

Further additions to the taxonomy and distribution of the ant genus *Echinopla* (Insecta: Hymenoptera: Formicidae)

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Abstract

Among the unsorted materials of the Natural History Museum Vienna, a new species of the *E. striata* group from West Malaysia was detected and is described under the name *Echinopla lateropilosa* sp.n. From Carlo Emery's collection in the Museo Civico di Storia Naturale Giacomo Doria, Genova, the holotype of *Echinopla rugosa* ANDRÉ, 1892 is redescribed and a paralectotype of *Echinopla senilis* MAYR, 1862 was rediscovered. In addition, *Echinopla cherapunjiensis* BHARTI & GUL, 2012 is recorded from Myanmar for the first time, and a new record of *Echinopla tritschleri* FOREL, 1901 is published from Perak in West Malaysia. The species-group system by XU & ZHOU (2015) is updated to include recently described species and a key to the species of the *E. serrata* group occurring west of Weber's Line is proposed.

Key words: Formicinae, Camponotini, *Echinopla*, new species, species groups, new record, Malaysia, Myanmar, identification key.

Zusammenfassung

In unsortiertem Material des Naturhistorischen Museums Wien wurde eine neue Art der *E. striata*-Artengruppe aus Westmalaysien entdeckt; sie wird unter dem Namen *Echinopla lateropilosa* sp.n. beschrieben. Aus der Sammlung Carlo Emerys im Museo Civico di Storia Naturale Giacomo Doria, Genua, wird der Holotypus von *Echinopla rugosa* ANDRÉ, 1892 wiederbeschrieben, und ein Paralectotypus von *Echinopla senilis* MAYR, 1862 wurde wiedergefunden. Zusätzlich wird *Echinopla cherapunjiensis* BHARTI & GUL, 2012 erstmals aus Myanmar nachgewiesen und ein neuer Nachweis von *Echinopla tritschleri* FOREL, 1901 aus Perak in Westmalaysien wird verzeichnet. Das Artengruppensystem von XU & ZHOU (2015) wird auf den neuesten Stand gebracht, indem kürzlich beschriebene Arten eingegliedert werden. Ein Bestimmungsschlüssel für die Arten der *E. serrata*-Artengruppe westlich der Weber-Linie wird vorgestellt.

Introduction

After the taxonomy of the camponotine genus *Echinopla* SMITH, 1857 had remained nearly untouched for 70 years (but see BHARTI & GUL 2012), in 2015 two taxonomic studies were published almost simultaneously: ZETTEL & LACINY (2015) focused on the diversity of *Echinopla* species west of Weber's Line, while XU & ZHOU (2015) proposed the first morphologically defined species groups and an identification key to all species. However, eight species newly described by ZETTEL & LACINY (2015) could not yet be included within the group-definitions and the key.

In this study we modify the group system by XU & ZHOU (2015) according to additional findings, describe a new species from West Malaysia, redescribe *Echinopla rugosa* ANDRÉ, 1892 from Borneo, and report two new distributional records. In addition, a key to the species of the *E. serrata* group described in ZETTEL & LACINY (2015) including *E. rugosa* is provided.

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Material and methods

Newly studied material consists of five specimens deposited in the Natural History Museum Vienna (NHMW) and in the Museo Civico di Storia Naturale Giacomo Doria, Genova (MCSN).

