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A NEW SPECIES OF THE GENUS *PARASYSCIA* EMERY, 1882 (HYMENOPTERA: FORMICIDAE: DORYLINAЕ) FROM SIMEULUE ISLAND, INDONESIA

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Summary. A new species *Parasyscia simeuluensis* **sp. n.** is described based on
the workers collected from leaf litter in lowland disturbed forest of Simeulue Island
(Aceh, Indonesia), adjacent to Sumatra Island. New species morphologically most
similar to *P. kodecorum* (Brown) from Borneo in the presence of unique arc-shaped
frontal scrobes on the cranium. However, new species is easily distinguished from
the latter by having 12-segmented antennae.

Key words: ants, taxonomy, new species, Aceh, Simeulue Island, Oriental region.

М. З. Прятна, А. Ямада, Р. Сатриа. Новый вид рода *Parasyscia* Emery,
1882 (Hymenoptera: Formicidae: Dorylinae) с острова Симёлуэ, Индонезия
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Резюме. Новый вид *Parasyscia simeuluensis* **sp. n.** описан по рабочим особям, собранным в опад низинного нарушенного леса на острове Симёлуэ (Ачех, Индонезия), прилегающем к острову Суматра. По наличию уникальных дугообразных лобных борозд на черепе новый вид наиболее близок к *P. kodecorum* (Brown) с Борнео, однако легко отличается от последнего наличием 12-члениковых усиков.

INTRODUCTION

Sumatra is the second-largest island of the Greater Sunda Islands and is likely one of the important centers of ant endemism and diversity, as well as Borneo (Kass *et al.*, 2022). The diversity of ants in Sumatra and adjacent islands remains underestimated, as exemplified by a series of recent discoveries of new ant species by our intensive sampling of leaf-litter arthropods (Satria *et al.*, 2015, 2017; Satria & Yamane, 2019; Satria & Herwina, 2020; Satria & Jannatan, 2021; Musfira *et al.*, 2022; Satria *et al.*, 2022; Satria & Eguchi, 2022; Satria *et al.*, 2023; Gusti *et al.*, 2024; Satria *et al.*, 2024; Syamsurizal *et al.*, 2024). The only one species, *Parasyscia dohertyi* (Emery, 1902), was recorded from Sumatra Island.

The genus *Parasyscia* Emery, 1882 is one of the eight genera revived from synonymy with the formally polyphyletic genus *Cerapachys* Smith, 1857 in the generic revision of the subfamily Dorylinae by Borowiec (2016). This genus is restricted to the warm temperate and tropical regions of the Old World and currently contains 57 valid species (Bolton, 2025), of which 27 are known from Asia. The worker of *Parasyscia* can be recognized by the combination of the following morphological characteristics: propodeal spiracle positioned low on the sclerite and propodeal lobes present; presence of constriction between abdominal segments III and IV and absence of constriction between remaining abdominal segments; petiole dorso-laterally not marginate; pronotomesopleural junction fused without deep cut; helcium axial; middle tibiae with a single pectinate spur; pretarsal claws unarmed; and abdominal segment III anterodorsally often marginate (Borowiec, 2016).

During our field survey of ants from the Sumatran region, a colony fragment of an unknown species belonging to the genus *Parasyscia* was collected from leaf litter of in a lowland disturbed forest on Simeulue Island, a small island located 150 km off the west coast of Sumatra Island. In this paper, we describe the species as new to science based on the worker morphology.

MATERIAL AND METHODS

Type specimens are deposited in the Bogor Zoological Museum, Bogor, Indonesia (MZB) and the collection managed by Rijal Satria, Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Padang, West Sumatra, Indonesia (RSC).

Multi-focused montage images were produced using Helicon Focus Pro. (Helicon Soft Ltd., <http://www.heliconsoft.com/>) from a series of source images taken by a Canon EOS KissX5 digital camera attached to a Nikon SMZ1270 stereomicroscope. Artifacts/ghosts and unnecessary parts (unfocused appendages, insect pin, etc.) surrounding or covering target objects were erased and cleaned up using the retouching function of Helicon Focus Pro, and the color balance, contrast and sharpness were adjusted using Adobe Photoshop CS6.

The following parts of the body were measured using ImageJ 1.49m (National Institute of Health, USA, available at <http://imagej.nih.gov/ij/>) based on the photographs taken using a Canon EOS KissX5 digital camera attached to the Nikon SMZ1270 stereomicroscope under suitable magnifications. Measurements and morphological terminology follow Bharti & Akbar (2013), Borowiec (2016), and Chen *et al.* (2022).

