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# A Taxonomical Study on the Genus *Octoplasia* BRENSKE (Coleoptera, Melolonthidae)

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**Abstract** A diagnostic character of the melolonthine genus *Octoplasia* BRENSKE is commented and the type species is designated here. Two new species, *O. pseudogigantea* and *O. basilanensis* are described and a key to all component species including the two new species is shown.

Key words: Taxonomy; Melolonthidae; Octoplasia; new species; key to species; type species designation.

## Introduction

The genus *Octoplasia* BRENSKE, 1892 is the largest-sized group of the subtribe *Rhizotrogina* and is distributed in South Eastern Asia, mainly in Sunda Islands. Four species have been known untill now. In spite of a giant sized group, the component members resemble each other and each species varies in its body size and geography. On the other hand, their materials have not been enough collected from every locality of Sunda Islands or of the vicinities. So, more materials are needed to draw the whole aspect of the genus. In this paper, I am going to make a comment on the diagnostic character of *Octoplasia* in detail to help understand the outline of this group at the first. Secondly, I would like to designate the type species of the genus and to show a key to all component species. Thirdly, I describe 2 new species, *O. pseudogigantea* and *O. basilanensis*.

The abbreviations used herein are as follows: CL–length of clypeus; CW–width of clypeus; PL–length of pronotum; PW–maximum width of pronotum; FL–length of metafemur; FW–maximum width of metafemur; IN–interocular distance; HW–head width; TIS–length of longer metatibial spur; Ta-y–length of the y th metatarsal segment; A–arithmetic mean; ZMHU–collection of the Zoological Museum (Nat. Hist.) of Humboldt University, Berlin; MNHA–collection of Museum of Nature and Human Activities, Hyôgo; sl.–same locality.

Before going further, I wish to express my hearty gratitude to Mr. M. FUJIOKA and Mr. Y. MIYAKE for their kind offer of invaluable materials for this study.

## Genus *Octoplasia* BRENSKE, 1892

*Octoplasia* BRENSKE, 1892: 152; ARROW, 1906: 49–50 [description].
Type species: *Lachnosterna lineata* SHARP, 1876 here designated.

Body very elongate, rather to extremely large sized. Dorsum brown to dark blackish brown in color, moderately shining to opaque, sometimes with long pubescence.

Head wide, hardly punctate just behind vertex. Occipital area bearing a lateral band of punctures. Antenna 8-segmented, the 3rd segment slightly longer than the 2nd. Antennal club composed of 3 segments and very small. Maxillary galea with 4 denticles, one of which is completely independent of the others in its situation from dorsal view. Maxillary palpus 4-segmented, the last segment long, spindle-shaped and truncate at the tip. Mentum quadrate and with 2 parallel longitudinal carinae along the sides. Anterior half of submentum strongly produced posteriorly, otherwise rather gently sloping toward the posterior end from lateral view. Labial palpus 3-segmented.

Pronotum smooth or rugose, glabrous or hairy, more or less furrowed along the posterior margin, sometimes ridged before the furrow; posterior margin more or less ridged; lateral margin weakly or strongly serrate. Prosternal keel various in shape, stick-shaped, bifurcate, subquadrate, and so forth. Each elytron often very elongate,and with sutural and 4 costae; the 1st costa wide and weakly convex, the 2nd same way as the 1st or more narrow than this, the 3rd distinctly more narrow than the preceding and the 4th parallel to elytral margin, very narrow and often obsolete.

Legs slender. Protibia tridentate. Each of the 1st to 2nd or 3rd protarsal segments with a dull projection or a falcate one beneath at the tip. Metatibia provided with 2 moderately long spurs. Claw with a sharp inner tooth near the base and the base angularly produced. Male genitalia cylindrical; internal sac with spined sclerites or hook-like ones,and so forth.

When BRENSKE (1892) established the genus *Octoplasia* based on 2 SHARP's species, *Lachnosterna lineata* and *L. princeps*, he didn't designate the type species. Therefore, I designated the former as the type species on the line above. This genus is closely allied to *Eotrichia* MEDVEDEV, but can be separated from the latter only by having the 8-segmented antenna.

