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Lasiomyrma, a New Stenammine Ant Genus from Southeast Asia (Hymenoptera: Formicidae)

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Abstract. A new stenammine ant genus, *Lasiomyrma*, is described from Indonesia and Malaysia. This genus is characterized by the 11-segmented antennae with a 3-segmented club, the obtusely angulate anterior margin of clypeus, the absence of antennal scrobes, and the propodeal spiracles located at almost midlength of the sclerite. Three species are recognized: *L. gedensis* sp. nov. from Java, Indonesia, and *L. gracilinoda* sp. nov. and *L. maryatiae* sp. nov. both from Borneo, Malaysia.

Key words: Formicidae, Myrmicinae, Stenammini, new genus, new species, Indonesia, Malaysia.

Introduction

In the moist tropical forest zone of the Oriental region the diversity of ants has yet been well understood (Ogata, 1992; Yamane *et al.*, 1996). In recent years, collecting efforts by several myrmecologists have produced a wealth of interesting and taxonomically important ants from Southeast Asia. In the course of our study on the ant fauna of Southeast Asia, we have examined several specimens of a new genus, which belongs to the tribe Stenammini (*sense* Bolton, 1994) of the subfamily Myrmicinae. Bolton (1994) tentatively retained tribe Stenammini and included 19 genera including an extinct genus. Although classification at tribe rank within Myrmicinae is nebulous and awaits detailed phylogenetic researches, and the tribe Stenammini also seems rather vague and not sharply defined (Bolton, 1994; DuBois, 1998), we describe the new distinctive geuns following Bolton's view (1994).

The following abbreviations are used in this paper for descriptions.

HL, head length: maximum full face view length from the anteriormost margin of clypeus to the occipital margin of the head (when the occipital margin is concave, to a transverse line connecting its posteriormost extensions).

HW, head width: maximum dorsal view distance across head excluding eyes in full face view.

SL, scape length: length of scape excluding radicle.

CI, cephalic index: HW/HL × 100.

SI, scape index: SL/HW × 100.

WL, Weber's length of alitrunk: maximum diagonal distance from the base of anterior slope of pronotum to the propodeal lobe.

PW, pronotal width: maximum width of pronotum in dorsal view.

PL, petiole length: maximum length of petiole in lateral view, measured from ventral juncture with propodeum to juncture with postpetiole.

PH, petiole height: maximum height of petiole in lateral view, measured perpendicularly from apex of petiolar node to venter of petiole.

DPW, petiole width: maximum width of petiole in dorsal view.

PPL, postpetiole length: maximum length of postpetiole in lateral view, measured from ventral juncture with petiole to juncture with gaster.

PPH, postpetiole height: maximum height of postpetiole in lateral view, measured perpendicularly from apex of postpetiolar node to venter of postpetiole. Vertical to the longitudinal axis of petiole.

PPW, postpetiole width: maximum width of petiole in dorsal view.

TL, total body length: outstretched length from the mandibular apex to the gastral apex.

***Lasiomyrma* gen. nov.**

Type species: *Lasiomyrma gedensis* sp. nov.

Gender: feminine.

Diagnosis of worker. Monomorphic terrestrial myrmicine ants with the following combination of characters.

1. Palp formula 2, 2 (one paratype specimen dis-

sected).
2. Mandible elongate-triangular, with 7 teeth which decrease in size from apex to base.
3. Anterior clypeal magin forming an obtuse angle, lacking an isolated median seta.
4. Median portion of clypeus narrowly inserted between the frontal lobes.
5. Median portion of clypeus with a pair of weak longitudinal carinae.
6. Frontal lobes narrow, each lobe almost as wide as the median portion of clypeus that is inserted between them.
7. Frontal carinae and antennal scrobes absent.
8. Eye moderate in size, positioned in front of the midlength of the sides of the head.
9. Antenna 11-segmented; scape short (SI 60–70), 4th to 8th segments each wider than long; apical 3 segments forming a distinct club.
10. Alitrunk low in profile; promesonotal dorsum flat or slightly convex, with dully angulate anterior humeri, and widest at anterolateral angles.
11. Metanotal groove present.
12. Propodeum with a pair of short teeth.
13. Propodeal spiracle located at or just behind of the midlength of the sclerite, and high on side.
14. Propodeal lobe present, small to moderately long; posteriormost portion forming an angle.
15. Metasternal process absent.
16. Tibial spurs absent on middle and hind legs.
17. Petiole pedunculate; subpetiolar process absent.
18. Cuticle thick and densely sculptured; pilosity fine and dense over the dorsal surface of body.

