The genus *Macrosolen* (Loranthaceae) in Andaman and Nicobar Islands, with a new record for India

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Abstract

The genus *Macrosolen* Blume (Loranthaceae) is revised for Andaman and Nicobar Islands. *M. melintangensis* (Korth.) Miq. is reported for the first time from Bay Islands as a new record for India. With this, 5 species of this genus are found in these Islands. A key for the identification of species is also provided.

**Keywords:** India, Andaman and Nicobar Islands, Loranthaceae, *Macrosolen*, New record

Introduction

While studying the flora of Andaman and Nicobar Islands, the author collected an interesting specimen of Loranthaceae from South Andaman. On critical examination, it is identified as *Macrosolen melintangensis* (Korth.) Miq., a species so far reported only from Thailand, Indo-china, Malaya, Sumatra, Java, Borneo, Celebes and the Philippines (Barlow, 1995). Hence, the present report forms a new distributional record for India.

The genus *Macrosolen*, with about 30 species in the world, is distributed in India, Southern Asia, Malaysia, Thailand, China to New Guinea (Barlow, 1997, 2002; Wilson & Calvin, 2006a, b; Vidal-Russel & Nickrent, 2008a, b). Among them, 6 species are reported from India (Rajsekaran, 2012; Singh, 2013) and 5 species from the Bay Islands (Singh, l.c.). Most species of *Macrosolen* are aerial stem parasites and grow on dicotyledonous trees but a few grow on Gymnosperms (Wilson & Calvin, 2006a and b). Except for a few scanty reports in the early literatures (Roxburgh, 1832; Hooker, 1890; Duthie, 1903; Rajsekaran, 2012; Singh, 2013; Singh & Murugan, 2013), the parasites of Indian flora remain neglected and unexplored. The present paper deals with the taxonomic revision of *Macrosolen* in Andaman and Nicobar Islands along with a new report.

**Key to the species**

1. Nerves on leaves obscure; racemes axillary/ lateral; fruits globose ........................................... 2  
1. Nerves on leaves prominent; racemes terminal; fruits ellipsoid .................... 5. *M. melintangensis*

2. Pedicel 1–2 mm long ................... 4. *M. globosus*
2. Pedicel c. 5 mm long ........................................... 3
3. Corolla in mature bud < 20 mm long ................. 3. *M. cochinchinensis*
3. Corolla in mature bud > 20 mm long .............. 4
4. Leaves cuneate/ truncate at base; corolla 20–30 mm long ......................... 5. *M. melintangensis*
4. Leaves acute at base; corolla 10–14 mm long ....... ........................................... 2. *M. andamanensis*


Shrub, quite glabrous. Leaves opposite, elliptic-ovate/oblong or lanceolate, 7–12 × 2–4 cm, acute/ rarely rounded at base, subacute or acuminate at apex glossy above, coriaceous, golden when dry; nerves prominent; petioles 1.25 cm long. Racemes terminal, very variable with 3–6 pairs of flowers. Flowers pale yellow at base, purple at middle, green above. Calyx-limb entire. Corolla-tube oblong, 5–10 (-14) mm long, 6-angled, inflated below; lobes 6, linear-spathulate, as long as the tube, reflexed. Stamens 6, linear, spathulate, as long as the corolla tube; anther basifixed, immobile. Ovary inferior, 1-celled; ovule 1, basal placentation. Fruits
ellipsoid, red; seeds globose, yellowish brown.

**Flowering & Fruiting:** February-May

**Distribution:** India and Malaysia.

Specimens examined: INDIA, Andaman and Nicobar Islands: Middle Andaman, Near Mayabunder, Webi, c. 20 msl, 04.05.1973, N.P. Balakrishan 1346; South Andaman, Tirur, 12.05.1976, N.G. Nair 3681; Little Andaman, Dugon Creek, Guest House Campus, 05.02.1981, R.K. Premanath 8406 & 8407 (PBL!)


Evergreen shrub; branches hanging; branchlets glabrous. Leaves opposite, lanceolate, 4.3–9.1 × 1.6–3.8 cm, glossy, dull below, pale green with pinnate venation, acute at base, entire along margins, acuminate at the apex; midrib prominent and yellowish orange below; lateral nerves visible on both surfaces; petiole 0.3–1.2 cm long. Inflorescence lateral/axillary, raceme of 1 or 2 opposite pairs of flowers; axil slender, 3–8 mm long, shortly longer in fruit, often subtended at base by an involucre of a few acuminate prophylls; pedicel slender, 2–4 mm long; bracts small, elliptic-ovate. Flowers yellow, actinomorphic, bisexual. Corolla 6-lobed, rarely 5-lobed, 10–14(-20) mm long, usually slender, slightly inflated and weakly 6-ribbed or 6-winged (rarely 5-ribbed or 5-winged) at or above the middle, acute at the apex, mostly red below, dark brown coloured at neck and yellow or red above; tube in open flower 5–10 (-14) mm long; lobes reflexed. Stamens 6; anther 0.5–2.0 mm long, acute, about half to one third as long as the free part of the filament. Ovary inferior, 1-celled; ovule 1, placentation basal. Fruits globose, brownish green, glossy; seeds globose, yellowish brown.

**Flowering & Fruiting:** July-October.

**Habitat:** Aerial stem parasite on Mangifera indica L. and Manilkara littoralis (Kurz) Dubbard.

**Distribution:** India, endemic.

Specimens examined: INDIA, Andaman and Nicobar Islands, South Andaman, Haddo (Port Blair) ± 90 m, 12.10.2012, Lal Ji Singh 29536; Kamarajnagar Junction, c. 100m, 29.10.2012, C. Mursugan 30091; Middle Andaman, Kaushalya Nagar (Rangat), ± 60 m, 16.10.2013, Lal Ji Singh 29603 (PBL!).


