

Three new Oriental species of *Thaumastopeus* Kraatz, 1885 (Coleoptera: Scarabaeidae: Cetoniinae)

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Abstract. *Thaumastopeus clavatus* sp. n. from Roti Island (W of Timor), *T. jampeanus* sp. n. from Jampea Island (S of Sulawesi) and *T. inexpectatus glabratus* ssp. n. from Leyte Island (Philippines) are described, illustrated and compared. Presented are also notes on distribution and taxonomy of the *T. nigritus* species group; and notes on morphology and illustrations of habitus and genitalia of *T. saleijeri* Schauer, 1939.

INTRODUCTION

Indonesia and the Philippines are thought to be the centre of origin and dispersal of the cetoniine genus *Thaumastopeus* Kraatz, 1885. This study concentrates on small, black, shiny species of the *T. nigritus* species group. The distribution of this group encompasses Nepal, India, Sri Lanka, southeastern China, countries of Southeast Asia, Indonesia and the Philippines, with the highest number of species in the two archipelagoes. In Indonesia the species change dramatically from island to island at the Wallace line. All populations within the Wallacea, i.e. west of the line, belong to *T. nigritus* Fröhlich, 1792, which, however, has the character of a group rather than a single species. For example populations of Java and Bali differ from those of Bawean Island, populations of Belitung are significantly different from those of Sumatra, and populations of islands west of Sumatra (Nias, Siberut, Simeuleu, Tanahmasa) also differ from each other. The same is the case in the Philippines, Andaman Islands and Nicobar islands. The situation is very complex and its better understanding will probably require molecular analyses.

This study concentrates on species east of the Great Sunda Islands. I had a chance to study over 600 specimens from various islands of the Lesser Sunda, many parts of Sulawesi and also islands south of Sulawesi. Since specimens from Roti and Jampea islands do not belong to any hitherto named species, I decided to describe them as new. All specimens of *T. tristis* Ritsema, 1880 that I am aware of come from Sumba Island, which makes Java as the type locality of this species highly suspect. Specimens from Alor Island (first record) belong to *T. floresianus* Heller, 1899. Specimens from Moa Island (E of Timor) belong to both species inhabiting Timor, *T. timoriensis* Wallace, 1867 and *T. brunneipennis* J. Thomson, 1879. Specimens from Buton Island (S of SE Sulawesi) belong to *T. francki* Antoine, 2000, although they exhibit minor differences especially in elytral punctuation and shape of parameres. Specimens from Selayar Island belong to *T. saleijeri* Schauer, 1939 that is very similar to *T. francki* Antoine, 2000, from which it can be distinguished based on the two just noted characters.

The situation is somewhat different in the Philippines, where some islands are inhabited by two sympatric, small, black *Thaumastopeus* species. Until recently this was the case of Luzon and Mindanao islands. Examination of specimens from Leyte Island reveals two species, *T. nigrinus* Fröhlich, 1792 and *T. inexpectatus* Mikšić, 1977. The latter differs in some external characteristics from the nominotypical form and represents a new subspecies of *T. inexpectatus*.

HISTORY

Cetonia nigrita Fröhlich, 1792 started the history of the genus. *Thaumastopeus* was established by Kraatz in 1885 and *Thaumastopeus nigrinus* (Fröhlich, 1792) as a type species was designated. The last two revisions (Mikšić, 1977; Allard, 1995) recognised 21 species and five subspecies. Since then two species and two subspecies have been added (Rigout & Allard, 1997; Antoine, 2000).

MATERIAL AND METHODS

Specimen sizes exclude head and pygidium. Types are provided with printed red labels that give the name of the taxon, HOLOTYPE or PARATYPE, sex symbol and St. Jákl det. 2007. Genitalia of most available males were dissected. All specimens are deposited in the author's collection.

DESCRIPTIONS

Thaumastopeus clavatus sp. n.

(Figs 1-5)

Type material. Holotype (♂): Indonesia, Lesser Sundas, ROTI ISL., 10. 1993 (W of Timor), 0-50 m, local collectors lgt. Paratypes: (nos. 1-3, ♂♂): the same as holotype; (no. 4, ♀): the same as holotype.