Queen. Similar to the worker but larger in body size. Ocelli present. Alitrunk with full complement of flight sclerites and certainly winged when virgin.

Male. Unknown.

Remarks. Although the definition of the tribe Stenammini is insufficient and phylogenetic analysis among the genera within this tribe have not been made, *Lasiomyrma* is positioned Stenammini following Bolton's view (1994), which is a current understanding of the tribe based on the triangular mandible with serrate teeth (character 2), the bicarinate clypeus without median seta (characters 3 and 5), and the flat or slightly convex promesonotal dorsum (character 10).

Within the 18 genera of Stenammini excluding an extinct genus, *Lasiomyrma* most resembles the genera *Indomyrma* from India (Brown, 1985) and *Tetheamyrma* from Malaysia (Bolton, 1991) in sharing the 11-segmented antennae (character 9) and the virtual absence of antennal scrobes (character 7; weakly defined in *Indomyrma*) (Bolton, pers. comm.). It is distinguished from *Indomyrma* by the position of propodeal spiracle (character 13; spiracle situated close to the margin of propodeal declivity in *Indomyrma*) and the absence of antennal scrobes (characeter 7), and from *Tetheamyrma* by the 3-segmented antennal club (character 9; 2-segmented in *Tetheamyrma*) and the absence of spongiform appendages on ventral surfaces of petiole and postpetiole. This new genus is separated from the other stenammine genera by the combination of the 11-segmented antennae with a 3-segmented club, the obtusely angulate anterior margin of clypeus, the absence of antennal scrobes, and the propodeal spiracles located at almost modlength of the sclerite. Character 3, the obtusely angulate anterior clypeal margin, is possibly autapomorphic within this tribe.

Etymology: Lasio, Gr., hairy + myrma, Gr., ant.

