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## THE GENUS *LASIANTHUS* (RUBIACEAE) IN WAWONII ISLAND, SOUTHEAST SULAWESI, INDONESIA

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### ABSTRACT

RUGAYAH & SUNARTI, S. 2017. The genus *Lasianthus* (Rubiaceae) in Wawonii Island, Southeast Sulawesi, Indonesia. *Reinwardtia* 16 (2): 97–101. — Recent botanical excursions carried out at Wawonii island, Southeast Sulawesi yielded two *Lasianthus* novelties distinct from other *Lasianthus* species enumerated for Sulawesi. These two new species are described here as *Lasianthus wawoniensis* Rugayah & Sunarti and *L. macrobracteatus* Rugayah & Sunarti. Descriptions and illustrations of the two new species are provided, including an identification key to all *Lasianthus* species occurring in the area.

**Key words:** Indonesia, *Lasianthus*, Rubiaceae, Southeast Sulawesi, Wawonii island.

### ABSTRAK

RUGAYAH & SUNARTI, S. 2017. Marga *Lasianthus* (Rubiaceae) di pulau Wawonii, Sulawesi Tenggara, Indonesia. *Reinwardtia* 16 (2): 97–101. — Kegiatan eksplorasi botani yang telah dilakukan di pulau Wawonii, Sulawesi Tenggara, menghasilkan dua jenis *Lasianthus* yang berbeda dengan *Lasianthus* yang telah didata sebelumnya di Sulawesi. Kedua jenis baru tersebut dipertelakan sebagai *Lasianthus wawoniensis* Rugayah & Sunarti dan *L. macrobracteatus* Rugayah & Sunarti. Pertelaan dan ilustrasi kedua jenis baru tersebut di sajikan termasuk kunci identifikasi semua jenis *Lasianthus* yang di temukan di lokasi tersebut.

**Kata kunci:** Indonesia, *Lasianthus*, pulau Wawonii, Rubiaceae, Sulawesi Tenggara.

### INTRODUCTION

*Lasianthus* Jack is one of the largest genera within Rubiaceae with about 180–228 species listed throughout the tropical regions (Davis *et al.*, 2009; Zhu *et al.*, 2012). However, the centre of its diversity is concentrated in the Malesian region with 131 species enumerated (Zhu *et al.*, 2012), with new species still being discovered as more botanical explorations were conducted in Southeast Asia.

The flora of Sulawesi is considered to be very poorly documented in comparison to other islands in Malesia. In the preliminary checklist of plants for Sulawesi, *Lasianthus* was not recorded (Sidiyasa *et al.*, 1989). The subsequent checklist by Kessler *et al.* (2002) enumerated 15 species of *Lasianthus* for Sulawesi. Whilst, *The World Checklist of Rubiaceae* recorded a total of 17 species in Sulawesi (Govaerts *et al.*, 2017).

A recent botanical exploration to Wawonii, an island located in Banda Sea on the southeast coast of Sulawesi, led by Research Center for Biology, Indonesian Institute of Sciences, enumerated 64 species of plants from Rubiaceae. Of these, three species were identified as *Lasianthus*, namely *L. laevigatus* Blume, *Lasianthus* sp.1 and *Lasianthus*

sp. 2 (Rugayah *et al.*, 2015). In January 2017, we re-studied the Rubiaceae collections gathered from Wawonii with a specific interest focusing on *Lasianthus*. After having examined the materials thoroughly using the treatment by Zhu *et al.* (2012), we concluded that *Lasianthus* sp. 1 (represented by specimen number: Siti Sunarti SS 206) and *Lasianthus* sp. 2 (represented by specimen number: Siti Sunarti SS 175) as distinct and described here as *L. macrobracteatus* Rugayah & Sunarti and *L. wawoniensis* Rugayah & Sunarti respectively, while *L. laevigatus* is re-determined as *L. stercorarius* Blume (represented by specimen numbers: Rugayah R 968 and Siti Sunarti SS 208).

### DESCRIPTION

**1. *Lasianthus macrobracteatus*** Rugayah & Sunarti, *spec. nov.* — Type: Indonesia, Southeast Sulawesi, Wawonii, 30 August 2005, Siti Sunarti SS 175 (Holotype: BO). Fig. 1.