Shrubs. Leaves opposite or scattered, lamina narrowly to broadly elliptic or ovate, 4–16 × 2–7 cm, cuneate to truncate at base, acuminate or acute but sometimes obtuse or shortly rounded at apex, lustrous above, dull below; petioles 3–10 mm long. Inflorescences lateral, subumbellate or spicate, racemes 2–7-flowered. Calyx-limb entire. Corolla in mature bud 6-merous, 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; lobes reflexed. Stamens 6; anther 0.5–2.0 mm long, acute, about half to one third as long as the free part of the filament. Ovary inferior, 1-celled; ovule 1, placentation basal. Fruits globose, brownish green, glossy; seeds globose, yellowish brown.

**Flowering & Fruiting:** August

**Distribution:** India, China, Malaysia and New Guinea.

Specimen examined: INDIA, Andaman and Nicobar Islands, Little Andaman, Water fall, 14.08.2004, L. Rasingam 17579 (PBL!).


Shrubs. Leaves opposite (rarely alternate or 3-nately whorled), elliptic-lanceolate, 6–10 × 3.5–6 cm, entire at margin, subacute or acuminate, nerves very obscure, pale brown when dry; petioles 5–10 mm long. Inflorescences axillary, 3–7-flowered, glabrous; pedicels c. 1.25 mm long. Calyx-limb entire, c. 2.5 mm long. Corolla-tube oblong, pink, 5–6-angled, inflated; lobes 5–6, yellow, greenish orange with yellow tips, linear-spathulate, as long as tube. Fruits globose, c. 8 mm long across, blackish; seeds globose, dark black.

**Flowering & Fruiting:** June - November.

**Habitat:** Parasite on Briedelia sp. and Eugenia javanica Lam.

**Distribution:** Malaysia, India.

Specimens examined: INDIA, Andaman and Nicobar Islands, Car Nicobar, Lapathy, 14.06.1974, N.G. Nair 1637; Mus,
14.11.1975, N.G. Nair 2884 (PBL!); Mus, 14.11.1975, N.G. Nair 2893; Tee Top, 03.06.1975, N.G. Nair 2658; Sawai, 04.06.1975, N.G. Nair 2665.


![Fig. 1](image_url)  

Woody herbs; branches hanging; branchlets glabrous. Leaves opposite, elliptic-ovate, (5-) 8–12 (-18) × 1.5–6.0 cm, shortly cuneate to truncate at base, entire along margins, usually slight to strongly acuminate or acute at apex, shining or glossy above, dull and pale below; venation pinnate, visible on the upper surface, with only midrib raised, dark coloured and visible below; petiole (3-) 6–15 (-18) mm long. Inflorescence lateral/axillary subumbellate recemes of 2–4 opposite pairs of flowers, axil usually slender, 3–10 (-16) mm long.

**Figs. 1, 2**

![Fig. 1](image_url)  

**Fig. 1.** *Macrosolen melintangensis* (Korth.) Miq.: a. Flowering twig; b. Inflorescence; c. Flower bud; d. Flower; e. Flower (split open); f. Stamens; g. Pistil; h. Ovary T.S. (40X); i. Fruits.
(or slightly longer in fruit), often subtended at the base by an involucre of a few acuminate prophylls. Flowers yellow, actinomorphic, bisexual; pedicels slender, (1-) 2–4 mm long (to 5 mm in fruit); bracts 3, ovate, acute at apex. Corolla in mature bud 6-merous, (15-) 20–30 (-35) mm long, usually slender, slightly inflated and weakly 6-ribbed or 6-winged at or above the middle, clavate, angular and usually acute at the apex, mostly pink, brown or orange, with a dark band at the basal neck and grading to yellow or green above; tube in the open flower 12–18 mm long, lobes reflexed, 2–3 mm long. Statmens 6; filaments flat, 1–1.5 cm long; anthers 1.5–3 mm long, about two thirds as long as the free part of the filament. Ovary inferior, 1-celled; style tubular and bent at base; stigma globose, orange in colour. Fruits globose, 2–4 mm in diam., stalk 0.5–1.9 mm long, greenish yellow, turning reddish brown when ripe; seeds globose, blackish brown.

Flowering & Fruiting: November–January.

Habitat: Aerial stem parasite on *Mangifera indica* L. and *Horsfieldia glabra* (Blume) Warb. in humid and open tropical forests from ± 114 to 163 m altitude.

Fig. 2. *Macrosolen melintangensis* (Korth.) Miq.: a. Flowering twig; b, c. Inflorescences; d. Flower (split open); e. Stamen; f. Pistil; g. Infructescence
The genus *Macrosolen* in Andaman and Nicobar Islands

**Distribution:** India, Peninsular Malaysia to Cambodia, southwards and eastwards to Sumatra, Borneo, Java, Celebes, Thailand and Philippines.


**Notes:** Barlow (1995) stated that habitat details are very poorly known, there is a solitary record of *Ficus* sp. as host. In the present study, the authors recorded *Mangifera indica* and *Horsfieldia glabra* as hosts for the first time. More recently L.J. Singh (2013) stated that most Indian species of *Macrosolen* grow on dicotyledonous trees with high host specificity may some times show a visual resemblances to preferred host.

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