

# Additions to the Flora of Singapore, I

H.T.W. TAN\*, ALI BIN IBRAHIM<sup>1</sup>, K.S. CHUA,

I.M. TURNER, Y.C. WEE and P.T. CHEW

Department of Botany, National University of Singapore,  
Lower Kent Ridge Road, Singapore 0511, Republic of Singapore

<sup>1</sup>National Parks Board, Botanic Gardens, Cluny Road,  
Singapore 1025, Republic of Singapore

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## Abstract

From field and herbarium studies, two new fern and 23 angiosperm taxa were found to have been previously overlooked or newly discovered in Singapore. Brief notes on their description, distribution and collecting localities are made for each.

## Introduction

A comprehensive list of vascular plant species has been compiled for Singapore (Turner *et al.*, 1990) from literature and herbarium work. In the course of field work and examination of specimens at the Herbarium, Singapore Botanic Gardens (SING) and the Herbarium, Department of Botany, National University of Singapore (SINU), new records of species were made. Voucher specimens for each newly discovered taxon have been deposited in SINU and/or SING.

## New Records

### Adiantaceae

#### 1. *Adiantum fruticosum* Spreng.

A large ornamental fern with bipinnate fronds which can grow up to 100 cm long. It originates from the rainforest of tropical America where it is found from Mexico and the West Indies, southern Peru and Brazil. It appears to be naturalized in Singapore and occurs on shaded earth banks along Seton Close and Cluny Road. Here, the plants are about 40 cm tall and freely fertile. (Specimen — Y.C. Wee 451)

#### 2. *Adiantum latifolium* Lam.

A tropical American fern, occurring naturally from Mexico to South America, as well as the Greater Antilles, Virgin Islands and Trinidad. It was introduced into the country as an ornamental during the last ten years and has now established itself in shaded earth banks or flat ground in rural areas. It has also been observed around the southern periphery of the Bukit Timah Nature Reserve and Pulau Ubin. (Specimens — M.Y. Kok 32; Y.C. Wee 452)

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\* — Author to whom correspondence should be addressed.



### Acanthaceae

#### 1. *Hemigraphis primulaefolia* (Nees) Fern.-Vill.

This species was first collected in Singapore in 1950 by J. Sinclair outside the Botanic Gardens at Cluny Road. A native of the Philippines and Moluccas, it was probably introduced as an ornamental as it is an attractive plant with lilac corollas and leaves, dark jade green above and reddish purple below. It has since spread from the Gardens and can also be seen in many areas in the National University of Singapore campus grounds at Kent Ridge. (Specimens — J. Sinclair S.F. No. 38918; Ali bin Ibrahim AI 46; K.S. Chua and H.T.W. Tan 312; E.M. Sim & L.P. Ng 39)

### Asclepiadaceae

#### 1. *Secamone elliptica* R.Br. (*S. micrantha* (Decne.) Decne.)

A slender, twining climber with opposite, chartaceous, narrowly elliptic or lanceolate leaves. Flowers are tiny in short-peduncled or sessile cymes and pale yellow, each producing two spreading, terete, narrow and elongated follicles. This species has been found in the Sungei Buloh area at the fringes of prawn ponds. Its natural range includes Malesia, New Guinea, northern and eastern tropical to subtropical Australia and New Caledonia (Forster and Harold, 1989). (Specimen — K.S. Chua, H.T.W. Tan & M.F. Choong 758)

### Balsaminaceae

#### 1. *Hydrocera triflora* (L.) Wight & Arnott

*Hydrocera* is a monotypic genus which ranges from South India, Sri Lanka, Hainan, Thailand, Cambodia, Laos, the Malaysian Peninsula, South West Celebes and Java (Grey-Wilson, 1980). The species is an erect, aquatic herb with angular and hollow stems which are sometimes floating. Its red flowers are fairly similar to the commonly cultivated balsam (*Impatiens balsamina* L.) but differs from the latter by having five free sepals and five free petals instead of three sepals and having four petals fused into two pairs. The fruit of *H. triflora* is also a five-seeded, indehiscent berry and that of *I. balsamina*, a many-seeded, explosively dehiscent capsule. It is quite common along the shores of Seletar Reservoir. (Specimens — Ali bin Ibrahim AI 139; K.S. Chua, H.T.W. Tan & I.M. Turner 742)

