

Additions to the Flora of Singapore, II.

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Abstract

Seven species of vascular plants not previously reported for the flora of the Republic of Singapore are listed in this paper. Three of these, the epiphytic orchid *Bulbophyllum gusdorfii* J.J.Sm., the icacinaceous liana *Iodes cirrhosa* Turcz. and the leguminous sea-shore shrub *Sophora tomentosa* L., are apparently overlooked native species. The other four, the sedge *Cyperus difformis* L., the fern *Pteris semipinnata* L. and the leguminous shrubs *Macropitium lathyroides* (L.) Urban and *Sesbania cannabina* (Retz.) Poir., are naturalized exotic species.

The Republic of Singapore has a native and naturalized vascular plant flora containing some 2,500 species (Turner, 1993). Despite fairly intensive botanical inventory for more than a century it is still possible to find additions to the flora. These are either overlooked native species or exotics that have become naturalized after accidental or deliberate introduction. In this paper we list seven new records.

1. *Bulbophyllum gusdorfii* J.J.Sm. [Orchidaceae]

An epiphyte of forest trees consisting of a horizontally creeping rhizome bearing ovoid, slightly four-angled pseudobulbs up to 2.5 cm long, each with a single coriaceous, oblanceolate-obovate leaf which can reach 16.5 by 3.5 cm in size. The pinkish scape arises from the base of the pseudobulb, and is from 7 to 9 cm long. At the tip of the scape, the 6-8 flowers are found in an umbel-like arrangement. Each flower has a dorsal sepal and about equal-sized lateral petals. The lateral sepals are joined for almost all their upper edges, are up to 26 mm long and 8 mm at the widest point, and are pale yellow flushed purple at the base. The identification was confirmed from a plant (K.S. Chua et al., *NRS1683*, 29 Apr. 1993) collected from a fallen branch in the forest to the north of MacRitchie Reservoir near Thompson Ridge and grown until it flowered at the National University of Singapore.

Bulbophyllum gusdorfii has been reported from Selangor, Pahang and Johore in the Malay Peninsula, as well as from Sumatra and possibly the Philippines (Seidenfaden & Wood, 1992).

2. *Cyperus difformis* L. [Cyperaceae]

A small annual, about 50 cm tall, with tufted stems, well-developed but weak, leaves and reddish fibrous roots. The inflorescence is simple or compound. It is made up of 5-9 spreading primary branches of up to 4 cm long, often bearing shorter secondary branches radiating from their tips. Each branch or branchlet ends in a spike consisting of a globose head of up to 40 spikelets stellately arranged.

A specimen (K.S. Chua 1059, 11 Oct. 1994) of *Cyperus difformis* was recently collected from a clump of sedges in a patch of waterlogged open ground beside the road in Lim Chu Kang. Ridley (1925) reported that *Cyperus difformis* was rare in the Malay Peninsula, occurring as a weed in the ricefields of Kelantan. Elsewhere it is widespread across the Tropics and Subtropics of the Old World, being found from southern Europe and Africa to Australia, but in Malesia is only common on Java (Kern, 1974). Expanses of waste land in Singapore appear to have favoured the establishment of weedy species, such as this one, endemic to more seasonal tropical climates.

3. *Iodes cirrhosa* Turcz. [Icacinaceae]

A liana with woody stems to 8 cm in diameter climbing with the aid of tendrils. The simple leaves are roughly ovate and hairy beneath. The tiny yellowy-white flowers are borne in much-branched lax cymes to 15 cm long. The fruits are red drupes about 1.5 cm long. In Singapore the first record of this species is a specimen (I.M. Turner et al. *NRS0026*, 1 Apr. 1992) collected from the margin of the Nee Soon Swamp Forest near Seletar Reservoir Park. The species is found over a wide area of both the Malay Peninsula and Malesia (Sleumer, 1971), so it does not seem unlikely that it is native to Singapore.

4. *Macroptilium lathyroides* (L.) Urban [Leguminosae]

The phasey bean or kacang batang is a small shrub reaching about 1.5 m tall. In the open it remains erect but among other plants the young branches may twine round adjacent stems allowing the plant to climb. The leaves are trifoliate with ovate-lanceolate to elliptic leaflets. The “dried blood” red flowers are borne in racemes up to 15 cm long with a 40 cm peduncle. The narrow pods are more or less cylindrical, about 10 cm long and given to abrupt dehiscence.