***Lasiomyrma gedensis* sp. nov.**
(Figs. 1–8)

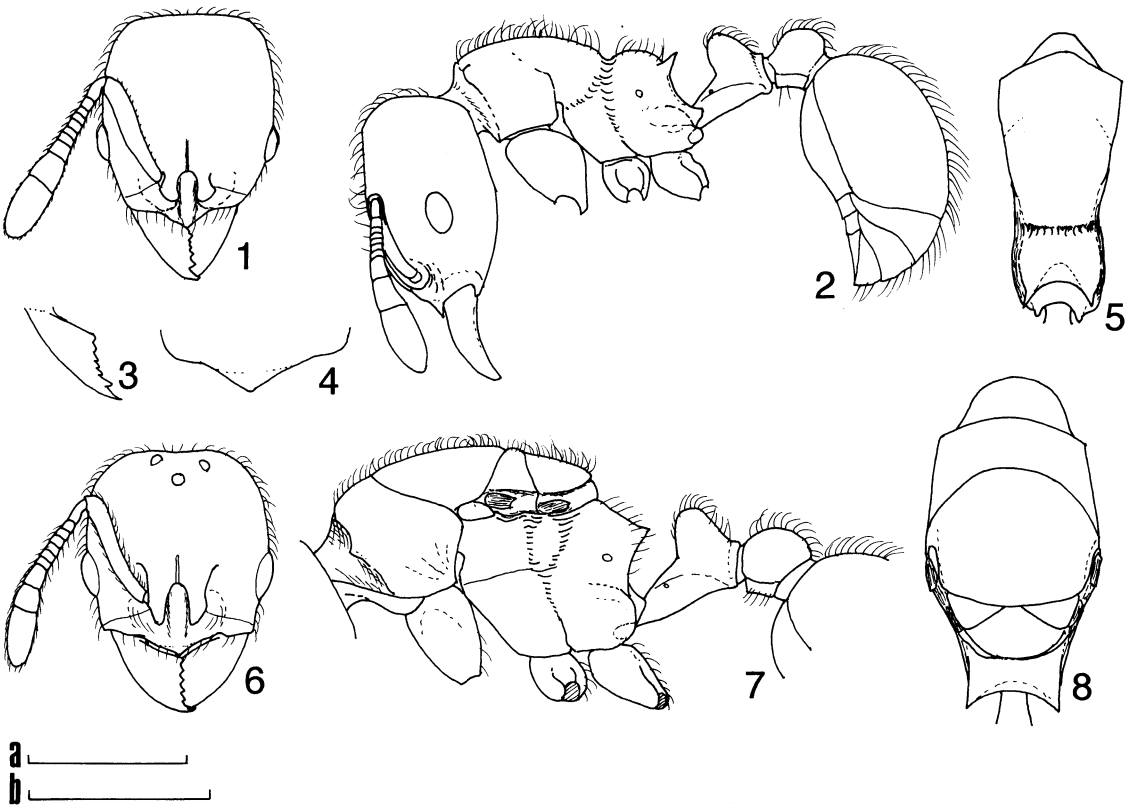
Worker. HL 0.61 mm (holotype), 0.60–0.65 mm (paratypes); HW 0.54 mm, 0.53–0.54 mm; SL 0.35 mm, 0.35–0.36 mm; CI 88, 86–89; SI 65, 65–67; WL 0.83 mm, 0.80–085 mm; PW 0.41 mm, 0.41–0.44 mm; PL 0.28 mm, 0.28–0.29 mm; PH 0.24 mm, 0.24–0.25 mm; DPW 0.18 mm, 0.17–0.18 mm; PPL 0.16 mm, 0.15–0.16 mm; PPH 0.20 mm, 0.20–0.22 mm; PPW 0.20 mm, 0.20–0.21 mm; TL 2.4 mm, 2.3–2.4 mm. (Holotype and 5 paratype workers were measured and separately mentioned.)

Head 1.12–1.15 times as long as wide, with convex sides and straight occipital margin in full face view; surface densely punctate. Eye 0.13–0.14 mm in maximum diameter.

Alitrunk densely punctate, with slightly convex promesonotal dorsum and convex propodeal dorsum; anterior margin of promesonotum convex in dorsal view; metanotal groove relatively deeply incised dorsally. Mesopleuron rather short, its maximum length slightly longer than its length of ventral margin. Propodeal spine longer than wide at base, with an acute tip; propodeal declivity steep; propodeal lobe weakly produced posteriorly.

Petiole longer than high; node thick; anterior face much more steeply sloping than posterior face in profile; anterior margin of node forming an obtuse angle. Postpetiole higher than long in profile, highest at posterior 1/3.

Gaster oval in dorsal view, largely smooth, scatterd with small shallow punctures and 0.54 mm in maximum dorsal width.



Figs. 1–8. *Lasiomyrma gedensis* sp. nov. —— 1–5, worker; 6–8, queen. 1, 6, Head in full face view; 2, body in profile; 3, right mandible; 4, anterior margin of clypeus; 5, 8, alitrunk in dorsal view; 7, alitrunk, petiole and postpetiole in profile. Scale bars: a, 0.5 mm for 1–3, 5–8; b, 0.5 mm for 4.

Body blackish brown; mandible and antenna yellowish brown; legs brown.

Queen. HL 0.68 mm; HW 0.60 mm; SL 0.38 mm; CI 89 mm; SI 63; WL 0.83 mm; PW 0.53 mm; PL 0.35 mm; PH 0.29 mm; DPW 0.25 mm; PPL 0.18 mm; PPH 0.18 mm; PPW 0.24 mm; TL 2.8 mm.

Head slightly longer than wide, with very weakly convex sides and almost straight occipital margin in full face view; surface densely punctate. Compound eye 0.20 mm in maximum diameter. Ocelli forming an obtuse triangle.