Measurements and indices (as in ZETTEL & LACINY 2015):

- TL Total length. The added lengths of head (including mandibles), mesosoma, petiole, and gaster.
- HW₁ Head width. Maximum width of head in full-face view including eyes.
- HW₂ Head width without eyes. Maximum width of head in full-face view excluding eyes, measured at widest point of head-capsule, usually posteriorly of eyes.
- HL Head length. Maximum length of head in full-face view, excluding mandibles, measured from anterior-most point of clypeus to posterior-most point of head vertex, including cuticular protrusions if present.
- EL Eye length. Maximum diameter of compound eye, measured in lateral view.
- SL Scape length. Maximum length of antennal scape in dorsal view excluding basal neck and condyle.
- SW Scape width. Maximum width of antennal scape, measured dorsally.
- HaL Hair length. Length of the longest standing hair on scape, measured from apex to base.
- PML Promesonotal length. Length of promesonotum, measured along midline dorsally from anterior-most point (excluding collar) to mesometanotal suture.
- PMW Promesonotal width. Maximum width of promesonotum measured dorsally, including spines or tubercles if present.
- PpL Propodeal length. Length of propodeum, measured dorsomedially from mesometanotal suture to posterior-most point.
- PpW Propodeal width. Maximum width of propodeum measured dorsally.
- PH Petiole height. Maximum height of the petiole in lateral view, measured from ventral-most point of petiolar sternum to dorsal apex, including spines or tubercles if present.
- PL Petiole length. Maximum length of petiole in lateral view, measured from inflexion point of anterior constriction to posterior margin, perpendicular to axis of maximum height.
- PW Petiole width. Maximum width of petiole in dorsal view, including spines or tubercles if present.
- GL Gastral length. Maximum length of first gastral tergite measured dorsally from anterior-most point of first gastral segment to its posterior-most point (further tergites not included if protruding).
- GW Gastral width. Maximum width of first gastral tergite measured dorsally, perpendicular to midline.

CI Cephalic index. $HW_1 / HL \times 100$

SI Scape index. $SL / HW_1 \times 100$

MI Mesosoma index. $(PML + PpL) / PMW \times 100$

Examined specimens were dry-mounted or pinned. Measurements and examination were performed with a Nikon SMZ1500 binocular microscope at magnifications of up to 256 \times . All measurements are given in millimetres.

Digital photographs of type specimens were taken with a Leica DFC camera attached to a Leica MZ16 binocular microscope with the help of Leica Application Suite V3, stacked with ZereneStacker 64-bit, and subsequently processed with Adobe Photoshop 7.0.

Taxonomy

Species groups

Based on morphological characteristics XU & ZHOU (2015) divided *Echinopla* into five species groups. The system must be expanded and slightly modified to include the species described by ZETTEL & LACINY (2015) and in this study:

1. *Echinopla mistura* group: Includes one species, *E. mistura* (SMITH, 1860) from the Moluccas. No change, but see also *Echinopla mezgeri* group.

2. *E. striata* group: Includes six species as listed by XU & ZHOU (2015) plus *E. senilis* MAYR, 1862 (removed from synonymy by ZETTEL & LACINY 2015) and *E. lateropilosa* sp.n. (this study). Some infraspecific taxa of *E. striata* SMITH, 1857 are probably distinct species, as well. This is the group with the widest geographical distribution, reaching from southern China and the Nicobar Islands eastwards to New Guinea. The morphological definition needs expansion, because the body dorsum is – as an exception – not striate in *E. lateropilosa* sp.n.

3. *E. melanarctos* group: Includes four species as listed by XU & ZHOU (2015) plus *E. circulus* ZETTEL & LACINY, 2015.

4. *Echinopla nitida* group: Includes one species, *E. nitida* SMITH, 1863 from the Moluccas.

5. *Echinopla serrata* group: Includes eleven species as listed by XU & ZHOU (2015) plus five species described by ZETTEL & LACINY (2015): *E. angustata*, *E. brevisetosa*, *E. fisheri*, *E. madli*, and *E. wardi*. This group has a wide distribution from the Malay Peninsula to north-eastern Australia. The diagnosis of XU & ZHOU (2015) needs expansion for the biconvex mesosomal dorsum of *E. fisheri*.

6. *Echinopla mezgeri* group (new): Includes one species, *E. mezgeri* ZETTEL & LACINY, 2015 from Borneo. This species is similar to *E. mistura*, but for the reasons given by ZETTEL & LACINY (2015) a close relationship of the two species remains uncertain.