### Key to Species

1 (2) Anterior half of submentum produced toward the posterior end from lateral view; pronotum smooth; prosternal keel stick-shaped; dorsal surface generally shining and glabrous; 33.0–37.0 mm.; Sumatra,

West Borneo. ..... *lineata* (SHARP)

2 (1) Submentum rather gently sloping toward the posterior end from lateral view

3 (4) Prosternal keel stick-shaped; dorsal surface opaque; at least elytra not hairy; 32.0–42.0 mm.; Malay Peninsula, Sumatra, West and North Borneo. ..... *princeps* (SHARP)

4 (3) Prosternal keel wide

5 (8) Dorsal surface completely glabrous, but sometimes head or pronotum hairy partly

6 (7) Lateral margin of pronotum with very long hairs; dorsal surface brown in color; occipital lateral band of punctures being regularly wide; 33.0–36.0 mm.; North Borneo. ..... *prolixa* ARROW

7 (6) Lateral margin of pronotum with shorter hairs; dorsal surface blackish brown; occipital lateral band of punctures being irregular in width and the punctures often scattered even just behind vertex, which punctures are weak and fine; 29.5–36.0 mm.; Philippines (Basilan Is., Mindanao Is.) ..... *basilanensis* T. ITOH, sp. nov.

8 (5) Dorsal surface hairy and opaque

9(10) Pronotum scattered with 2 kinds of different sized shallow punctures and the larger punctures each with a long hair; epipleuron of elytron visible from dorsal view; 43.0–44.0 mm.; West and North Borneo. ..... *gigantea* ARROW

10 (9) Pronotum rugosely punctate and some of the punctures each with a hair which is distinctly shorter than that of *O. gigantea*.; epipleuron of elytron not visible from dorsal view; 39.0–41.0 mm.; North Borneo. ..... *pseudogigantea* T. ITOH, sp. nov.

## Descriptions of New Species

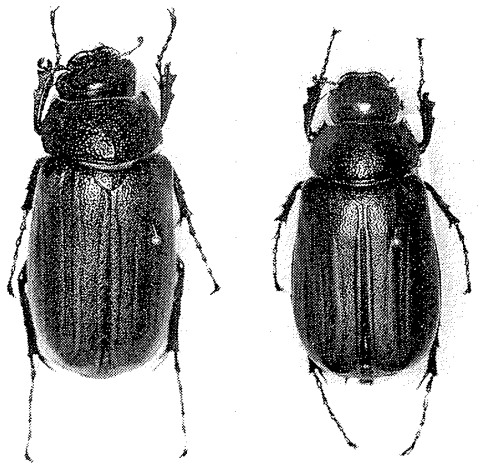
### *Octoplasia pseudogigantea* T. ITOH, sp. nov.

(Figs. 1, 3, 7(b), 8, 10, 12, 15, 17, 18)

*Description.* Length: 39.0–41.0 mm.

*Male.* Body extremely large. Head, antenna and palpus dark blackish brown, mouth part, pronotum, tibia and tarsus blackish brown, elytron reddish brown, prothorax to metathorax, abdomen, pygidium and femur usually bright brown. Head and pronotum dully shining, elytron opaque, ventral surface moderately shining, but femur not so bright as in *O. basilanensis*.

Clypeus bilobed, coarsely, sparsely and rugosely punctate, CW/CL 3.1–3.9 (A 3.5); front-clypeal suture usually well bisinuate. Frons rugose, widely covered with very long erect hairs. IN/HW 0.64–0.68 (A 0.66). Occipital lateral band of punctures being narrow and more irregular than that of *O. gigantea*, the



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Figs. 1–2. *Octoplasia* spp. 1, *O. pseudo-gigantea* sp. nov.; 2, *O. basilanensis* sp. nov.

punctures coarse as those of *O. gigantea* and distinctly coarser than those of *O. basilanensis*. Anterior half of submentum gently sloping toward the posterior end from lateral view.