Description. Holotype length 18.4 mm, maximum humeral width 9.1 mm. Black, glabrous, narrow, flat and elongated species.

Head black, shiny, widest approximately at three-quarters of length. Frons coarsely punctate except for midsection. Clypeus with dense longitudinal wrinkles. Antennae blackish, bearing ochre pilosity.

Pronotum black, shiny, disc very finely punctate, anterolateral margins densely striolate. Margins complete, anterolaterally less visibly so but without obvious interruption. Basal lobe very finely punctate.

Elytra black, shiny, parallel-sided and elongate. Punctuation sparse, limited to three short and vague lines in front of humeral calli. Posterior half of elytra laterally striolate and below apical calli wrinkled. Rest of elytra glabrous. Humeral and apical calli flattened. Sutural ridge sharp. Suture flat, terminalia drawn out into points.

Pygidium black, matte, with dense concentric wrinkles.

Abdomen black, shiny, with deep medial furrow. Each sternite with one transverse line of punctae.

Metasternum shiny and glabrous at the centre, laterally striolate. Mesometasternal process long and sharply pointed.

Legs unique in the group. All tibiae and tarsi elongated, protibiae unidentate. Protarsal claws longer than last tarsal segment.

Genitalia. Parameres resemble *T. timoriensis* Wallace, 1867, but differ in being narrowest at three-quarters of length and widening from that point towards apex (Figs 4-5).

Variation. Paratypes Nos. 2 and 3 have more developed elytral punctation. Size 15.5-18.4 mm.

Sexual dimorphism. Body length 19.5 mm, more robust and broader, with legs not elongated and protibia tridentate. Punctation and striolation similar to males.

Differential diagnosis. Closest species are *T. timoriensis* Wallace, 1867 and *T. brunneipennis* Thomson, 1879. Both species are found in Timor and recently were discovered also in Moa Island. *T. clavatus* differs from both in the characters given in the table below (for males only).

| | <i>T. clavatus</i> sp. n. | <i>T. timoriensis</i> | <i>T. brunneipennis</i> |
|--------------|---|---|--|
| form of body | body narrow, elongated | body normal, not elongated | body normal, not elongated |
| elytra | elytral punctation vague | elytral punctation vague | elytral punctation well developed |
| legs | tibiae, tarsi elongated, protibiae unidentate | tibiae, tarsi not elongated, protibiae tridentate | tibiae, tarsi not elongated, protibiae 1-2 dentate |
| aedeagus | parameres narrowest at 3/4 of length | parameres narrowest at apex | parameres narrowest at apex |

Also all other species of the genus occurring in the Lesser Sundas (*T. floresianus* Heller, 1899, *T. lombokianus* Miyake & Yamaya, 1995 and *T. tristis* Ritsema, 1880) differ from *T. clavatus* sp. n. by 2-3 dentate protibia (males), stronger elytral punctation, non-elongate tibia and tarsi (males) and different shape of the parameres.

Etymology. Named for the unusual shape of the legs, unique in the genus.