Diagnosis: Head longer than wide. Eyes positioned at mid-length of head. Palp formula 5, 3. Antennal fossae largely covered by frontal carinae. Mesosoma elongated, with weakly impressed mesometanotal suture; pronotum with tooth-like protrusions. Petiolar

node stocky, subtriangular in lateral view, without spines or teeth. Gaster tergite 1 with ventrally curved posterior margin; following gastral segments protruding ventrally. Body surface dull black, with extremely fine sculpture, almost without standing setae.

7. *Echinopla subtilis* group (new): Includes one species, *E. subtilis* ZETTEL & LACINY, 2015 from Borneo. This species is very distinct from all congeners.

Diagnosis: Head wider than long. Eyes positioned behind mid-length. Frontal lobes oriented horizontally, covering most of antennal fossae. Maxillary palpi extremely long. Dorsal outline of mesosoma almost forming a straight line, with sharp, narrow metanotal groove and complete promesonotal suture. Petiole with prominent lateral spines and dorsal crest bearing small teeth and tubercles. Irregularly winding impressed sculpture on dorsal surface of head and mesonotum. Gaster tergites with very fine, dense puncturation. Dorsal surface of body with white, relatively short setae.

***Echinopla lateropilosa* sp.n.** (Figs. 1–4)

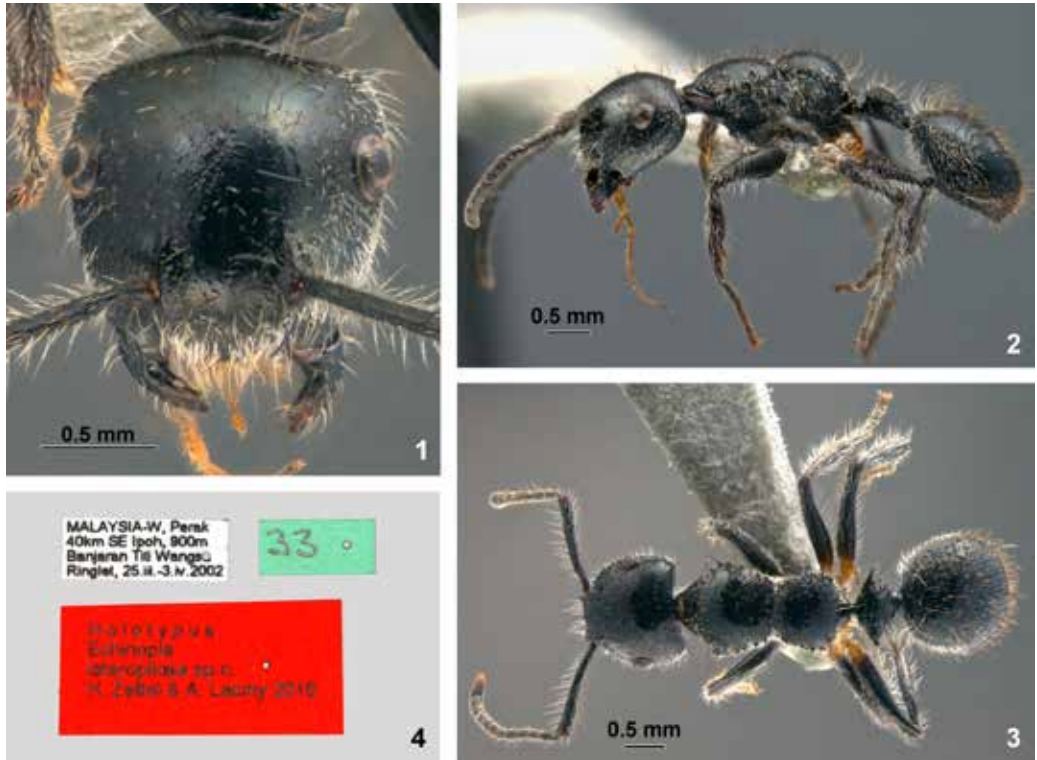
Type material: holotype (worker, NHMW), labelled "MALAYSIA-W, Perak\ 40km SE Ipoh, 900m\ Banjaran Titi Wangsa\ Ringlet, 25.iii.-3.iv.2002", "33", "Holotypus\ Echinopla\ lateropilosa sp. n.\ H. Zettel & A. Laciny 2016".