### Cannaceae

#### 1. *Canna indica* L.

A stout, perennial herb with more or less erect, glaucous leaves and a creeping and branching rhizome which accounts for its gregarious habit. The flowers have bright red tepals and the fruit is a bristly, globose capsule. It is commonly found in rural areas along roadsides, sides of ditches or drains and even reclaimed land. This species is a native of tropical and sub-tropical America and presumably was introduced here as an ornamental. It has since run wild. (Specimens — K.S. Chua 604; M. Chan 30)

### Celastraceae

#### 1. *Maytenus emarginata* (Willd.) D. Hou

A shrub up to 4 m tall. Branches bear short shoots terminated by a spine. Leaves are spirally arranged, obovate to subspathulate with entire to shallowly crenate margins. Flowers are borne in axillary cymes, and white. This species is found behind the beach



or mangrove. It ranges from Sri Lanka, South-East Asia to North Queensland, and in Peninsular Malaysia, only recorded from Johor (Hou, 1962). In Singapore, it is found at the back of mangroves near the Kranji Dam. (Specimen — K.S. Chua, H.T.W. Tan, I.M. Turner & J. Yong 792)

### Compositae

#### 1. *Porophyllum ruderale* (Jacq.) Cass.

A small, erect, aromatic, weakly branching herb with somewhat fleshy, glaucous leaves. Flowers are in elongated heads up to 2.5 cm long. Plants have been found on reclaimed land or beaches on the mainland and Southern Islands of Singapore. This species is a native of Central and South America. (Specimens — H. Keng 4447; J.F. Maxwell 81-26; K.S. Chua & I.M. Turner 657)

### Convolvulaceae

#### 1. *Ipomoea obscura* (L.) Ker-Gawl.

A slender, herbaceous twining or creeping climber which bears ovate to orbicular, cordate leaves. Inflorescences are axillary, one- to few-flowered. The corolla is funnel-shaped, white or yellowish-white with darker midpetalline bands and a dark purple centre. In Singapore, *I. obscura* is found in wasteland or fringes of secondary forest. This species ranges from eastern tropical Africa, Mascarene Islands, tropical Asia, throughout Malesia to Northern Australia and Fiji (van Oostroom, 1953). (Specimen — K.S. Chua 633)

#### 2. *Ipomoea pes-tigridis* L.

A lacticiferous, twining, sometimes prostrate, herbaceous annual climber, with pure white, funnel-shaped corollas and 5-7 lobed, palmate leaves. This is rare in Singapore, having been collected only twice before; in 1933 by Z. Teruya and in 1941 by E.J.H. Corner. It is a weed and was collected in wasteland on all three occasions. The species ranges from tropical East Africa, Mascarene Islands, continental tropical Asia, and throughout Malesia (van Oostroom, 1953). (Specimens — Z. Teruya 2332; E.J.H. Corner, s.n. 4 Aug 1991; K.S. Chua 303)

#### 3. *Neuropeltis racemosa* Wall.

This is a large woody climber and was first collected in Singapore by N. Wallich (Ridley, 1923). Keng (1990) doubted the occurrence and noted that this species was "doubtfully recorded in Singapore." Recently, capsules and bracts of this species were collected from the forest floor at Bukit Timah Nature Reserve and confirmed Ridley's observation. It also occurs in Hainan, Thailand and Borneo (van Oostroom, 1953). (Specimen — Ali bin Ibrahim AI 138)