Similar to *L. cailinianus* H. Zhu but differs in having angular and glabrescent branches and branchlets (*vs.* terete and densely pubescent branches and branchlets in *L. cailinianus*), long triangular stipules *ca.* 8 mm long (*vs.* short lanceolate-triangular stipules *ca.* 3 mm long in

*L. cailinianus* 8–10), sessile inflorescences (vs. distinctly stalked inflorescences in *L. cailinianus*), larger leaf-like bracts (3.5–4.5 × 1.3–1.5 cm) with long cuspidate apex (vs. ovate leaf-like bract (ca. 1.5 × 1 cm) with shortly cuspidate apex in *L. cailinianus*), and globose and glabrous fruit (vs. subglobose and hairy fruits in *L. cailinianus*).

*Shrub*, generally covered with long hirsute hairs throughout. Branchlets angular and glabrescent, ca. 3 mm diam., with white lenticelled. *Leaf blade* elliptic-lanceolate, 12–17 × 3–6 cm, thick chartaceous, densely hairy on both surfaces; base acute, apex acuminate, densely hairy on both surfaces; midrib flat above, raised below, densely hairy both side; secondary nerves 8–10 pairs, ascending at an angle of 40°, curved gradually to margin; tertiary nerves obscure above, distinct beneath; margin entire, densely hairy. Petiole 6–8 mm long, densely hairy. Stipule triangular, 8 mm long, densely covered with long hairs inside. *Inflorescences* axillary, cymes sessile; outer bracts 2, leaf-like, ovate-elliptic, ca. 3.5–4.5 × 1.3–1.5 cm, apex long acuminate, densely covered with hairs at basal portion and sparsely hairy towards the apex. Bracteoles numerous and densely covered with long silky hairs; outer bracteoles almost bract-like but smaller, narrowly lanceolate 2 × 0.3 cm, inner bracteoles linear ca. 1 cm long. Flowers not seen. Fruit drupe, blue, globose, ca. 8 mm diam., inconspicuously 5–7 ridged, crowned with a persistent calyx; calyx lobes linear, ca. 2 mm long. Pyrenes 5.

**Distribution.** The species is so far known only from Wawonii, Waworete in the hill forest about 810 m asl.

**Uses.** Leaves of *L. macrobracteatus* was used by the local people to make decoction to treat asthma and breathing difficulty (dyspnoea).

**Vernacular name.** *Oombu* (Wawonii language).

**Notes.** *Lasianthus macrobracteatus* is known only from the type collection. In Rugayah *et al.* (2015), *Siti Sunarti SS 175* was preliminary identified as *Lasianthus* sp. 2, but now proven to be distinct. The species also resemble with *L. hirsutus* (Roxb.) Merr. It differ from the latter in having shorter petioles and stipules, bigger outer bracts and globose fruit shape with inconspicuously 5–7 ridged, glabrous. *Lasianthus hirsutus* has petioles 10–15 mm long; stipules lanceolate or triangular-lanceolate, 8–10 mm long; outer bract ovate-lanceolate, 2–3 cm long; fruit ovoid-globose hirsute to glabrous.

**2. *Lasianthus wawoniensis*** Rugayah & Sunarti, *spec. nov.* — Type: Indonesia, Southeast Sulawesi,

Wawonii, Waworete in Kalimosolo forest, 1 September 2005, *Siti Sunarti SS 206* (Holotype: BO). Fig. 2.

Similar to *L. reticulatus* Blume but differs in having thick leathery-like leaves with ca. 4–5 pairs of lateral nerves (vs. thin membranaceous leaves with ca. 5–7 pairs of lateral nerves in *L. reticulatus*) and pedicels ca. 2 mm long (vs. subsessile in *L. reticulatus*).

*Shrub* ca. 1 m high, puberulous. Branchlets terete and glabrous on proximal parts, tetragonal and sparsely hairy on distal parts, ca. 2 mm diam., lenticelled. *Leaf blade* elliptic-oblongate, 6–12.5 × 2.4–4 cm, coriaceous, drying pale greenish, glabrous above, glabrescent to sparsely covered with adpressed hairs below on nerves; base acute; apex acuminate to rarely caudate; midrib prominent on both sides, glabrous above, sparsely hairy to glabrescent below; secondary nerves prominent on both sides, glabrous above, sparsely hairy to glabrescent below; margin entire. Petioles 5–6 mm long, glabrescent. Stipules narrowly triangular, ca. 3 mm long, densely hairy at the apex. *Inflorescences* axillary, cymes sessile with very few flowers; bracts absent. Flower pedicels ca. 2 mm long, glabrous, or sparsely hairy with white lenticels. Calyx campanulate, ca. 1 mm long, with 4 triangular lobes, hairy at the margin. Corolla not seen. *Fruits* not seen.

