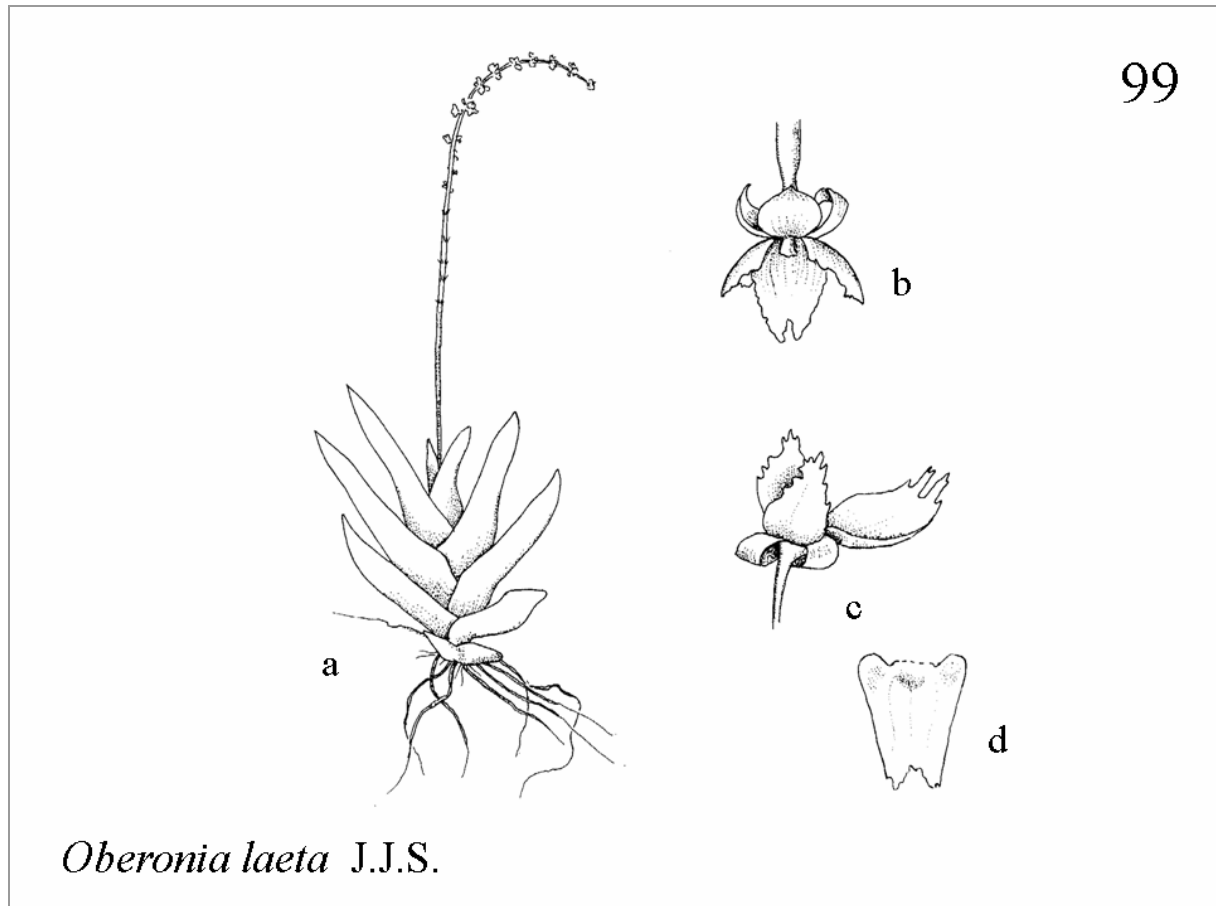


Fig. 99. *Oberonia laeta* J.J.S. (a) Habit of flowering plant, (b) flower, viewed from above, (c) flower viewed from side, and (d) detail of flower segment.