Abbreviations of measurements and indices are as follows: ED – maximum diameter of eye; HL – straight-line length of the head in full-face view, measured from the midpoint of the anterior clypeal margin to the midpoint of the posterior margin; HW – Maximum width of the head in full-face view, excluding eyes; MSL – diagonal length of the mesosoma in lateral view, measured from the point at which the pronotum meets the cervical shield to the posterior basal angle of the metapleuron; PW – maximum width of pronotum measured in dorsal view; PL – length of petiole (abdominal segment II) measured in lateral view from the anterior process to the posteriormost point of the tergite, where it surrounds the gastral articulation; PH – height of petiole measured in lateral view from the apex of the ventral (subpetiolar) process vertically to a line intersecting the dorsalmost point of the node; SL – straight-line length of the antennal scape, excluding the basal constriction or neck; TL – total outstretched length of the individual, from the mandibular apex to the gastral apex; DPW – maximum width of petiole in dorsal view; LPI – lateral petiole index = $PH \times 100 / PL$; CI – cephalic index = $HW \times 100 / HL$; DPI – dorsal petiole index = $DPW \times 100 / PL$; SI – scape index = $SL \times 100 / HW$.

DESCRIPTION OF NEW SPECIES

Parasyscia simeuluensis Pryatna, Yamada et Satria, sp. n.

<https://zoobank.org/NomenclaturalActs/D354200B-B019-4AD0-8D70-354F949E2B83>

Fig. 1

TYPE MATERIAL. Holotype: worker (colony code: LW-14-12, individual code: SEMUT7i2025A), **Indonesia**: Aceh, Simeulue Island, Lewak Village, 13.IX 2012, Rijal Satria leg. (MBZ). Paratypes: 7 workers (colony code: LW-14-12, individual code: SEMUT7i2025B – SEMUT7i2025H), same data as holotype (RSC).

DESCRIPTION. Worker. **Head**. Cranium in full-face view subrectangular, longer than broad, with lateral margins convex, posterior margin feebly convex and posterolateral corners rounded. With head in profile view, occipital carina complete, reaching anterior margin of cranium, but weakened toward mandibular base in smaller specimens. Frons medially without a conspicuous longitudinal line or groove; frontal groove (sensu Wheeler, 1910) feebly recognized only in anterior 1/4 to 1/3. Areas just anterior to eyes with obliquely running shallow scrobes (often ill-defined) that do not meet together, disappear at point far from frontal groove. Longitudinal median furrow of Torulo-posttorular complex (often wholly referred to as “frontal carina”, but see Borowiec, 2016) short and broad, with raised lateral margins convergent posteriad, but well-separated at posterior ends; maximum width of it distinctly greater than diameter of condylar bulb; anterolateral edges of the complex not forming conspicuous

flanges protruding beyond anterior clypeal margin in frontal view. Antennae 12-merous (Fig.1A); scapes short, when laid back not surpassing posterior margin of eyes; all flagellomeres each broader than long except for the apical one; antennomeres III–V each not extremely short relative to following antennomeres, with their summed length distinctly longer than that of antennomeres VI–VII. Eyes relatively large (ED 0.18–0.20 mm, longest axis with ca 12 ommatidia), ommatidia with clear edge; with head in full-face view, eyes distinctly breaking lateral margins of head. Distance between anterior margin of eye and distinctly carinate anterior margin of cranium as long as or slightly longer than major diameter of eye. Mandibles triangular, with no space between anterior clypeal margin and mandibles when fully closed; masticatory margin with a row of minute denticles.

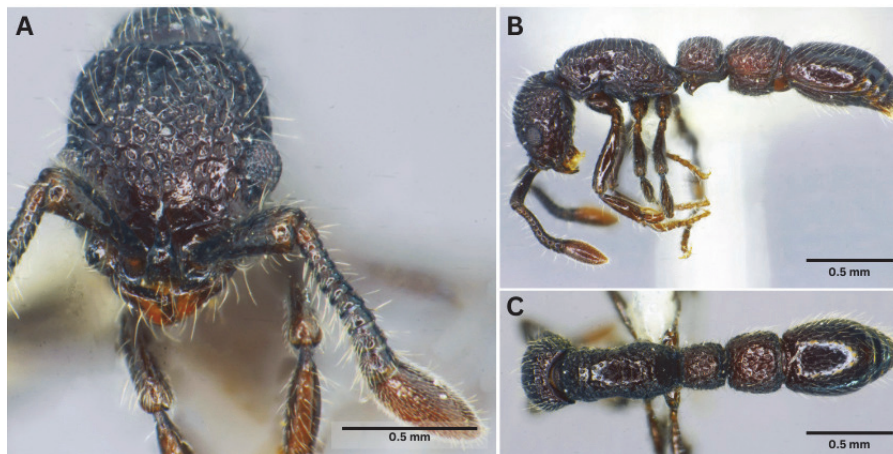


Fig. 1. *Parasyrcia simeuluensis* sp. n., holotype worker (individual code: SEMUT7i2025A; colony code: LW-14-12): A – head in full-face view; B – body in lateral view; C – body in dorsal view.

