

A New Species of the Genus *Trichotichnus* (Coleoptera, Carabidae) from the Ryukyus, Japan

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Abstract A new harpaline carabid beetle, *Trichotichnus* (*Bottchrus*) *uedai* sp. nov. is described from the Island of Okinawa-jima, the Ryukyus, Japan.

The purpose of this paper is to describe a new species of *Trichotichnus* from the Island of Okinawa-jima, the Ryukyus, Japan, under the name of *T.* (*Bottchrus*) *uedai* MORITA, sp. nov.

Quite recently, Dr. KATAEV (2016, p. 69) studied *Trichotichnus* (*Bottchrus*) *philippinus* JEDLIČKA and its systematic position, and regarded the subgenus *Pseudotrichotichnus* (HABU, 1973, p. 225) as a synonym of *Bottchrus*. I follow with great interest, therefore, the result of his detailed and excellent study.

The abbreviations used herein are as follows: — L – body length, measured from apical margin of clypeus to apices of elytra; HW – greatest width of head; GL – length of gena, measured along the mid-line; eL – length of eye, measured along the mid-line; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; WL – length of hind wing; M – arithmetic mean.

Before going further, I wish to express my deep gratitude to Dr. Akira UEDA, Messrs. Masaaki KIMURA, and Masahiro SAITO for offering me the important materials.

I am deeply indebted to Dr. Shûhei NOMURA and Dr. Masahiro ÔHARA for giving me the opportunity to study the type specimens of *Trichotichnus taiwanus* and *T. sataensis*, respectively. I wish to express my thanks to Dr. Boris M. KATAEV and Mr. Hiromu KAMEZAWA for their help. Without their cooperation, I could not have undertaken this study.

Trichotichnus (*Bottchrus*) *uedai* MORITA, sp. nov.

[Japanese name: Okinawa-tsuya-gomokumushi]

(Figs. 1–8)

Diagnosis. A *Trichotichnus* species; body relatively small and strongly convex; eyes weakly convex; scutellar striole usually lacking; aedeagus elongate with rounded apex in lateral view.

Description. L: 5.57–6.14 mm. Body relatively small and strongly convex. Body black and shiny; mandibles, labrum and clypeus dark brown; appendages brown.

Head relatively large and moderately convex; eyes weakly convex; frontal furrows deep, linear, becoming wider and deeper along eyes and reaching post-eye level; lateral grooves short and adjoining frontal furrows on each side; a pair of supraorbital pores situated a little behind post-eye level; surface almost smooth; PW/HW 1.30–1.43 (M 1.34) in ♂, 1.27 in ♀; genae moderately convex; GL/eL 0.25–0.36 (M 0.30) in ♂, 0.47 in ♀; microsculpture almost vanished; mentum tooth moderately produced and simply rounded or rather pointed at the tip; neck wide; relative lengths of antennal seg-



Fig. 1. *Trichotichnus (Bottchrus) uedai* MORITA, sp. nov. from Oku.