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Oberonia laeta* J.J.S.*Synonyms :** *Oberonia bertoldii*, *Oberonia gracillima***Vernacular name(s) :** Unknown.**Description :** Small, epiphytic orchid, 10 cm long, with short stems and about 6-9 unequal, pointed, nearly straight leaves that measure about 3.5 by 0.7 cm. The many-flowered, terminal spike is 8 cm long, including the 2.5 cm stalk. There are many small leaflets at the base of the flower stalk. The tiny, tomato-red flowers are crowded at the lower part of the stalk, whorled at the upper part of the spike and are solitary at the top. The short bracts have irregularly toothed edges. The ovate and pointed sepals, 0.75 mm long, are all recurved. The lip and the petals are spreading. Petals, which have the same colour as the sepals, are elliptic and irregularly toothed or fringed. Lip are deeply coloured and a little longer than the petals, while anthers are yellow.**Ecology :** Occurs in lowlands, on mangrove trees and occasionally in orchards. Flowering has been recorded in May (in Java). Mangrove associate species.**Distribution :** In Malaysia, Singapore and Indonesia (e.g. Segara Anakan mangroves in Central Java).**Abundance :** Probably uncommon to rare.**Use(s) :** Unknown.**Source of illustration :** Dansk Botanisk Arkiv (1968).**Reference(s) :** Ridley (1924); Backer & Bakhuizen van den Brink (1963-8), Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org/>).

