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New Record of *Gauromyrmex acanthinus* (Hymenoptera: Formicidae) from Thailand

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ABSTRACT: *Gauromyrmex acanthinus* (Karavaiev, 1935) is recorded for the first time in Thailand. Redescription of the workers based on Thai specimens is provided. The workers were roughly sorted into two size classes, larger and smaller workers, thus showing a weak dimorphism. A colony collected from southern Thailand was found from under the loose bark of a rotting log on the forest floor in an evergreen rainforest.

KEY WORDS: Formicidae, *Gauromyrmex*, Taxonomy, new record, Thailand.

INTRODUCTION

Gauromyrmex is a small genus of the subfamily Myrmicinae, distributed in Southeast Asia (Bolton, 2003). The genus was described by Menozzi (1933), with *Gauromyrmex bengkalisi* as the type species. Brown (1973) synonymized *Gauromyrmex* with *Vollenhovia* of the tribe Stenammini, and this treatment was followed by Bolton (1995). Recently, Bolton (2003) has removed this genus from synonymy with *Vollenhovia* to a distinct genus. The only two species described in the genus have been known from Southeast Asia: *Gauromyrmex bengkalisi Menozzi*, 1933 from Sumatra and *Gauromyrmex acanthinus* (Karavaiev, 1935) from Vietnam (Bolton, 2003; 2012).

On 4 May 2013 during a field survey on the Lanta Islands, Krabi Province, southern Thailand, I collected several ant specimens of the genus *Gauromyrmex* from under the loose bark of a rotting log on the forest floor in an evergreen rainforest. After carefully examining these specimens under a stereomicroscope, I concluded that this species is *G. acanthinus*. In the present paper, *G. acanthinus* is recorded for the first time in Thailand.

MATERIALS AND METHODS

This study is based on the materials deposited in the Natural History Museum of the National Science Museum (Thailand, THNHM) and Ant Museum of Kasetsart University (Thailand, AMK). Most morphological observations were made with an Olympus SZX12 stereoscope. Materials used in this study were compared with the images of paratypes of *Gauromyrmex*

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bengkalisi and *Acalama donisthorpei* (synonym of *G. acanthinus*), available on http://www.antwiki.org/wiki/Category:Gauromyrmex_species.

Multi-focused montage images were produced using NIS-Elements-D-[Sequence6*-Focused] from a series of source images taken by a Nikon Digital Sight-Ri1 camera attached to a Nikon AZ100M stereoscope. Worker measurements were made using an ocular micrometer, recorded to the nearest 0.01 mm.

The abbreviations used for the measurements and indices are as follows:

CI Cephalic index, HW × 100/HL

EI Eye index, EL × 100/HW

EL Eye length, the maximum diameter of the eye.

HL The maximum head length in full-face view, excluding the man dibles, measured from the midpoint of the anterior clypeal margin to the midpoint of posterior margin of head.

HW The maximum head width in full-face view, measured above the eyes.

ML Mesosoma length measured from the anteriormost point of the pronotum to the posteriormost point of the metapleuron in profile.

SI Scape index, SL × 100/HW.

SL Scape length excluding the basal constriction and condylar bulb.

SYSTEMATICS

Gauromyrmex acanthinus (Karavaiev, 1935)

(Figures 1-3)

Solenomyrma acanthinus Karavaiev, 1935: 103, fig. 23. Type locality: VIETNAM. Combination in *Gauromyrmex*: Brown, 1953: 10; in *Vollenhovia*: Bolton, 1995: 422; in *Gauromyrmex*: Bolton, 2003: 269. Senior synonym of *donisthorpei*: Brown, 1953: 10.

Acalama donisthorpei M.R. Smith, 1949: 207, figs. 1, 2. Type locality: INDIA. Junior synonym of *acanthina*: Brown, 1953: 10.

Material examined. Northern Thailand: twenty-five workers from Chiang Mai Province, Doi Suthep-Pui N.P., hill evergreen forest, 8 June 2001, W. Jaitrong leg., WJT080601-1 (THNHM). **Southern Thailand**: fifteen worker from Krabi Province, Lanta District, Ko Lanta Yai, Khlong Chak Waterfall, W. Jaitrong leg., 4 May 2013, WJT040513-22 (THNHM); nine workers from Trang Pro vince, Nayong District, Khao Chong Botanical Garden, Tropical rainforest, 28 September 2001, W. Jaitrong leg., TH01-WJT-196 (AMK, THNHM).