Mesosoma. Mesosoma in lateral view short and stout, its dorsal outline evenly shallowly convex, posterodorsal corner slightly rounded. Mesosoma in dorsal view subrectangular with lateral margins concave around mesothorax, propodeum broader than pronotum. Dorsum and lateral faces of pronotum demarcated from anterior face with continuous weak carina; well-defined transverse presclerite visible in stretched specimens. Pronotal flange separated from collar by a distinct ridge. Propodeal declivity dorsally and laterally margined by a weak continuous carina, in lateral view straight posterior margin. Propodeal lobes rounded.

Metasoma. Petiole in lateral view subsquare, with straight anterior and posterior margins, dorsal margin slightly convex; in dorsal view slightly broader than long or almost as broad as long in smaller specimens, with lateral margins slightly convex, anterior margin straight and carinate, anterolateral and posterolateral corners somewhat rounded. Subpetiolar process in lateral view cuneiform, with sharp anteroventral tooth that is slightly backward-directed; anterior margin rounded; posteroventral margin

broadly concave. Abdominal segment III in lateral view higher than long, with convex dorsal and ventral margins; anteroventral corner (prora) angulate; in dorsal view, subtrapezoidal, a little broader than long, broader posteriorly, a little broader than long, with convex lateral margins. Pretergite and presternite of abdominal segment IV densely with transverse striae that are connected with short longitudinal striae forming mesh-like pattern. Cinctus of abdominal segment IV (boundary between pre- and postsclerites) without any costae.

Sculpture. Cranium, petiole and abdominal segment III densely foveolate-reticulate; antennal scape and legs largely smooth and shiny. Mandible extensively smooth and shiny, with sparse punctation. Mesosoma, waist and gaster punctate; lateral face of pronotum and upper portion of mesopleuron with very few punctures; punctation on abdominal segment IV much weaker and sparser than on petiole and abdominal segment III; abdominal segments V=VII essentially smooth; apical tergite smooth, laterally punctate. Antennal scape and legs largely smooth and shiny.

Pilosity. Body entirely densely covered with suberect or erect setae.

Color. Whole body dark brown. Apical flagellomere, mandible and apical abdominal segment light brown or yellowish.

MEASUREMENTS (in mm). Holotype worker: HL 0.87; HW 0.58; CI 67; SL 0.50; SI 86; ED 0.22; MSL 1.26; PW 0.52; PL 0.42; PH 0.55; DPW 0.47; LPI 1.41; DPI 1.12; TL 4.43. Paratypes workers (n=7): HL 0.82–0.87; HW 0.55–0.60; CI 67–71; SL 0.47–0.57; SI 82–93; ED 0.18–0.20; MSL 1.06–1.26; PW 0.44–0.52; PL 0.39–0.42; PH 0.45–0.55; DPW 0.40–0.48; LPI 1.20–1.41; DPI 1.03–1.18; TL 3.86–4.43.

DIAGNOSIS. New species is most similar to *P. kodecorum* (Brown, 1975) from Borneo. These species share the presence of unique arc-shaped scrobes on the cranium, that are absent in any other named congeners from Asia. However the scrobe is much less developed in the new species and rarely obsolete. The new species is easily distinguished from *P. kodecorum* by having 12-segmented antennae (11-merous in the latter), with antennomeres III–V not extremely short (extremely short in the latter) and their summed length distinctly longer than that of antennomeres VI–VII. Furthermore, the new species has much narrower head than has *P. kodecorum* (HW 0.55–0.60 in *P. simeluensis* vs HW 0.70–0.76 in *P. kodecorum*). Furthermore, the new species has much broader head than *P. kodecorum*. In addition, the unique arc-shaped scrobes of cranium appear shallower and less-conspicuous in the former.

DISTRIBUTION. Only known from Simeulue Island, Indonesia.

ETYMOLOGY. The specific epithet refers to the type locality.

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