**Distribution.** The species is so far known only from Wawonii, within the Kalimosolo forest at 485 m alt.

**Vernacular name.** *Keu rea* (Wawonii language)

**Notes.** *Lasianthus wawoniensis* is known only from the type collection. In Rugayah *et al.* (2015), *Siti Sunarti SS 206* was erroneously identified as *Urophyllum arboreum* (Reinw. ex Blume) Korth. The species similar with *L. reticulatus* Blume in having campanulate calyx. It's also closely related to *L. pedicellatus* H. Zhu. It differs in having wider leaves, prominent nerves both sides, longer stipules and campanulate calyx. *Lasianthus pedicellatus* has leaves blades lanceolate 6–9 × 1.5–2.5 cm, midrib slightly depressed above, prominent beneath, lateral nerves flate above, prominent beneath, nervules prominent both sides; stipule small less than 1 mm long; calyx obconical.

3. **LASIANTHUS STERCORARIUS** Blume, Bijdr. Fl. Ned. Id. 16: 1000 (1826-1827); Zhu *et al.*, *Blumea* 57(1): 85 (2012). — Type: Java, Mt. Tjeremai, *Blume s. n.* (holo: L, barcode L0000707).

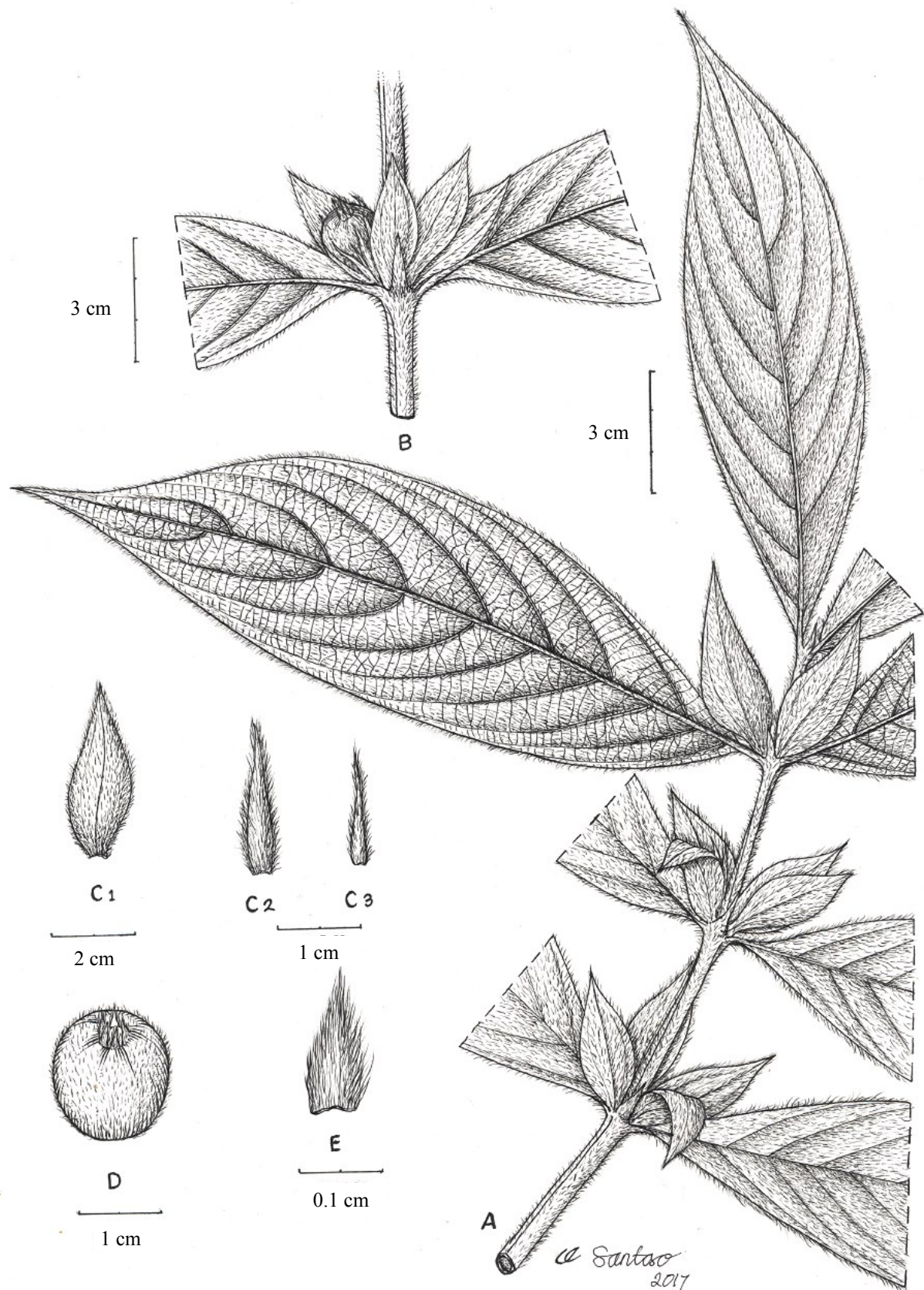


Fig. 1. *Lasianthus macrobracteatus* Rugayah & Sunarti *spec. nov.* A. Habit; B. Detail of node showing stipule, outer bract and fruit; C. Outer bract (1), bracteoles (1 & 2); D. Fruit; E. Persistent calyx on its fruit. From *Siti Sunarti SS 175* (BO), drawing by Wahyudi Santoso (BO).