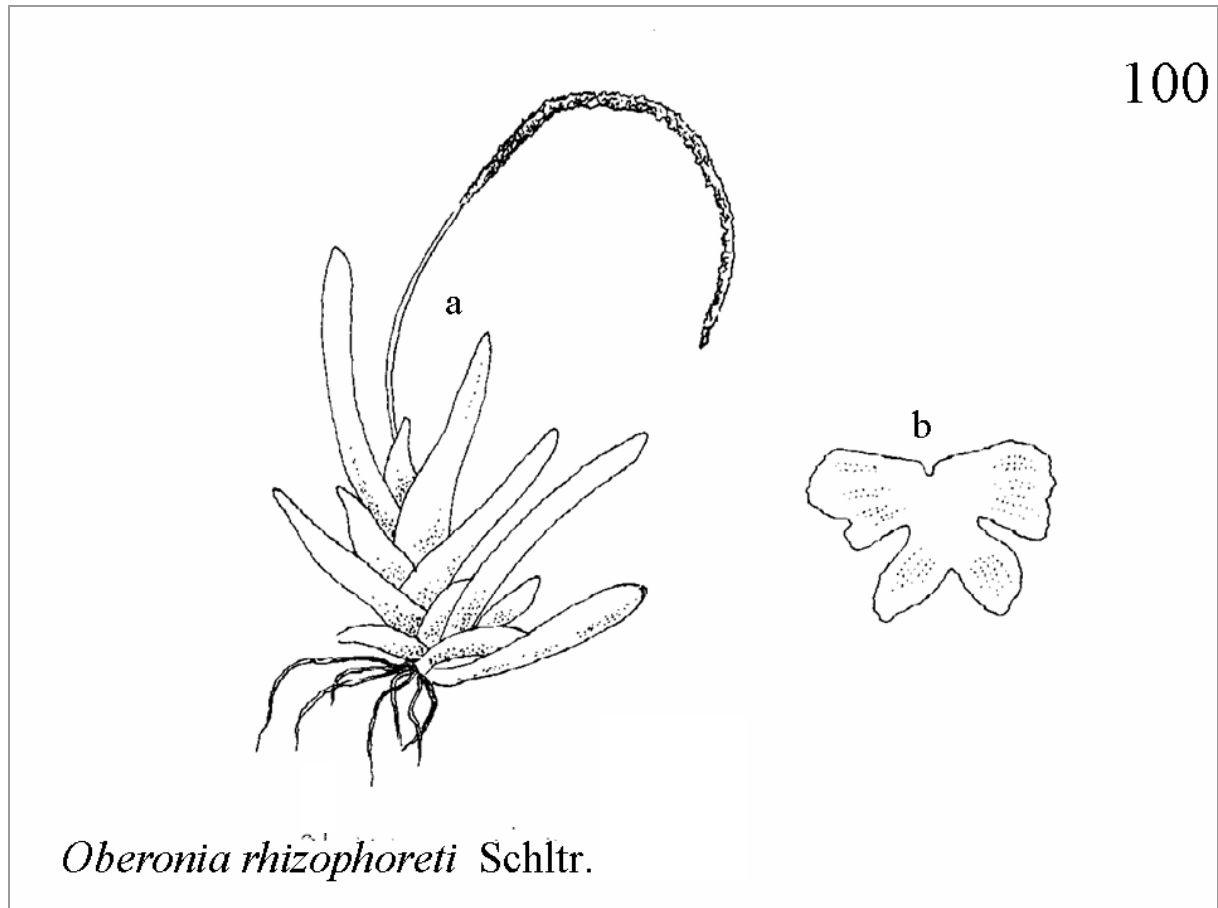


Fig. 100. *Oberonia rhizophoreti* Schltr. (a) Habit of flowering plant, and (b) detail of flower segment.

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Oberonia rhizophoreti* Schltr.*Synonyms :** *Oberonia rhizophoreti* J.J. Sm.**Vernacular name(s) :** Unknown.

Description : Small epiphytic orchid, 8 cm long, with a very short stem and 4-8, pointed, more or less erect, fleshy leaves, 3 by 0.4 cm. The terminal flower spike is up to 8 cm long, including the 1.5 cm long stalk, and has many flowers. Flowers are 1-1.5 mm across and occur in fairly regular whorls of about 8-9 flowers. The top-most ones are solitary. Leaflets at the base of the flower stalk are narrowed and faintly toothed, and are as long as the individual flower stalk and the ovary. The sepals and petals are yellow to orange, the lip is red-brown. The upper sepals and petals are spreading. Petals are elliptic, blunt and slightly toothed. The lateral sepals are curled back and have an incurved top. The 3-lobed lip is a little longer than the sepals. The side lobes are small, spreading, nearly square, with toothed outer edges, while the midlobe widens from a narrow base and is 2-lobed. The small lobes of the flower are rather broad, bluntly pointed, measure less than half the total length of the midlobe, and are separated by a broad indentation.

Ecology : Occurs in mangrove forests, on *Rhizophora*. Flowering recorded in May (in Java). True mangrove epiphyte species, as it is known from this habitat only.

Distribution : Found in Peninsular Malaysia and Indonesia. In Indonesia it is known from Segara Anakan (Central Java) and Sulawesi.

Abundance : Unknown, but probably uncommon to rare.

Use(s) : Unknown.

Source of illustration : Dansk Botanisk Arkiv (1968).

Reference(s) : Ridley (1924), Backer & Bakhuizen van den Brink (1963-8), Chapman, in Snedaker & Snedaker (1984), Missouri Botanical Garden TROPICOS database (<http://mobot.mobot.org/>).