Pronotum rugosely punctate, and each puncture with a long erect hair, which is distinctly shorter than that of *O. gigantea*, PL/PW 0.50–0.54 (A 0.52); anterior angle rectangular, posterior one obtuse but relatively distinct; lateral margin gently curved behind the middle, moderately weakly serrate. Prosternal keel wide, subquadrate and hardly bifurcate.

Elytron about 3.6–3.8 times as long as the pronotum, much densely covered with rather short erect hairs,which are replaced by longer hairs in *O. gigantea*; epipleuron not visible at all from dorsal view; marginal membrane not constant, which is partly difficult to be recognized. Scutellum coarsely and rugosely punctate. Pygidium somewhat densely punctate, each puncture with a short pubescence. Abdomen not covered with short pubescence on the central area.

Hind coxa with a deep furrow along the inner side of lateral margin; posterior margin not membranous. Metafemur as slender as in other members, finely, sparsely and weakly punctate, FW/FL 0.30–0.32 (A 0.31); the longest bristle on the surface of metafemur about 1/3–11/25 times as long as its breadth.

TIS=Ta-I or >Ta-I. Ta-I=Ta-II. Internal sac of male genitalia having a sclerite with a curved spine.

*Female.* CW/CL 3.4. IN/HW 0.66–0.67 (A 0.67). PL/PW 0.51–0.52 (A 0.52). Elytron about 3.7 times as long as the pronotum. FW/FL 0.32–0.34 (A 0.33); the longest bristle on the surface of metafemur about 1/3–13/25 times as long as its breadth. TIS>Ta-I. Ta-I=Ta-II or <Ta-II.

*Distribution.* North Borneo (mountain province).

Holotype: ♂, near Keningau, Sabah, N. Borneo, 11–IV–1985, K. NAKAMOTO leg. Allotype: ♀, Head Quarter, Mt. Kinabalu, Sabah, Borneo, 25–VI–1976, T. MIZUNUMA leg. Paratypes: 1♂, sl., 19–II–1980, F. TAKADA leg.; 1♂, 1♀, sl., 25–VI–1976, T. MIZUNUMA leg.; 1♂, Mt. Kinabalu, Sabah, 28–III～3–IV–1981, K. SUGIYAMA leg.; 3♂♂, same data as for the holotype.

The holo- and allotype are deposited in MNHA, 2 paratypes in ZMHU and the remaining 5 in the author's collection.

*Remarks.* Judging mainly from the internal sac of male genitalia bearing a sclerite with a spine, the present new species is closely allied to *O. gigantea*, but can be separated from the latter by the following points: shape of paramere of male genitalia, more rugose pronotum, absence of epipleuron, and so on.

### *Octoplasia basilanensis* T. ITOH, sp. nov.

(Figs. 2, 4, 7(c), 9, 11, 13, 16, 19, 20)

*Description.* Length: 29.5–36.0 mm.

*Male.* Body large and elongate, but not so as in *O. gigantea* or *O. pseudogigantea.* Head, antenna, palpus, mouth part, pronotum, prothorax to metathorax, tibia and tarsus dark blackish brown, elytron, pygidium, abdomen and femur light blackish brown. Dorsal and ventral surfaces dully to moderately shining except for the opaque elytron, femur especially shining.