Worker description. The workers from the colony (WJT040513-22) collected from Krabi Province are roughly grouped into 2 size classes, which are distinguished in head width as follows: larger workers, 0.58-0.77 mm; smaller workers, 0.47-0.55 mm. Here the worker description is based on the larger worker. Morphological differ-

Figure 1. Larger worker of *Gauromyrmex acanthinus* (WJT040513-22). A. Head in full-face view; B. dorsal view of body; C. body in profile.

Figure 2. Smaller worker of *Gauromyrmex acanthinus* (WJT040513-22). A. Head in full-face view; B. dorsal view of body; C. body in profile.

ences among the two size classes are given in "Variation".

Measurements. Larger workers (n= 5): EL 0.11-0.17 mm; HL 0.58-0.77 mm; HW 0.55-0.77 mm; ML 0.61-0.88 mm; PL 0.14-0.19 mm; SL 0.28-0.41 mm; TL 2.50-2.89 mm; CI 95-100; EI 20-21; SI 50-54. **Smaller workers** (n=10): EL 0.08-0.10 mm; HL 0.47-0.55 mm; HW 0.44-0.52 mm; ML 0.52-0.58 mm; PL 0.10-0.11 mm; SL 0.25 mm; TL 2.20-2.31 mm; CI 94-95; EI 16-19; SI47-50.

Head in full-face view subtriangular, almost as long as broad, much narrower anteriorly than posteriorly, with sides weakly convex and posterior margin concave medially; posterolateral corner rounded. Antenna 11-segmented; in full-face view antennal scape reaching 2/3 of head length; antennal segment II distinct, clearly longer than broad, and each of segments III-VII; antennal club with 3 segments. Gena (malar space) 1.2-1.3 times as long as maximal diameter of eye. Eye composed of ca. 40 ommatidia. Frontal carina and antennal scrobe absent. Median portion of anterior clypeal margin almost straight or weakly concave. Mandible with 6 teeth (including apical and basal teeth).

Mesosoma rather robust; promesonotum in profile with dorsal outline convex; metanotal groove deep; mesopleuron clearly demarcated from lateral face of pronotum and mesopleuron by distinct grooves. Propodeum in profile with dorsal outline weakly convex; propodeal spine short, bluntly pointed apically and upward-directed. Legs short, femora swollen.

Petiole sessile, almost as long as high, subtriangular in profile, anterior face straight with its anterolateral and posterolateral corners bluntly angulate; subpetiolar process well developed, triangular, its apex directed downward. Postpetiole round and shorter than petiole.

Head including mandible, antennal scape and clypeus smooth and shiny, except frons and gena finely striate; promesonotum finely striate, lateral face of pronotum reticulate; mesopleuron punctate, partly smooth and shiny; metapleuron comprising several longitudinal rugulae; propodeal dorsum and propodeal spine punctate, lateral face of propodeum smooth and shiny. Anterior face of petiole and subpetiolar process smooth and shiny, remainder parts punctate; postpetiole punctate. Legs and gaster entirely smooth and shiny.

Head and mesosoma dorsally with relatively sparse short hairs over the surface; longest pronotal hair shorter than maximal diameter of eye; petiole with a pair of standing hairs. Head, mesosoma, waist and legs yellowish brown; mandible and antenna reddish brown; gaster darker than mesosoma.

Variation. This species shows a weak size dimorphism in worker caste, but the size variation is more or less continuous. There is a general tendency for

smaller specimens to have much weaker punctation than in larger specimens.

Distribution. India, Vietnam (Type locality), and Thailand (Chiang Mai, Krabi and Trang Provinces) (new records; Figure 3).

Figure 3. Distribution of *Gauromyrmex acanthinus* in Thailand.

Remarks. Only two species (*G. acanthinus* and *G. bengkalisi*) have been known from Southeast Asia (Vietnam and Sumatra) (Bolton, 2012). This is a first record of *G. acanthinus* from Thailand. This species is easily distinguished from *G. bengkalisi* by the distinctly upward-directed propodeal spine (propodeal spine short or produced as an angle in *G. bengkalisi*).

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