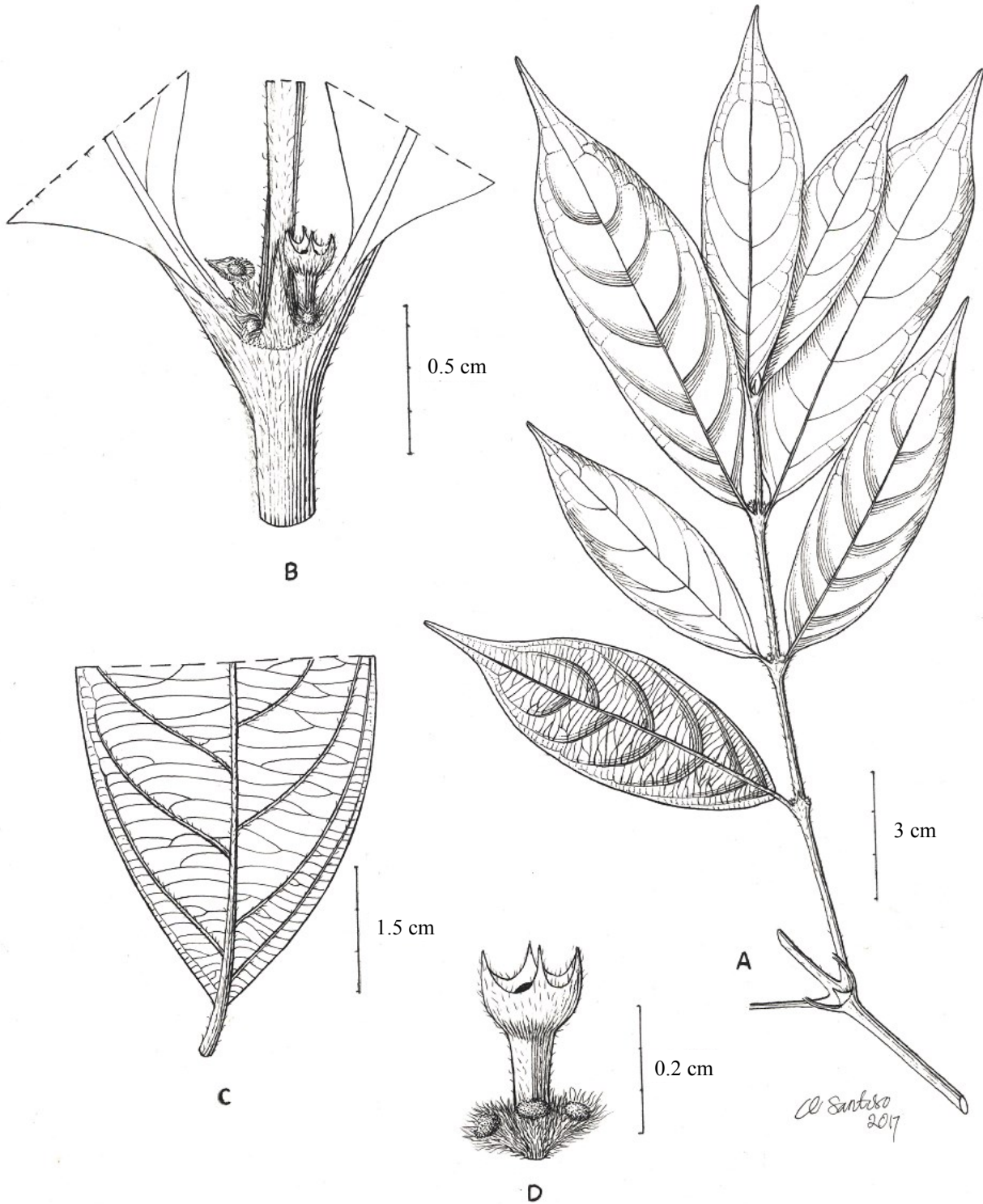


Fig. 2. *Lasianthus wawoniensis* Rugayah & Sunarti *spec. nov.* A. Habit; B. Detail of node showing the stipule and inflorescence; C. Lower surface of leaf showing the reticulation of tertiary nerves; D. Flower (without corolla). From Siti Sunarti SS 206 (BO), drawing by Wahyudi Santoso (BO).

**Key to the *Lasianthus* of Wawonii**

- |   |    |   |                              |
|---|----|---|------------------------------|
| 1 | a. | Leaves drying olive brown; lateral nerves 4–5 pairs; flowers pediceled, calyx campanulate .....                                       | 2. <i>L. wawoniensis</i>     |
|   | b. | Leaves drying dark brown-black; lateral nerves > 5 pairs .....  | 2                            |
| 2 | a. | Branchlets angular; outer bracts 2, leaf-like; bracteoles numerous, lanceolate to filiform; fruits globose ca. 8 mm diam., blue ..... | 1. <i>L. macrobracteatus</i> |
|   | b. | Branchlets terete; bracts and bracteoles absent; fruit globose-subglobose ca. 7 mm diam., whitish yellow .....                        | 3. <i>L. stercorarius</i>    |

*Shrub* to treelet, 3 m high, generally covered with puberulous indumentum. Branchlets terete and tetragonal to the apex, sparsely hairy to glabrescent, ca. 2.5 mm diam, dark brown when dry. *Leaf* blade oblong-lanceolate, 8–17 × 2–4.5 cm, thickly chartaceous or subcoriaceous, glabrous above, sparsely hairy beneath; base