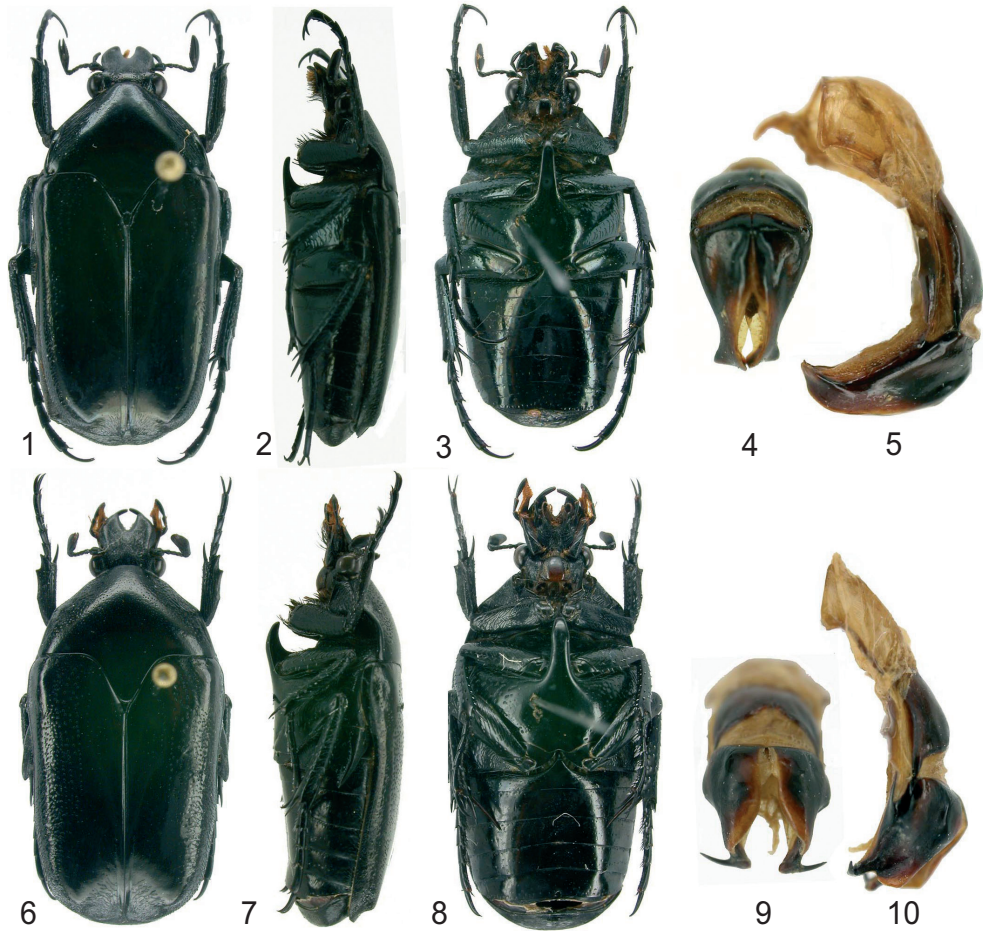
Distribution. Indonesia, Lesser Sundas, Roti Island (W of Timor).

Thaumastopeus jampeanus sp. n.

(Figs 6-10)

Type material. Holotype (♂): Indonesia, Jampea Island (cca 150 km S of Sulawesi), native collector leg. Paratypes: (no. 1, ♂): the same as holotype; (nos. 2-3, ♀♀): the same as holotype.

Description. Holotype length 20.6 mm, maximum humeral width 11.0 mm. Black, shiny, broad.



Figs 1-10. *Thaumastopeus clavatus* sp. n.: 1- habitus dorsal aspect; 2- habitus lateral aspect; 3- habitus ventral aspect; 4- aedeagus; 5- aedeagus lateral aspect. *Thaumastopeus jampeanus* sp. n.: 6- habitus dorsal aspect; 7- habitus lateral aspect; 8- habitus ventral aspect; 9- aedeagus; 10- aedeagus lateral aspect.

Head black, opaque, punctate and rugose. Shapes of punctate irregular, punctate less dense on disk. Clypeus widest at three quarters of length.

Pronotum black, shiny, disk finely punctate. Basal lobe with very fine punctation. Lateral punctation more rugose, diameters of punctures larger, anterolateral margins wrinkled.

Elytra black, shiny, oval, wider than in other Sulawesi species. Elytral ridge absent, humeral and apical calli obsolete. Postscutellar area and area along elytral suture glabrous, only with few irregular, small punctate. Anterior half laterally with rugose punctation, posterior half laterally with wrinkles. Apex wrinkled, apical calli glabrous.

Pygidium black, opaque, with concentric striolation.

Abdomen black, shiny. Medial furrow very shallow, each sternite with two rows of semicircular punctae.

Metasternum black, shiny, disk finely punctate, lateral portions striolate, posterolateral margins more densely striolate. Mesometasternal process short, robust, protruding downwards. Prosternum and mentum densely wrinkled, covered with blackish pilosity.

Legs black, shiny. Protibia tridentate, proximal tooth obtuse and small.

Genitalia (Figs 9-10). Parameres short and broad, apical hook resembles *T. lombokianus* Miyake & Yamaya, 1995 and *T. floresianus* Heller, 1899.

Variation. Male paratype No. 1 identical but smaller, 18.8 mm length.