Diagnosis (worker): Predominantly black species with delicate bluish-green shimmer; slender and relatively long (TL = 6.6 mm). Dorsal surface almost smooth (Figs. 1–3), with fine hair pits only; dorsal margins of mesosoma with sharp tubercles. Head hardly wider than long (CI = 103; Fig. 1). Mesosoma elongated (MI 129), its dorsal outline biconvex, with deep mesometanotal suture (Fig. 2). Pronotum much narrower than head (Fig. 3). Propodeum shorter than promesonotum. Petiole relatively narrow, very low, relatively long behind lateral spines (Figs. 2, 3); without dorsal crest between spines; posteroventrally of spines with three pairs of denticles. Gaster tergite 1 not completely covering the following tergites (Fig. 2); hind margin convex and smooth, without denticles. Standing setae long and abundant, blackish. Short appressed pilosity abundant on body sides (Fig. 2), especially on mesosoma, lacking dorsomedially. Long setae on legs abundant, white.

Description: Measurements of holotype: TL 6.65; HW₁ 1.52; HW₂ 1.48; HL 1.48; EL 0.34; SL 1.36; SW 0.17; HaL 0.31; PML 1.09; PMW 1.28; PpL 0.96; PpW 1.07; PH 0.40; PL 0.63; PW 1.08; GL 1.63; GW 1.52. Indices: CI 103; SI 89; MI 159.

Structures: Head (Fig. 1) hardly wider than long, subtrapezoidal, with slightly convex sides and medially slightly protruded hind margin; smooth and shiny, with minute setiferous punctures, except for the relatively densely punctured clypeus. Compound eye relatively small, moderately protruding, positioned behind middle of head. Frons with median carina which is higher anteriorly; frontal lobes chiefly horizontally orientated, covering medial halves of antennal fossae in dorsal aspect, maximum distance of margins smaller than half of HW₂. Clypeus with median carina in basal half, anterior margin straight. Mandibles striate, masticatory margin with five teeth. Antennal scape (Fig. 3) moderately long, almost straight, weakly widened from base to apex; antennomeres 8–10 longer than wide.

Mesosoma elongated (Figs. 2, 3), length more than 1.5 times pronotum width; propodeum shorter than promesonotum. Surface smooth and shiny, with minute setiferous punctures,



Figs. 1–4: *Echinopla lateropilosa* sp.n., holotype: 1) Head, full face view. 2) Habitus, lateral view. 3) Habitus, dorsal view. 4) Labels.

which are very sparse on disks of promesonotum and propodeum; dorsal margins with sharp tubercles. Pronotum with blunt angles pronounced by sharp tubercles, clearly narrower than head excluding eyes. Promesonotal suture absent. Mesometanotal suture sharp, narrow and deep. In dorsal aspect mesosoma with waist-like incision in front of propodeum, in lateral aspect dorsal outline of mesosoma biconvex. Legs moderately long; forefemur strongly, middle and hind femora moderately widened.

Petiole (Figs. 2, 3) narrow in comparison with other members of the *E. striata* group, very low, relatively long behind lateral spines, anteriorly pedunculate; between lateral spines without dorsal crest, but with several small, irregularly arranged denticles; posteroventrally of spines with three pairs of denticles. Gaster tergite 1 (Figs. 2, 3) slightly longer than wide, moderately convex, smooth and shiny, with minute setiferous punctures; hind margin convex, smooth; tergites 2–5 slightly protruding.