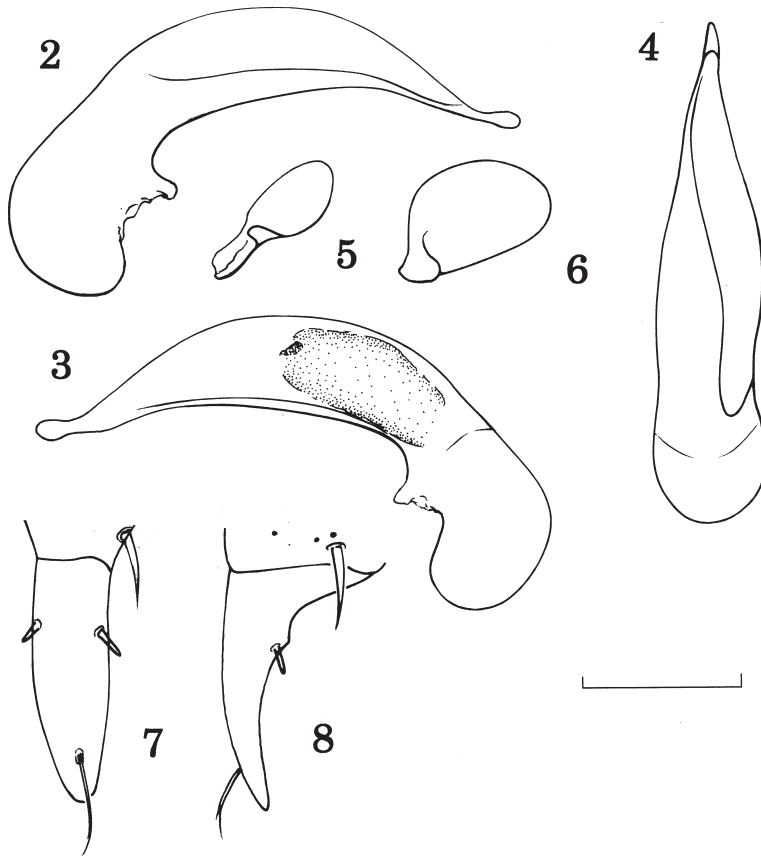
ments as follows: — I : II : III : IV : V : VI : XI = 1 : 0.57 : 0.87 : 0.79 : 0.78 : 0.66 : 1.06 in ♂, 1 : 0.67 : 0.78 : 0.93 : 0.80 : 0.74 : 1.08 in ♀.

Pronotum wide, convex and widest at about basal 3/5–7/10; apex widely and very weakly emarginate; PW/PL 1.30–1.39 (M 1.34) in ♂, 1.38 in ♀; sides moderately arcuate in front, convergent towards hind angles or very weakly sinuate at basal 1/5; reflexed lateral areas very narrow throughout; base almost straight or very weakly arcuate, and bordered at the sides; PW/PA 1.35–1.43 (M 1.38) in ♂, 1.38 in ♀; PW/PB 1.14–1.21 (M 1.17) in ♂, 1.20 in ♀; PA/PB 0.82–0.87 (M 0.85) in ♂, 0.87 in ♀; apical angles wide, very weakly produced and widely rounded at the tips; hind angles obtuse; anterior pair of marginal setae inserted a little before the widest part; anterior transverse impression obliterated, and very sparsely and rather coarsely punctate; posterior transverse impression obliterated or very shallow; median line shallowly and finely impressed, not reaching apex, and close to base; basal foveae very narrow, shallow, and coarsely and rather sparsely punctate; microsculpture vanished; basal part sparsely and coarsely punctate.

Elytra wide, strongly convex, and widest a little before the middle; EW/PW 1.26–1.32 (M 1.29) in ♂, 1.29 in ♀; EL/EW 1.35–1.46 (M 1.40) in ♂, 1.44 in ♀; shoulders obtuse; sides weakly arcuate towards the widest part, moderately so at the apical parts, and then weakly produced towards apices, and with very shallow preapical emargination on each side; apex narrowly rounded; scutellar striole usually lacking, in one male, present on interval II, deep, very short, and adjoining stria 2 at base; striae deep throughout, and obtusely crenulate; basal pore situated at base of stria 2; dorsal pore on interval III weak, situated between middle and basal 3/5, and adjoining stria 2; intervals moderately convex and sparsely and microscopically punctate; microsculpture vanished at the most part, partially composed of fine transverse meshes; epipleuron gradually narrowed towards apex; marginal series composed of 17–18 pores. WL/EL 0.43 in 1 ♂.

Prosternum, prepisternum, mesepisternum, and sides of metasternum sparsely and rather coarsely punctate; sides of sternites weakly and narrowly depressed in ♂.

Aedeagus elongate, moderately arcuate in lateral view and almost straight in dorsal view, and



Figs. 2–8. *Trichotichnus (Bottchrus) uedai* MORITA, sp. nov. from Oku. — 2, Aedeagus, left lateral view; 3, same, obliquely right lateral view, showing inner sac; 4, same, dorsal view; 5, right paramere, left lateral view; 6, left paramere, left lateral view; 7, apical stylus in ♀, lateral view; 8, same, ventral view. Scale: 0.5 mm for 2–6; 0.2 mm for 7–8.

with rather large basal part; ventral side weakly convex at most part and almost flat at apical lobe; viewed laterally, ventral margin weakly arcuate; membranous part occupied at dorso-left lateral side; apical lobe rather short and thin; apex small, rounded and very obtuse at ventral side. Inner sac covered with minute scales or spines between about basal 1/3 and the middle of aedeagus. Right paramere elongate, with elongate basal part; left paramere wide.