Sexual dimorphism. Females more parallel-sided and broader, with protibia more robust and tridentate, all three teeth sharp, and punctation of head, pronotum and elytra coarser. Size 18.8-19.0 mm.

Differential diagnosis. *T. jampeanus* sp. n. appears to be closer to species of the Lesser Sundas than to those of Sulawesi and nearby islands. Closest relatives are *T. lombokianus* Miyake & Yamaya, 1995 and *T. floresianus* Heller, 1899. Especially with *T. lombokianus* it shares several characters, but differs from both species by more reduced punctation, namely elytral, more robust mesometasternal process and differently shaped parameres.

Etymology. Named after the island to which it appears to be confined.

Distribution. Indonesia, Tanah Jampea island group, Jampea Island.

Thaumastopeus inexpectatus glabratus ssp. n.

(Figs 11-15)

Type material. Holotype (♂): Phillipines, Leyte Isl., v.2005, MT. BALOLACUE, local collectors lgt. Paratype: (1 ♀): the same as holotype.

Description. Holotype length 18.5 mm, maximum humeral width 10.3 mm. Oval, glabrous, shiny.

Head black, shiny, laterally punctate, on disk with only a few indistinct punctures. Clypeal ridge well developed, glabrous. Lateral facets discrete but not wide.

Pronotum with disk and basal angles impunctate, lateral margins finely and longitudinally punctate. Lateral margins bordered throughout length.

Elytra black, very shiny, impunctate except for narrow lateral parts and apex. Posterior half down to apex laterally with transverse fine, dense striolation; between suture and apical calli striolation fine, dense and longitudinal. Elytral ridge not well marked. Humeral calli indistinct, apical calli well developed. Elytral suture below level of elytral surface, only at two-thirds of length slightly elevated. Apex of each elytron not protruding, rounded.

Pygidium black, shiny, impunctate. Medial furrow not developed.

Metasternum shiny, with a few circular punctures. Mesometasternal process narrow, rather length, protruding forward, with apex pointed and directed upwards.

Legs. Tibiae and tarsi elongated, gracile. Protibia tridentate, all teeth sharp.

Genitalia (Figs 14-15) similar to nominal subspecies but terminal lobes obtusely rounded.

Sexual dimorphism. In female lateral punctation of pronotum and striolation of elytral apex coarser. Other aspects of sexual dimorphism not expressed. Body length 18.0 mm.

Differential diagnosis. Compared with specimens of nominal subspecies from Luzon, specimens from Leyte Island differ by the impunctate elytra (the nominal subspecies has a few vague striolate lines on each elytron), finer lateral striolation in posterior half of elytra, and rounded lobes of parameres.

Etymology. Named for the glabrous and impunctate elytra.

Distribution. Philippines, Leyte Island, Mt. Balolacue.



Figs 11-20. *Thaumastopeus inexpectatus glabratus* ssp.n.: 11- habitus dorsal aspect; 12- habitus lateral aspect; 13- habitus ventral aspect; 14- aedeagus; 15- aedeagus lateral aspect. *Thaumastopeus saleijeri* Schauer, 1939: 16- habitus dorsal aspect; 17- habitus lateral aspect; 18- habitus ventral aspect; 19- aedeagus; 20- aedeagus lateral aspect.

***Thaumastopeus saleijeri* Schauer, 1939**
(Figs 16-20)

Because of confusion and doubts about the existence of this species, I give a brief characterisation with illustrations of the habitus and genitalia.

Remarks. The habitus and shape of the parameres place *T. saleijeri* Schauer, 1939 near *T. minetti* Rigout, 1997 and *T. francki* Antoine, 2000, both from Sulawesi. The main characteristics that appear to separate it from the two species are the oval shape and green metallic lustre. *T. minetti* and *T. francki* are bluish and nearly parallel-sided. Elytral striolate lines of the two Sulawesi species are vague but still visible, whereas in *T. saleijeri* they are almost invisible. Examination of the mesometasternal process in hundreds of specimens of these three species reveals a great deal of variation but no clearcut differences in shape and size. The shape of the parameres could possibly be used to distinguish *T. saleijeri* (Figs 19-20), however, caution is in place because the degree of variation in all three species is high. Therefore, the question of validity of these three taxa is perhaps best left open.

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