acute to oblique, apex acuminate to caudate, midrib slightly depressed above, prominent beneath, sparsely to densely hairy on both sides; secondary nerves 9–12 pairs, ascending at an angle of 40°–50°, curved gradually to margin; tertiary nerves prominent on both sides, glabrous above, sparsely hairy to glabrous below; margin entire. Petiole 3–5 mm long, densely hairy. Stipules triangular, 6 mm long, coriaceous at base (only in the old ones), densely hairy. Inflorescences axillary, cymes sessile, with numerous minute bract and bracteoles. *Fruit* drupe, subglobose-globose, glabrous, ca. 7 mm diam., conspicuously 6–9 lobes, crowned with a persistent calyx, calyx lobes subulate, 1.5 mm long.

**Distribution.** Malaysia (Peninsular, Borneo) and Indonesia: Sumatra, Kalimantan and Sulawesi. In Wawonii, *L. stercorarius* is recorded from Lansilowo and Waworete in primary forests at 490 m asl.

**Specimens examined.** Wawonii, Lansilowo, 24 April 2004, *Rugayah R 968* (BO); Wawonii, Kalimosolo, 1 September 2005, *Siti Sunarti SS 208* (BO).

**Notes.** In *Rugayah et al.* (2015), these specimens, *Rugayah R 968* and *Siti Sunarti SS 208*, were erroneously identified as *L. laevigatus* Blume.

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**Titles.** Titles should be brief, informative and followed by author's name and mailing address in one-paragraphed.

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