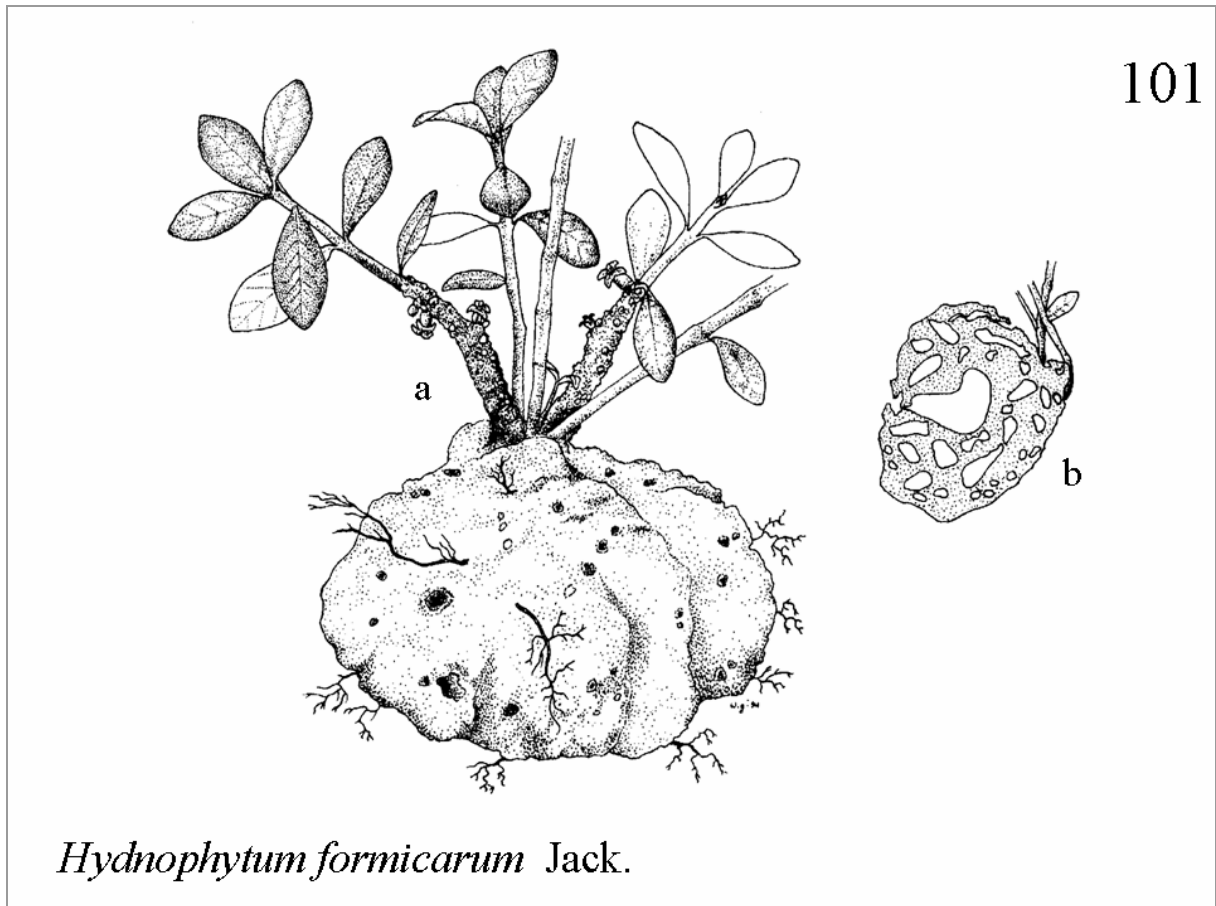


Fig. 101. *Hydnophytum formicarum* Jack. (a) Habit of flowering plant, and (b) cross-section of tuber-like swollen base.

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Hydnophytum formicarum Jack

Synonyms : *Hydnophytum amboinense* Becc., *Nidus formicarum niger* Rumph.

Vernacular name(s) : Rumah Semut Hitam, Urek-urek Polo, Kepala Berok (Ind.), Ký nam (Viet.)

Description : Epiphyte, with 2-4 erect stems, each up to 60(-100) cm long, and a cylindrical, spherical or flattened tuber-like swollen base, up to 25 cm in diameter. The tubers are usually without spines, and have a hollow labyrinth inside that is covered with scales; cavities are of two types: some produced early are mostly warty and later cavities are smooth or slightly warty. The branchlets are smooth and quadrangular in cross section. The opposite, leathery leaves are elliptic to broadly lanceolate, 4-15 by 2-7 cm; leaf tip blunt or rounded; lateral nerves prominent, 3-9 pairs. Three to five bisexual flowers occur together in shallow, cup-shaped cavities in strongly-thickened nodes of the stem. These cavities are interspersed with scales and hairs. Calyx tube is cup-shaped to shortly tubular (>2 mm long), hairs present or absent; lobes indistinct or almost absent or reduced to minute teeth or a low ridge (<2 mm). The corolla is white, its tube 1-2(-5) cm long, outside smooth, inside hairy. The orange, fleshy fruit is almost round, 6-7 mm in diameter, usually smooth, but occasionally covered with short hairs. The inner part of a dead tuber becomes gossamer-thin, and reportedly causes ulcerations if touched. This species is readily distinguished from the similar *Myrmecodia tuberosa* by the absence of spines on stems and tuber, and by its branching stems (*Myrmecodia tuberosa* does not branch).