Pilosity: Trunk dorsally with numerous long standing setae which vary from blackish to pale grey; short appressed pilosity absent or very sparse. Clypeus with dense, moderately long, whitish pilosity. Body sides with short, white, appressed pilosity that is dense and fur-like on mesosoma (Fig. 2). Scape (Fig. 1) with very long, white setae; length of longest setae about twice as long as scape width. Femora, tibiae, and basitarsi with numerous long, white standing setae.

Colour (Fig. 3): Black, with weak bluish to greenish reflections. Apex of mandible brown. Palpi, coxae and trochanters of middle and hind legs orange coloured; apex of tarsi pale brown.

Notes: *Echinopla lateropilosa* sp.n. is a very peculiar species that belongs to the *E. striata* group (sensu XU & ZHOU 2015), but – as an exception – has no longitudinal dorsal striation (Figs. 1, 3). In addition, the low and relatively long petiole (Figs. 2, 3) differs strongly from all congeners, and the sides of the mesosoma are covered by a characteristic dense, white, fur-like pilosity (Fig. 2).

Etymology: The Latin adjective refers to the whitish pilosity of body sides, especially on the mesosoma.

Echinopla rugosa ANDRÉ, 1892 (Figs. 5–8)

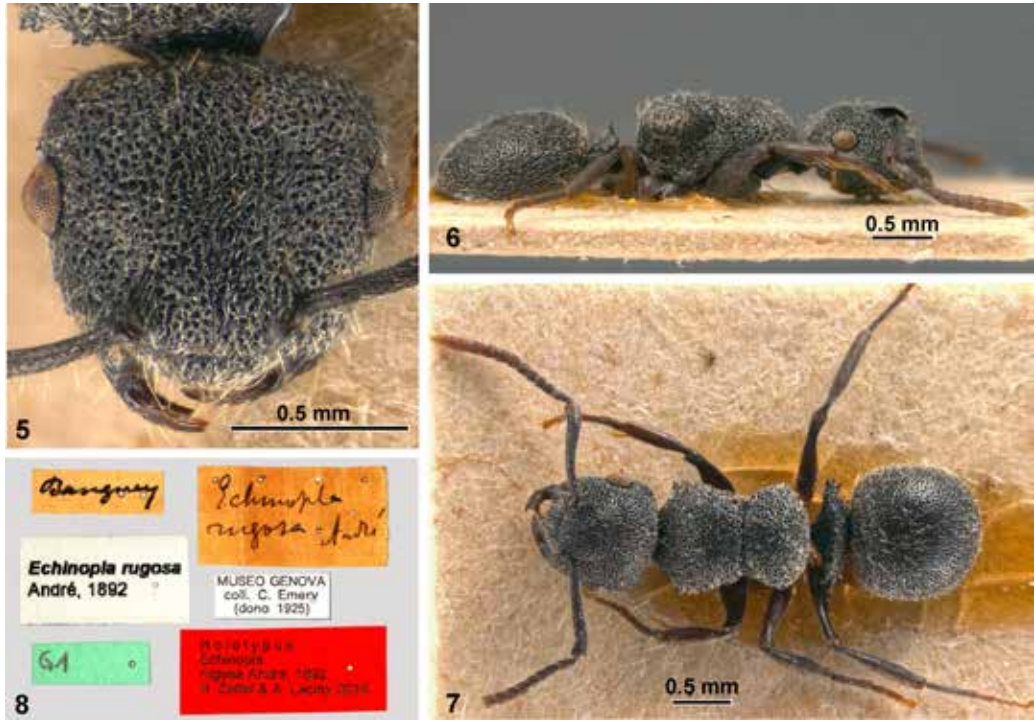
Type material examined: Holotype (worker, MCSN): "Banguéy", "Echinopla\ *rugosa* André", "Echinopla\ *rugosa* André, 1892", "MUSEO GENOVA\ coll. C. Emery\ (dono 1925)", "G1".

