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Flora of Singapore precursors, 51: A new record and a taxonomic change for Cactaceae

N.P. Taylor[1] & L.M.J. Chen[2]

[1]Depto de Biologia, Universidade Federal de São Carlos,
Sorocaba, São Paulo 18052-780, Brazil
nigelcactus.taylor@gmail.com
[2]Botanical Research, Singapore Botanic Gardens, National Parks Board,
1 Cluny Road, Singapore 259569, Singapore

ABSTRACT. Besides the now common *Selenicereus undatus* (Haw.) D.R.Hunt (previously listed as *Hylocereus undatus* (Haw.) Britton & Rose), *Epiphyllum hookeri* Haw. is also now newly reported here as a casual species of Cactaceae in Singapore's flora.

Keywords. *Epiphyllum*, new records, *Selenicereus*

Introduction

While the first author was preparing an account of introduced Cactaceae for the Flora of Singapore in November 2024, the second author drew the attention of the first author to a recently encountered genus and species not previously included in the *Flora of Singapore: Checklist and bibliography* (Lindsay et al., 2022): *Epiphyllum hookeri* Haw. subsp. *hookeri*. In addition, since the publication of Lindsay et al. (2022), *Leuenbergeria bleo* (Kunth) Lodé has also been recorded as a casually occuring species in Singapore (Chen et al., 2025), and *Hylocereus undatus* (Haw.) Britton & Rose has generally become accepted to be a synonym of *Selenicereus undatus* (Haw.) D.R.Hunt.

Taxonomic treatment

1. *Epiphyllum hookeri* Haw., Philos. Mag. Ann. Chem.: 108 (1829); Britton & Rose, Cactaceae 4: 190 (1923); Bauer, Cactaceae Syst. Init. 17: 25–26 (2003); Hunt et al., New Cact. Lexicon, text vol.: 105 (2006), illus. vol.: 92 (2013). – TYPE: [Published illustration] Sims, Curtis's Bot. Mag. tab. 2692 (1826) (holotype).

subsp. ***hookeri*** (Fig. 1)

Leafless epiphyte, stems mostly pendent, but some ascending the main branches of the host tree, emitting aerial roots on the shaded side and from the junctions of growth segments. ***Stems*** flattened (bifacial), to 150 × 8.5 cm, sparsely branched, unarmed, or

Fig. 1. *Epiphyllum hookeri* Haw. subsp. *hookeri*. **A.** An individual growing on a *Samanea saman* (Jacq.) Merr. along Marine Drive housing estate. **B.** Developing flower buds. **C.** Fully opened flower. **D.** Ripe fruit. (Photos: L.M.J. Chen)

at first the segments rounded at base and developing grey bark, occasionally with a few weak spines, pale to dark green but often with a horny margin when old, vascular cylinder prominent as a midrib, margins crenate, with spineless felted areoles to 4 mm diam. in the crenations, which are c. 3.5 cm apart. ***Flowers*** from the lateral areoles, nocturnal, many developed together, ascending at c. 45° to the vertical, to 20 cm or more long; *pericarpel* c. 20 × 10 mm, cylindric, somewhat angled, pale green with a few minute bract-scales; *hypanthial tube* long and slender, to least 15 × 1 cm, sparsely clothed in narrow dull reddish bract-scales, these to 10 × 4 mm, decurrent into angles on the pale green tube, the basal part of tube internally secreting nectar; *perianth limb* c. 10 cm or more diam. at anthesis, perianth-segments narrow, tapered to a fine point, innermost white, oblanceolate, outermost yellowish at base, abaxially dull reddish above, 35–45 × c. 5 mm, gradually tapering to the pointed apex; *stamens* numerous, to 3.5 cm, inserted at the apex of the tube, white with creamy yellow anthers c. 6 mm long prior to dehiscing; *ovary* enclosed within the pericarpel; *style* very long and slender, the part exserted from the tube red towards base; *stigma-lobes* c. 10, slightly exserted beyond the stamens, slender, to 8 mm, golden. ***Fruit*** ovoid, berrylike, 2–3 cm or more depending on how many ovules are fertilised, pericarp bright pinkish magenta when ripe, indehiscent but attacked by birds or mammals, internally filled with white mucilaginous funicles in which the seeds are immersed. ***Seeds*** black-brown, shiny, smooth, c. 3 mm long, hilum white.

Distribution. Southern Mexico, Central America, Venezuela, and Trinidad and Tobago. In Singapore, newly reported here as a non-native casual species.

Ecology. Epiphyte on trees in tropical vegetation. In Singapore, the sphingophilous flowers sometimes set fruit, but it is not known whether this results from natural cross-pollination or self-compatibility, the latter being unusual in Cactaceae.

Specimens examined. SINGAPORE: **East Coast:** near Marine Drive, epiphyte on c. 10 Rain Trees on both sides of the East Coast Park (ECP) expressway, 10 Jul. 2022, *Chen LCMJ 2022-119/120/121* (SING [SING0401752, SING0401753, SING0401754]); ibidem, 28 Nov. 2024, *Chen & Taylor LCMJ 2024-013* (SING [SING04011763]).

Notes. Sometimes included within *Epiphyllum phyllanthus* (L.) Haw., but with very different shorter, broader flowers with a red style, golden stigmas and smaller fruit; overlapping with the latter species in range. It is assumed that the Singapore records are escapes from cultivation from fruits/seeds most likely transported by birds. The plants seen in Singapore correspond to *Epiphyllum hookeri* subsp. *hookeri* according to the key in Bauer (2003).

2. *Selenicereus undatus* (Haw.) D.R.Hunt, Cactaceae Syst. Init. 36: 35 (2017); Taylor in S. Mitra (ed.), Dragon Fruit: 5–6 (2024). – *Cereus undatus* Haw., Philos. Mag. Ann. Chem.: 110 (1830). – *Hylocereus undatus* (Haw.) Britton & Rose, Fl. Bermuda: 256

(1918); Britton & Rose, Cactaceae 2: 187–188 (1920); Taylor, Bradleya 13: 119–120 (1995); Taylor & Zappi, Cacti E. Brazil: 197 (2004); Hunt et al., New Cact. Lexicon, text vol.: 141 (2006), atlas vol.: 89.4 (2006); Lindsay et al., Gard. Bull. Singapore 74(Suppl. 1): 227 (2022). – TYPE: ex cultivation in China, not preserved. [Published illustration] 'Cactus triangularis' in Sims, Curtis's Bot. Mag. 44: tab. 1884 (1817), neotype designated by Taylor, Bradleya 13: 119–120 (1995).

Notes. A recent phylogeny of tribe Hylocereeae using gene sequence data resulted in *Hylocereus* (A.Berger) Britt. & Rose being included in *Selenicereus* (Hunt, 2017; Korotkova et al., 2017).

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