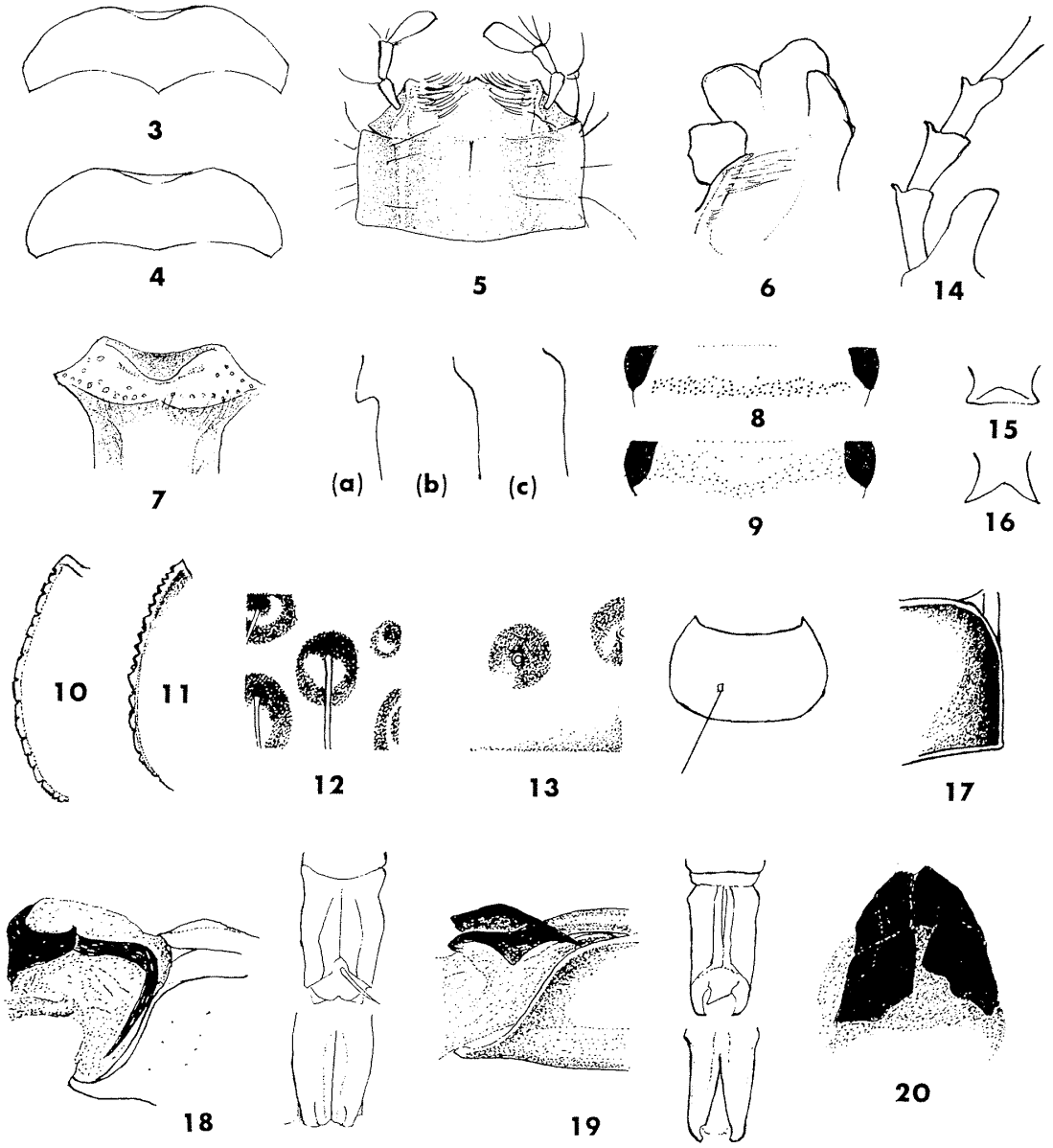
Clypeus bilobed, rather finely, densely and slightly rugosely punctate, frontclypeal suture very slightly arcuate, CW/CL 2.9–3.8 (A 3.4). Frons flat, somewhat densely punctate, not hairy at all. IN/HW 0.66–0.69 (A 0.68). Occipital lateral band of punctures narrow, but the punctures often irregularly and widely distributed untill just behind vertex, and the punctures being fine. Submentum moderately sloping toward the posterior end from lateral view.