Notes: The species identity of *E. rugosa* ANDRÉ, 1892 was enigmatic. It was described by a single specimen without naming the type locality. Only the title of ANDRÉ's (1892) publication suggests that it originates from Borneo and was collected by Maurice Chaper. Although ANDRÉ's (1892) original description of *E. rugosa* provides many details, it does not yield enough characters to separate the species clearly from some other species recently described from West Malaysia, Borneo, and the Philippines (ZETTEL & LACINY 2015), except for its bronze shimmer. The type of *E. rugosa* was considered to be lost, as it was not found in the Muséum National d'Histoire Naturelle in Paris nor in other European museums in the course of the AntWeb Project (Brian Fisher, pers. communication).

During a research visit of the senior author in the Museo Civico di Storia Naturale Giacomo Doria, Genova, Italy, the cited specimen, which was suspected to be the holotype, was found in Carlo Emery's collection. The specimen bears the locality "Banguéy", which is Pulau Banggi, a small island near the northern tip of Borneo. The way of mounting with the specimen glued on a square card board resembles that of other type specimens of the species newly described by ANDRÉ (1892): *Gesomyrmex chaperi*, *Dimorphomyrmex janeti*, *Tapinoma flavidum*, and *Crematogaster biformis* (see illustrations in ANTWEB 2016).

When comparing the specimen with the original description there is almost perfect agreement. Only the bronze shimmer mentioned in the original description is not recognizable, except for some faint reflexions on the legs. It might have faded due to the age of the specimen (see also notes for *E. senilis* below). In addition, the pores on gaster tergite 1 are not more superficial ("plus superficielle"), but more widely spaced than on the mesosoma, but this could be an inaccuracy in the description.

We could not find an itinerary of the Borneo expedition of Maurice Armand Chaper (1834–1896) or any proof that he ever reached Pulau Banggi. ANDRÉ (1892) does not provide any locality names, but we have reported (LACINY & al. 2015) an ant specimen (*Diacamma magdalenae* LACINY, PAL & ZETTEL, 2015) collected by Chaper in "Ban du Kapouas", West Kalimantan, which might be the worker mentioned by ANDRÉ (1892) under the name *Diacamma intricatum*. We have studied two other zoological reports (DROUET & CHAPER 1892, MOCQUARD 1892) which deal with Chaper's material; both mention only localities from Borneo's western part.



Figs. 5–8: *Echinopla rugosa*, holotype: 5) Head, full face view. 6) Habitus, lateral view. 7) Habitus, dorsal view. 8) Labels.

The most plausible explanation is that ANDRÉ (1892) included a specimen in his list that was not collected by Chaper, and that the specimen at hand is the holotype. To stabilize the species identity in this rather difficult species complex, a type is required. As no other specimen exists which could be the type, we suggest that taxonomists follow our interpretation that the MCSN specimen is the holotype, or in the case of disagreement, to consider this specimen as a neotype.

Diagnosis (worker): Predominantly black, very small, stout species (Fig. 7), TL = 4.2 mm. Surface polyporous (Figs. 5–7), dorsal margins of mesosoma with sharp tubercles. Head wider than long (CI = 111). Mesosoma (Fig. 7) roughly one third longer than pronotal width (MI 129), with sharp and deep mesometanotal suture. Pronotum hardly narrower than head, if eyes excluded. Propodeum shorter than promesonotum. Petiole dentate, with three sharp teeth laterally below lateral spine, dorsally with row of six teeth and pair of minute denticles on lateral spine. Pores on gaster tergite 1 about of same size as on dorsum of head and mesosoma (Fig. 7), their distances about as large as their diameters, in most cases slightly smaller; on disk subcumbent pilosity developed. Standing setae on dorsal surface of trunk, on legs and scape short. Setae on tibia sparse and short, not surpassing base of distally following setae.