### Dipterocarpaceae

#### 1. *Dipterocarpus sublamellatus* F.W. Foxworthy

This is an overlooked species and previous collections were made by H.N. Ridley on Pulau Ubin in 1890 and J. Sinclair at MacRitchie Reservoir on 22 Feb 1957 from a "70 ft. high" tree. Ashton (1982) indicated that this species occurs in Peninsular Malaysia, Sumatra and Borneo but there are no previous records that it occurs in Singapore. (Specimens — H.N. Ridley s.n. 1890; J. Sinclair S.F. No. 8916)



## Gramineae

### 1. *Pennisetum polystachyon* (L.) Schult. (*P. setosum* (Sw.) Rich.)

A tufted and erect plant, up to 2 m tall. The inflorescence, a spike-like panicle, is terminal, golden brown, somewhat lax and nodding. In habit, this species closely resembles *P. purpureum* Schumach. but the latter is a much larger plant, often reaching 5–6 m in height. Also the apex of the anther cells of *P. purpureum* is bearded, whereas in *P. polystachyon* they are glabrous. This species was previously cultivated in the Botanic Gardens (C.X. Furtado s.n. 10 Apr 1929; Md. Nur. s.n. 26 Oct 1929), presumably escaped and now occurs frequently in open wasteland. (Specimen — K.S. Chua 624; Roslina 16)

### 2. *Setaria barbata* (Lam.) Kunth

An overlooked species, this was first collected by Mahmud Awang in 1971 and more recently collected along Cluny Road and Lorong Gambas. This species is widely distributed from tropical Asia to Africa. (Specimens — Mahmud Awang s.n., 29 Dec 1971; K.S. Chua 329; K.S. Chua 397)

### 3. *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda

A strongly tufted perennial with erect or slightly spreading culms. This massive reed-like grass has solid culms and bamboo-like leaf blades that are very broad and shortly stalked. The inflorescence is a large open panicle with literally thousands of spikelets which are tiny and gaping with long, silky, spreading hairs.

The tribe Thysanolaeneae is monotypic and occurs in tropical Asia. Gilliland (1971) indicated that *T. latifolia* is cultivated in Singapore but has now escaped and been sighted in the Bukit Timah Nature Reserve, the Central Catchment Area and Pulau Ubin. (Specimens — K.S. Chua 617; A. Ho & E.M. Sim 19)

## Leguminosae

### 1. *Aeschynomene americana* L.

An erect, semi-woody, weakly branched herb which bears pinnate leaves. The papilionaceous flowers are borne in racemes and are mostly yellow. The legumes are mostly curved, jointed and incised on one side. This is a native of tropical America and used as forage crop. It appears to have become naturalized in Singapore. It is commonly found in reclaimed or wasteland. (Specimens — A. Santiago 4413; K. Jumali s.n. 15 Jan 1978; K.S. Chua & H.T.W. Tan 452; K.S. Chua & I.M. Turner 667)

### 2. *Desmanthus virgatus* (L.) Willd.

A member of the subfamily Mimosoideae, it is also a new generic record for Singapore. The plant is an erect, semi-woody plant with pinnate leaves. Flowers are in globose heads with white petals, stamens and styles. This species is native to tropical America and appears to be fairly well established in reclaimed land. (Specimen — K.S. Chua & H.T.W. Tan 416)

## Loranthaceae

### 1. *Scurrula parasitica* L. (*S. fusca* (Blume) G. Don)

A shrubby, semi-woody, semi-parasite, bearing elliptic to oblong, decussate leaves. Flowers are in racemes, hairy and reddish brown. This species is similar to the much more common *S. ferruginea* (W. Jack) Danser but differs from the latter by its more glabrous abaxial lamina surface (completely red-brown hairy in *S. ferruginea*) and



yellowish fruit pulp (greenish in *S. ferruginea*). It has been found only in Pulau Ubin in one location, growing on *Mangifera foetida*. It is distributed in tropical South-east Asia (Danser, 1938). (Specimen — P.T. Chew & A.S. Chew 46)