Alitrunk high, densely punctate, with slightly convex dorsum. Pronotum wide, with convex anterior margin and obtusely angulate humeri in dorsal view; mesoscutum 0.80 times as long as wide, with convex anterior margin in dorsal view; posterior margin of metanotum broadly rounded in dorsal view; propodeal spine short and obtusely angulate.

General shape of petiole and postpetiole largely as in the worker.

Gaster oval in dorsal view; anterior 1/3 of 1st tergite microreticulate; and the rest shallowly and weakly punctate.

Holotype. Worker, Mt. Gede, West Java, Indonesia, Jan. 1991, F. Ito leg.

Paratypes. 9 workers, same data as in holotype; 1 queen, 4 workers, Gede-Pangrango National Park, Java, Indonesia, 6. VI. 1997, K. Ohkawara leg.

Type depository. Holotype and some paratypes are deposited in the Zoological Museum (Bogor) (Indonesian Institute of Science, LIPI), and the other paratypes in the National Institute of Agro-Environmental Sciences (Tsukuba), Museum of Nature and Human Activities (Hyogo), Faculty of Science, Kagoshima University (Kagoshima), and the Natural History Museum (London).

Etymology. The specific epithet referes to the type locality.

Remarks. The type series includes specimens from two colonies, which were taken from rotten wood on the forest floor. This species is distinguished from the other congeners by the convex propodeal dorsum in profile, the obtuse angle of the anterior slope of petiolar node, and the straight occipital margin of head in full face view.

***Lasiomyrma gracilinoda* sp. nov.**
(Figs. 9–10)

Worker. HL 0.56 mm; HW 0.48 mm; SL 0.31 mm; CI 84; SI 66; WL 0.68 mm; PW 0.40 mm; PL 0.21 mm; PH 0.23 mm; DPW 0.16 mm; PPL 0.15 mm; PPH 0.18 mm; PPW 0.20 mm; TL 2.1 mm.

Head 1.17 times as long as wide, coarsely punctate, with very weakly concave occipital margin in full face view; sides behind eyes subparallel. Eye 0.18 mm in maximum diameter.

Alitrunk densely punctate, with largely straight promesonotal dorsum excepting the posterior portion weakly convex, and straight propodeal dorsum; metanotal groove shallow. Mesopleuron rather short, its maximum length slightly longer than its length of ventral margin. Propodeal spine thin, longer than wide at base; propodeal declivity steep; propodeal lobe weakly produced posteriorly.

Petiole slightly higher than long, with a thin node in profile; node reversed V-shaped with a bluntly produced dorsum. Postpetiole slightly longer than high, with convex dorsal margin in profile.

Gaster with shallow small punctures that are moderately spaced, in dorsal view 0.49 mm in maximum width.

Body reddish brown; mandible and antenna yellow; legs brown.

Holotype. Worker, Poring (600 m alt.), Kinabalu Park, Sabah, Borneo, Malaysia, 29. X. 1996, T. Kikuta leg.

Type depository. Tropical Biology and Conservation Unit, Malaysia Sabah University, Kota Kinabalu.

Etymology. Named after its thin petiolar node in profile.