This species, native to Tropical America, has been used quite widely in the Tropics as a forage legume (Jones & 't Mannetje, 1992) and probably arrived in Singapore as an escape from an agricultural trial somewhere in the region. It has been observed in a number of localities in Singapore, seemingly preferring open sandy sites, particularly newly reclaimed land. Collections include: Ali Ibrahim 95 (25 Jun 1987) from reclaimed land at Marina South, I.M. Turner 93-12 (17 Jan 1993) from reclaimed land at Marina East and K.S. Chua et al. *SB 3063* (13 Oct 1993) from Sungei Buloh Nature Park, along roadsides at the Lim Chu Kang boundary.

5. *Pteris semipinnata* L. [Pteridaceae]

A terrestrial fern with fronds 30-40 cm long. The fronds are pinnate; the terminal pinna being deltoid with lateral lobes incised close to the rachis. The 4-7 pairs of subopposite lower pinnae are sessile with lobes along their lower margins. The edges of the pinnae are minutely and irregularly toothed. The pale brown spores are produced from sori running round the margins of the fertile fronds.

Pteris semipinnata was first collected in Singapore by J. Sinclair in 1950 (*SFN 39124*) on Pulau Brani. The field note on the herbarium sheet describes the locality as a clayey slope near the jetty and declares the fern to be common in that site. More recently this species has been collected from Labrador Park at the base of a *Eugenia grandis* tree (I.M. Turner 92-50, 23 Aug. 1992) and from a similar habitat in Mount Faber Park (I.M. Turner 93-2, 1 Jan. 1993). Holttum (1968) noted that it had not been recorded south of Malacca in the Malay Peninsula, and was commonest in the more seasonal North East, where it was often found in light shade around towns and villages. It occurs across Indochina and southern China (Tagawa & Iwatsuki, 1989). It would seem likely therefore, given the thorough plant collecting that has taken place in Singapore, that *Pteris semipinnata* has undergone a recent range extension. It appears to be a species that is suited to the park habitat and development has favoured its establishment in new areas.

6. *Sesbania cannabina* (Retz.) Poir. [Leguminosae]

An erect shrub to 4 m in height, found growing in wasteland and newly cleared areas. The branches are characteristically held more or less horizontally and bear paripinnate leaves. The flowers, borne in axillary racemes, have yellow petals streaked with brown. The slender, straight to curved, legumes may be up to 20 cm long. This species appears to have

spread across Singapore in the last 15 years or so and has now been recorded from areas as various as Boon Lay Way, Bukit Batok Road, Hindhede Drive, Marina East and Turut Track (collections include K.S. Chua & H.T.W. Tan 353 and K.S. Chua and I.M. Turner 655).

Sesbania cannabina is probably native to Australia and parts of Malesia, but has become established across the Old World Tropics including Africa (Gillett, 1963).

7. *Sophora tomentosa* L. [Leguminosae]

A sea-shore shrub to 5 m tall characteristically with most parts more or less covered with a dense grey silky tomentum. The pinnate leaves possess 5-9 opposite pairs plus a terminal leaflet and are up to 30 cm long. The bright yellow flowers are borne in racemes up to 30 cm long. These give rise to pods which look like short strings of black beads because of constrictions between each seed in the pod.

Sophora tomentosa is a pantropical coastal plant (Rudd, 1980). In the Malay Peninsula it is common on the East Coast but on the west found only north of Lumut in Perak (Corner, 1988). There are no earlier records of this species from Singapore, yet it was recently collected (Turner et al. LAZ 36, 29 June 1993) on Pulau Sakijang Pelepah (Lazarus Island) where a single bush was found growing on the rocky southern shore of the island. It seems that it is a resident species that has eluded detection by earlier Singapore-based botanists. Seed was collected from the plant and successfully germinated in the Department of Botany, The National University of Singapore. It is hoped to establish the young plants at various suitable localities in Singapore to expand the population of this attractive native plant.

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