Ecology : Occurs in primary and secondary forests, including mangroves, up to an altitude of 1,000 m. Flowering occurs all year round. The plant is named (in Latin and Dutch: 'black ants nest') after the kind of ants that invariably inhabit the labyrinth of the tubers of this epiphyte. Ant species that usually colonise this species are *Iridomyrmex cordatus* (= *Iridomyrmex myrmecodiae*), *Camponotus* spp., *Crematogaster* spp., *Monomorium* spp., *Tapinoma* spp. and *Paratechna* spp. (Hölldobler & Wilson, 1990). Mangrove associate species.

Distribution : Found from Peninsular Malaysia to the Western Pacific. In Southeast Asia recorded in Brunei, Malaysia, Vietnam and Indonesia (Sumatra, Java, Borneo, Sulawesi).

Abundance : Common.

Use(s) : The pith is used to treat swellings and headache.

Source of illustration : Drawn from photograph, and based on Holttum (1954).

Reference(s) : Heyne (1950), Backer & Bakhuizen van den Brink (1963-8), http://www.uni-bayreuth.de/departments/planta2/wgl/delta_ru/www/hydnophy.htm
[http://www.mekonginfo.org/mrc_en/contact.nsf/0/8902A71A698A3DE1802566860066E546/\\$FILE/Kynam.htm](http://www.mekonginfo.org/mrc_en/contact.nsf/0/8902A71A698A3DE1802566860066E546/$FILE/Kynam.htm).