Pronotum slightly rugosely and somewhat densely punctate and usually more or less bearing short pubescence on the medio-basal area, but sometimes glabrous, PL/PW 0.54–0.58 (A 0.56); anterior angle distinctly acute and produced, posterior one very obtuse; lateral margin reflexed near the anterior angle, rather curved behind the middle and moderately to strongly serrate throughout, the serrations distinctly more strong than in *O. pseudogigantea* or in *O. gigantea.* Prosternal keel wide and somewhat bifurcate.

Elytron about 3.2–3.8 times as long as the pronotum and glabrous; epipleuron visible untill basal 3/5 from dorsal view. Scutellum somewhat densely punctate. Pygidium slightly to moderately punctate.

Abdomen smooth, usually without pubescence on the central area, but 2 male specimens from Mindanao Is. with a few pubescence there.

Hind coxa without a deep furrow along the inner side of lateral margin; posterior margin distinctly membranous. Metafemur slender as in other mem-




Figs. 3–18. 3–4. Clypeus. —— 3, *O. pseudogigantea* sp. nov.; 4, *O.basilanensis* sp. nov. —— 5. Mentum. [*O. lineata*] —— 6. Maxillary galea. dorsal view [*O. lineata*] —— 7. Submentum. [*O. lineata*], (a) *O. lineata* (b) *O. pseudogigantea* sp. nov. (c) *O. basilanensis* sp. nov., lateral view —— 8–9. Occipital lateral band of punctures. —— 8, *O. pseudogigantea* sp. nov.; 9, *O.basilanensis* sp. nov. —— 10–11. Lateral margin of pronotum. —— 10, *O. pseudogigantea* sp. nov.; 11, *O. basilanensis* sp. nov. —— 12–13. Punctures on pronotum. —— 12, *O. pseudogigantea* sp. nov.; 13, *O. basilanensis* sp. nov. —— 14. Protarsus. [*O. lineata*]. 15–16. Prosternal keel. —— 15, *O. pseudogigantea* sp. nov.; 16, *O. basilanensis* sp. nov. —— 17. Furrow of hind coxa. [*O. pseudogigantea* sp. nov.] —— 18–19. Male genitalia. dorso-lateral, dorsal and ventral views —— 18, *O. pseudogigantea* sp. nov.; 19, *O. basilanensis* sp. nov. —— 20. Female genitalia. [*O. basilanensis* sp.nov.]

bers, finely, sparsely and weakly punctate, FW/FL 0.32–0.34 (A 0.33); the longest bristle on the surface of metafemur about 4/11–3/5 times as long as its breadth. TIS>Ta-I. Ta-I=Ta-II in specimens from Basilan Is. or <Ta-II in those from Mindanao Is. Internal sac of male genitalia having a hook-like sclerite.

*Female.* IN/HW 0.67–0.68 (A 0.68). PL/PW 0.54–0.55 (A 0.55). Elytron about 3.3–3.5 times as long as the pronotum. FW/FL 0.36–0.38 (A 0.37), the longest bristle on the surface of metafemur about 2/5–12/25 times as long as its breadth. TIS>Ta-I. Ta-I=Ta-II or <Ta-II in specimens from Basilan Is. The genitalia shown as in Fig. 20. The female specimen extremely resembles the male one, but is distinguishable from the latter only by having the stouter metafemur and metatibial spur.

*Distribution.* Philippines (Basilan Is., Mindanao Is.).

Holotype: ♂, Basilan Is., Philippines, VI～VII–1990. Allotype: ♀, same data as for the holotype. Paratypes: 3♂♂, 1♀, same data as for the holotype; 2♂♂, 2♀♀, sl.; 2♂♂, Mt. Kitanglad, N. Mindanao, Philippines, 5～13–VI–1991, D. MOHAGAN leg.

The holo- and allotype are deposited in MNHA, 2 paratypes in ZMHU and the remaining 8 in the author's collection.

*Remarks.* Judging from the hook-like sclerite of internal sac of male genitalia, the sclerite of female genitalia, the membranous posterior margin of metacoxa and so on, the present new species is closely allied to *O. prolixa* and *O. princeps*.

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