Description: Measurements of holotype worker: TL 4.24; HW₁ 1.16; HW₂ 1.07; HL 1.04; EL 0.24; SL 1.00; SW 0.14; HaL 0.12; PML 0.76; PMW 1.04; PpL 0.59; PpW 0.98; PH 0.46; PL 0.38; PW 1.03; GL 1.30; GW 1.24. Indices: CI 111; SI 86; MI 129.

Structures: Head (Fig. 5) wider than long, subtrapezoidal, with slightly convex sides; dorsally and laterally polyporous, with closely set pores, posterolaterally with a few hardly recognizable tubercles, matt. Compound eye relatively small, moderately protruding, positioned slightly behind middle of head. Frons with weak median carina in anterior half; frontal lobes chiefly horizontally orientated, completely covering antennal fossae in dorsal aspect, maximum distance of margins at mid-length, greater than half of HW_2 . Clypeus with weak median carina only at base, anterior margin weakly convex. Mandibles striate, masticatory margin with five teeth. Antennal scape (Fig. 7) moderately long, weakly s-curved, steadily widened from base to apex; antennomeres 8–10 as wide as long.

Mesosoma stout (Figs. 6, 7), length only 1.3 times pronotum width; propodeum shorter than promesonotum. Surface polyporous, with closely set pores, dorsal margins with sharp tubercles. Pronotum with strongly developed angles, slightly narrower than head excluding eyes. Promesonotal suture absent. Mesometanotal suture sharp, narrow and deep. In dorsal aspect mesosoma with waist-like incision in front of propodeum. Legs moderately long; femora not much widened.

Petiole wide and stout (Fig. 7), subtriangular in lateral, strongly transverse in dorsal aspect; surface structure as on mesosoma; sharp dorsal crest bearing six sharp teeth medially and one pair of small denticles laterally; lateral spines prominent, right one bifid; below lateral spine with three sharp teeth. Gaster tergite 1 (Figs. 6, 7) slightly longer than wide, strongly convex, and completely covering the following tergites; hind margin moderately convex, finely serrate; surface polyporous, interspaces smooth and shiny; distances of pores subequal to their diameters, mostly slightly smaller.

Pilosity: Head (except ventral surface), mesosoma, petiole, and gaster tergite 1 with dense, appressed white pilosity and relatively short white standing setae. Standing setae on anterior part of gaster tergite 1 longer than on other parts. White standing setae on scape shorter than scape width. Legs with fine appressed pilosity. Femora with very few (0–3) long standing setae on flexor side. Standing setae on tibiae oblique, sparse and short, their apices not reaching bases of following setae.

Colour (Fig. 7): Trunk black, without metallic shimmer, appearing grey by whitish pilosity. Antenna with black scape and base of funiculus, distal part pale brown. Mandible basally black, distally brown; other mouthparts yellowish. Legs chiefly dark brown with a light bronze shimmer; apex of tarsi pale brown.

Comparative notes: *Echinopla rugosa* belongs to the *E. serrata* group of XU & ZHOU (2015). Its small and stout body relates it to three other species distributed in the region, i.e. *E. madli*, *E. wardi*, and *E. brevisetosa*. The short setae on scapes and tibiae are similar to *E. brevisetosa* from the Philippines, whereas the more widely spaced pores on gaster tergite 1 resemble the sculpture of *E. wardi*. For identification of the mentioned species we propose the following key.