Apical styli in ♀ elongate, and with two short and robust spines at the sides.

Type series. Holotype: ♂, Oku, Kunigami-son, 240 m alt., 17.IV–19.VI.2015, A. UEDA leg. Paratypes: 1 ♂, Mt. Nishime-dake, 30.VIII.1994, M. KIMURA leg.; 1 ♂, 1 ♀, same locality, 15.IV–25.VI.2014, A. UEDA leg.; 1 ♂, Oku, Kunigami-son, 240 m alt., 17.IV–19.VI.2015, A. UEDA leg.

Depository of the holotype. The holotype is deposited in the Department of Zoology, the National Museum of Nature and Science, Tsukuba.

Localities. Oku and Mt. Nishime-dake, Kunigami-son, Okinawa-jima Is., Japan.

Species compared. *Trichotichnus (Bottchrus) sataensis* HABU et NANAKE (1955, p. 66): holotype (♂), “Sata, Ohsumi 30. v. 1952 T. Nakane” // “*Trichotichnus nanus* HABU ? Det. T. Nakane 1954” // “Holotype *Trichotichnus sataensis* HABU et NAKANE”; 1 ♂, Samuta, Uchinoura, Kagoshima

Pref., 2.V.1991, M. SAITO leg.

Trichotichnus (Bottchrus) taiwanus HABU (1975 a, p. 84): holotype (♂), “VII 7, 1961 Sekitaku nr. Fen-ch'i-hu Formosa S. UENO” // “Holotype *Trichotichnus taiwanus* HABU”.

Specimens dissected and measured. The descriptive part shows the standard ratios of body parts for all of the specimens. The genitalia of these specimens were examined.

Notes. This new species can be distinguished from *Trichotichnus (Bottchrus) sataensis* HABU et NAKANE (1955, p. 66) by the following points: 1) genae larger, 2) pronotum more strongly sinuate before hind angles, 3) elytra more convex and wider, 4) elytral intervals more convex, 4) aedeagal apical lobe shorter, 5) aedeagal apex more rounded in lateral view, and 6) ventral side of aedeagal apex almost flat.

From Taiwan, a flightless species (cf. HABU, 1975 b, p. 76), *T. (B.) taiwanus*, was described by HABU (1975 a, p. 84). A direct comparison between its holotype (= *T. taiwanus*) and specimens of this new species was made by me. It is also very easy to discriminate this new species from the Taiwanese species due to its smaller body size and the flat eyes.

Though it is a necessary addition, ITO (1997, p. 62.) described the subspecies of *T. taiwanus*, *T. t. splendens*, but his description and illustrations are insufficient. For one thing, the body length is lacking. Furthermore, illustrations of the aedeagal apex in the right and left lateral views are different in length and shape. Additionally, the foramen of apical styli in female is very large, and its position is depicted far from the apex. Even if the author incorrectly illustrated the genitalia, this new species, *T. (B.) uedai*, is evidently different regarding the shape of pronotum and the lustre of the elytra.

Derivation of specific epithet. The specific name is dedicated to Dr. Akira UEDA, one of the collectors of the type series.

要 約

森田誠司：沖繩産ツヤゴモクムシ(鞘翅目オサムシ科)の1新種。—— 沖繩島から採集されたツヤゴモクムシを新種と認め、オキナワツヤゴモクムシ *Trichotichnus (Bottchrus) uedai* sp. nov. と命名し記載した。この種は、鹿児島県佐多岬から記載されたサタツヤゴモクムシ *T. (B.) sataensis* HABU et NAKANE に近縁であるが、おもに陰茎先端部の形で、識別は容易である、台湾から知られている種、*T. (B.) taiwanus* とは、体長ならびに目の突出度がいちじるしく異なり、容易に別種として識別できる。

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