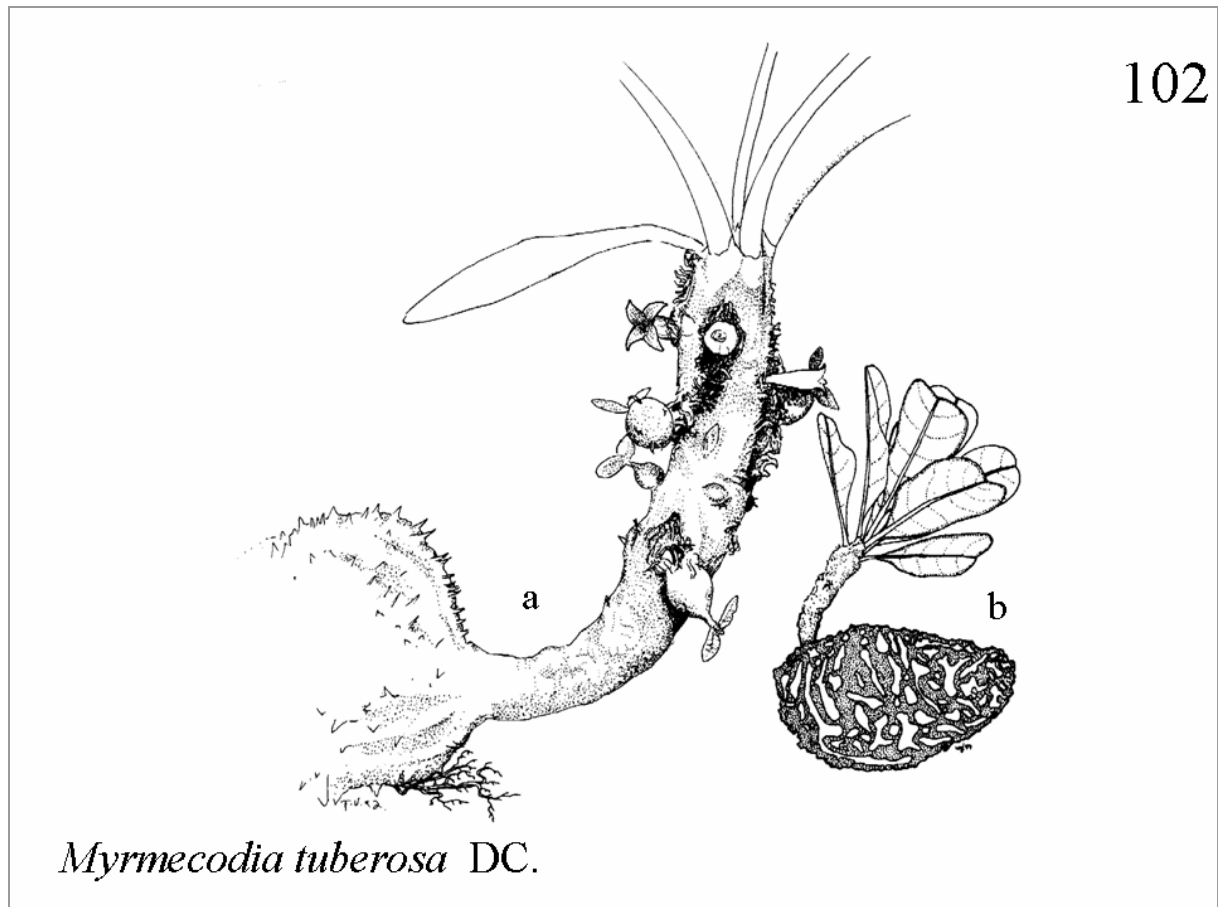


Fig. 102. *Myrmecodia tuberosa* DC. (a) Detail of flowering and fruiting plant, and (b) cross-section of entire plant.

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***Myrmecodia tuberosa* DC.**

Synonyms : *Lasiostoma* auct. non Schreber *Myrmecodia echinata*, *Myrmecodia armata*, *Myrmecodia rumphii* Becc., *Nidus formicarum ruber* Rumph.

Vernacular name(s) : Rumah Semut Merah (Mal.), Urek-urek Polo (Ind.)

Description : Succulent epiphyte with a thick, hairless stem that has a tuber-like thickening at the base, with branches that may measure 10-100 cm. This is covered with numerous, usually simple, adventitious roots that may grow into hard, long spines. The cylindrical or spherical tuber is hollow, having a labyrinth that is connected with the outside by several holes; the tuber is covered with spines. The opposite, oblong-lanceolate, thick-leathery leaves measure 12-16(-47) by 4-8(-14) cm; leaf nerves prominent, 4-6 pairs; leaf stalk 5-10 cm long. They are inserted on cushion-shaped, flat thickenings that are surrounded by a ring-shaped wall covered with numerous spines. The stemless, 4-merous flowers are solitary or a few occur together at the bottom of cup-shaped, hairy cavities in the stem. These cavities are always in pairs, next to the leaf base. Both calyx and corolla tube are cylindrical. Calyx tube extremely reduced (<2mm). The transparent lobes of the corolla are irregular, 3-4 mm long. The white corolla tube is less than 1 cm long, and is vertically divided by a dense ring of hairs. The 4-5-stoned, fleshy fruit is sticky and orange when ripe, measuring 2-2.5 cm. The inner part of a dead tuber becomes gossamer-thin, and reportedly causes ulcerations if touched. This species is readily distinguished from the similar *Hydnophytum formicarum* by the presence of spines on stems and tuber, and by its non-branching stems (*Hydnophytum formicarum* branches).

Ecology : Most commonly seen in village-groves and along roadsides, at altitudes of 200-600 m. It also occurs in mangroves. Flowering has been recorded in Java in September. The plant is named (in Latin and Dutch) after the kind of ants that commonly inhabit the labyrinth within the tubers. Ant species that usually colonise this species are *Iridomyrmex cordatus* (= *Iridomyrmex myrmecodiae*), *Iridomyrmex scrutator*, *Camponotus* spp., *Crematogaster* spp., *Pheidolesyx* spp. and *Poecilomyrmex* spp. (Hölldobler & Wilson, 1990). Mangrove associate species.

Distribution : Found from Peninsular Malaysia and Brunei, through the Philippines, Indonesia (Sumatra, Borneo, Java, Sulawesi, Papua) to Papua New Guinea, northern Australia (Cape York) and the Western Pacific (Solomon Islands).

Abundance : Common.

Use(s) : The pith is used to treat swellings and headache.

Source of illustration : Based on photograph in Polunin (1988).

Reference(s) : Heyne (1950), Backer & Bakhuizen van den Brink (1963-8).
http://www.uni-bayreuth.de/departments/planta2/wgl/delta_ru/.