**Key to the species of the *E. serrata* group (sensu XU & ZHOU 2015)
occurring west of Weber's Line**

- 1 Large species (TL > 6 mm). Dorsal outline of mesosoma biconvex (consisting of two convexities separated by the deep metanotal groove). Dorsal pilosity long and black. Borneo. *E. fisheri*

- Small species (TL < 5 mm). Dorsal outline of mesosoma almost straight (Fig. 6), subdivided by narrow metanotal groove. Dorsal pilosity short and pale. 2
- 2 Slender species; head longer than wide (CI 93–94); mesosoma almost twice as long as wide (MI 186–195). Philippines (Negros). *E. angustata*
- Stout species; head wider than long (CI 106–115); mesosoma up to one third longer than wide (MI 120–133). 3
- 3 Setae on scapes and legs very short, on scapes shorter than maximum scape width, on tibiae not reaching base of following setae. 4
- Setae on scapes and legs of moderate length, on scapes longer than maximum scape width, on tibiae surpassing base of following setae. 5
- 4 Pores on gaster tergite 1 very dense, all distances smaller than their diameters. Meso- and metacoxa, and all trochanters pale testaceous. Philippines (Mindanao). *E. brevisetososa*
- Pores on gaster tergite 1 more widely spaced, some distances on disc larger than their diameters. All coxae and trochanters black. Borneo (Banggi Is.). *E. rugosa*
- 5 Gaster tergite 1 hardly longer than wide (1.01 times), with widely spaced pores. West Malaysia, Borneo. *E. madli*
- Gaster tergite 1 distinctly longer than wide (1.11–1.15 times), with relatively densely set pores. West Malaysia. *E. wardi*

Echinopla senilis MAYR, 1862

Additional type material examined: 1 paralectotype (worker, MCSN), labelled "O", "Novara\ 1857–59.\ Reise", "Echinopla\ senilis Mayr\ Mus. Wien. Typus", "MUSEO GENOVA\ coll. C. Emery\ (dono 1925)", "Echinopla\ senilis\ det. Herbert Zettel 2015", "Ripreparata\ 27.X.2015 R. Poggi", "Echinopla senilis\ Mayr, 1862\ PARALECTOTYPE", "G2", "Paralectotypus\ Echinopla\ senilis Mayr, 1862\ H. Zettel & A. Laciny 2016".

Notes: For taxonomy and species status see ZETTEL & LACINY (2015) who designated a lectotype from the collection of NHMW. Unexpectedly, a hitherto unrecognized syntype was found in the collection of Carlo Emery in MCSN. It probably came to C. Emery by exchange with Gustav Mayr. The specimen largely agrees with the lectotype in the diagnostic characters given by ZETTEL & LACINY (2015) except that the most posterior part of the propodeum is transversely striate as in *D. lineata*. Like the lectotype it does not possess a bluish shimmer as described by MAYR (1862, 1865).

Measurements of paralectotype: TL 7.37; HW₁ 1.96; HW₂ 1.91; HL 1.89; EL 0.40; SL n.a.*; SW n.a.*; HaL n.a.*; PML 1.39; PMW 1.67; PpL 1.30; PpW 1.37; PH 0.51; PL 0.59; PW 1.28; GL 2.25; GW 2.22. Indices: CI 103; SI n.a.*; MI 161. *Both antennae missing.

Echinopla cherapunjiensis BHARTI & GUL, 2012

Additional material examined: 1 worker (NHMW), Myanmar, Kachin State, ca. 12 km S of Putao, W of Mularshidi village, 500–550 m a.s.l., 27°14.98'N, 97°24.40' E, 2.VI.1999, leg. H. Schillhammer.

Notes: *Echinopla cherapunjiensis* was first described from India (BHARTI & GUL 2012), and later reported from southern China (LIU & al. 2015, XU & ZHOU 2015), Laos and West Malaysia (ZETTEL & LACINY 2015). First record from Myanmar!

Echinopla tritschleri FOREL, 1901

Additional material examined: 1 worker (NHMW), from West Malaysia, Perak, 20 km N of Ipoh, Banjaran Keledang, Ulu Chepor, Peninjau Mountains, 800 m a.s.l., 22–24.III.2002, leg. Petr Čechovský.

Notes: Previous records of *E. tritschleri* were from Sumatra, Borneo (FOREL 1901), and Kelantan in West Malaysia (ZETTEL & LACINY 2015). The record from Perak is the second from the Asian mainland.

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