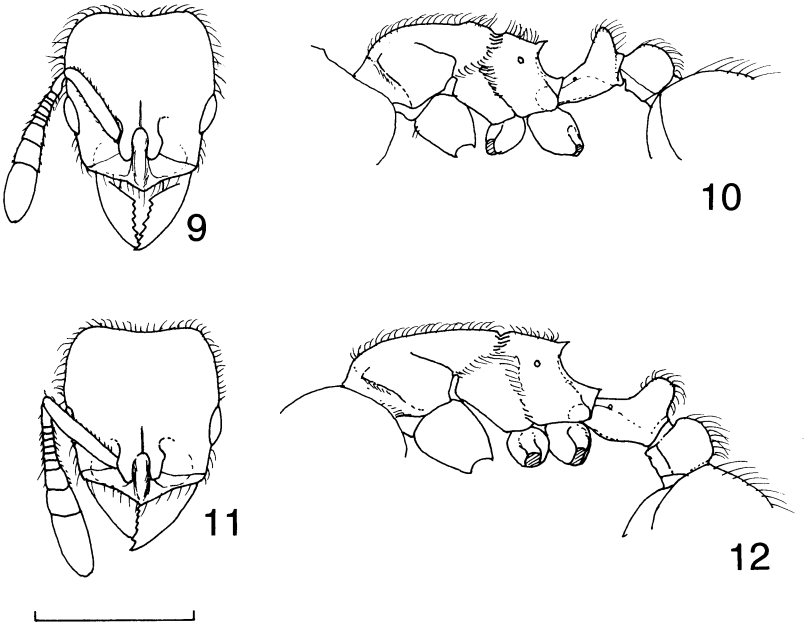
Remarks. This species is distinguished from *L. gedensis* sp. nov. by the straight propedeal dorsum, the absence of an angle of anterior slope of petiolar node and the concave occipital margin of head in full face view, and from *L. maryatiae* sp. nov. by the thinner petiolar node, the shorter mesopleuron and the weakly produced propodeal lobe. Known only from the holotype.

***Lasiomyrma maryatiae* sp. nov.**
(Figs. 11–12)

Worker. HL 0.55 mm; HW 0.45 mm; SL 0.30 mm; CI 82; SI 67; WL 0.65 mm; PW 0.39 mm; PL 0.23 mm; PH 0.23 mm; DPW 0.14 mm; PPL 0.15 mm; PPH 0.16 mm; PPW 0.18 mm; TL 2.2 mm.

Head 1.22 times as long as wide, densely punctate, with evenly convex sides and weakly concave occipital margin in full face view. Eye 0.14 mm in maximum diameter.

Alitrunk densely punctate, with flat promesonotal and propodeal dorsa; metanotal groove shallow; propodeal spine as long as wide at base; propodeal declivity gently sloping to propodeal lobe; propodeal lobe produced posteriorly. Mesopleuron long, its maximum length distinctly longer than its length of ventral margin.



Figs. 9–12. Workers of *Lasiomyrma gracilinoda* sp. nov. (9, 10) and *L. maryatiae* sp. nov. (11, 12) —— 9, 11, Head in full face view; 10, 12, body in profile. Scale bar: 0.5 mm.

Petiole as long as high; node thick, reversed U-shaped in profile. Postpetiole higher than long, with convex dorsal margin in profile.

Gaster with shallow and small punctures that are moderately spaced, in dorsal view 0.49 mm in maximum width.

Body blackish brown; mandible and antenna yellow; legs brown.

Holotype. Worker, Poring (550 m), Sabah, Borneo, E. Malaysia, 17. III. 1995, Sk. Yamane leg.

Type depository. Tropical Biology and Conservation Unit, Malaysia Sabah University, Kota Kinabalu.

Etymology. The specific epithet is dedicated to Dr. Maryati Mohamed of Universiti Malaysia Sabah.

Remarks. This species is distinguished from *L. gedensis* sp. nov. by the straight propedeal dorsum, the absence of an angle of anterior slope of petiolar node and the concave occipital margin of head in full face view, and from *L. gracilinoda* sp. nov. by the thicker petiolar node, the longer mesopleuron and the strongly produced propodeal lobe. Known only from the holotype.

Key to the species of the genus *Lasiomyrma*

1. Propodeal dorsum convex in profile; anterior declivity of petiolar node steep, and in profile posterior margin of petiolar peduncle connected to the anterior slope of node at an obtuse angle ..... *L. gedensis* sp. nov.
– Propodeal dorsum straight in profile; anterior face of petiolar node sloping down to peduncle, without forming an angle 2
2. Petiolar node thin (Fig. 10), narrowed above in profile; propodeal lobe weakly produced posteriorly ..... *L. gracilinoda* sp. nov.
– Petiolar node thick (Fig. 12), reversed U-shaped in profile; propodeal lobe strongly produced posteriorly ..... *L. maryatiae* sp. nov.

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