### Lythraceae

#### 1. *Ammania baccifera* L.

An erect, annual herb with apetalous flowers, densely packed at the axils of the dark green, coriaceous leaves. The plant grows up to about 0.6 m and often, much branched at the base. The leaves are mostly decussate except for the higher ones which are opposite and more or less two-ranked. This species grows in wasteland or wet areas. It is of Asian origin. (Specimen — K.S. Chua & H.T.W. Tan 415)

### Pedaliaceae

#### 1. *Sesamum radiatum* Schumach.

This is a hairy, erect annual herb which is strongly scented. The corolla is violet with a white blotch with purple streaks inside the lower lip. This species was collected on 2 Oct 1989 on Pulau Ubin in wasteland and is probably an escape from cultivation or a weed. It has also been sighted in a few other locations on the mainland. It is very similar to *S. orientale* L. which is the source of sesame seed oil and distinguished from the latter by having fruits with rounded or very obtuse apices and lower leaves which are simple and neither deeply lobed nor palmately compound. This species is also grown for its oil-containing seeds in its native tropical West Africa. In Malesia, Backer (1951) noted that it is rare, occurring in the Peninsular Malaysia, Sumatra and North Borneo. (Specimen — K.S. Chua & H.T.W. Tan 82)

### Polygonaceae

#### 1. *Polygonum orientale* L.

An erect, hairy annual bearing flowers with white corollas borne in pseudo-spikes which are arranged in few-branched panicles. This species was collected in 1991 in wasteland off Mandai Road and has become established as a weed. It is native of the old world tropics. (Specimens — Ali bin Ibrahim 136; Ali bin Ibrahim 136A)

### Portulacaceae

#### 1. *Talinum paniculatum* (Jacq.) Gaertn.

A semi-erect, fleshy herb which becomes semi-woody especially in the lower parts of the terete stems and branches when older. Leaves are somewhat fleshy, dark green, elliptic to obovate, and spirally arranged. Small flowers bearing pink petals are found in terminal inflorescences. This is a pantropical weed which is native of tropical America (Geesink, 1971). In Singapore, it has been seen in many locations as a weed. (Specimen — M.F. Choong 57)

### Rubiaceae

#### 1. *Hedyotis pumila* L.fil. (*Oldenlandia pumila* (L.fil.) DC.)

This species has been seen in various localities and its presence probably depends on dispersal opportunities. Its tiny seeds and viability of up to 72 weeks (Tan and Corlett, 1987) are probably very important for its spread as a weed. It is found in sunny areas including lawns and car parks. It is free-flowering and has a reproductive



cycle of three to four months. It was first seen in 1979 in Sian Tuan Avenue then more recently in various other localities since, including Jurong West. Bremekamp (1974) has noted that this species ranges from East Africa to India and has been introduced as a weed in Jamaica. Backer and Bakhuizen van den Brink (1965) also indicated its occurrence in Java. (Specimen — H.T.W. Tan 2/12.12.79)

## Typhaceae

### 1. *Typha angustifolia* L.

A half-submerged freshwater macrophyte that can reach 3 m tall. This robust aquatic has a creeping rhizome and long linear, emergent leaves which are coriaceous. The numerous, tiny flowers are packed into two unisexual spikes. The long and narrow male spike is placed above the sausage-like female spike.

*T. angustifolia* was accidentally introduced into Singapore in the 1930s. One plant was growing together with a clump of *Cyperus papyrus* which a certain Mr Lee Peck Hoon received from Bangkok. Later he presented it to the Singapore Botanic Gardens, and the clump was planted in one of the lakes. Since then the plant has become naturalized in Singapore. The plants can be found in many stagnant pools or bodies of water in open fields, reclaimed land or construction sites. This species ranges from the arctic circle to 35°S (Backer, 1951). *T. angustifolia* is the only naturally occurring member of its genus in Malesia. (Specimens — I.H. Burkill s.n., 11 Jul 1932; Md. Nur s.n., 10 Nov 1938; R.E. Holttum s.n., 30 Oct 1941; I.M. Turner 117)

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