

Taxonomic Study on the Tribe Megapenthini (Coleoptera, Elateridae, Elaterinae)

I. First Record of the Genus *Cateanus* SCHIMMEL, 2004 from Japan

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Abstract *Cateanus sonani* (MIWA, 1934), comb. nov., which represents the first record of the genus *Cateanus* SCHIMMEL from Japan, is redescribed.

Introduction

The tribe Megapenthini GURJEVA, 1973 is distributed widely in the Old and New Worlds. Most of the members are distributed mainly in Southeast Asia and vary in their colour from monochromatic brown or black to marking of yellow, orange and black. In Japan, the tribe is composed of 13 genera, namely, *Melanoxanthus* ESCHSCHOLTZ, 1833, *Megapentes* KIESENWETTER, 1863, *Ectamenogonus* BUYSSON, 1893, *Procaerus* REITTER, 1905, *Gamepenthos* FLEUTIAUX, 1928, *Xanthopenthos* FLEUTIAUX, 1928, *Abelater* FLEUTIAUX, 1947, *Sawadapenthos* ÔHIRA, 1970, *Hayekpenthos* ÔHIRA, 1970, *Amamipenthos* KISHII, 1973, *Agaripenthos* ÔHIRA, 1970, *Neopenthos* KISHII, 1973, *Howau* KISHII, 1993, and it comprises 51 species and nine subspecies (ARIMOTO, 2007, 2010, 2012; KISHII, 1999, 2006 a, b; ÔHIRA, 1970, 2003; ÔHIRA & MAKIHARA, 2005).

Melanoxanthus sonani MIWA, 1934 was described based on a single specimen (sex unknown, deposited in Taiwan Agricultural Research Institute, Taichung, Taiwan: TARI) from Okinawa-jima Island of the Ryukyus, Japan. After the description, this species was recorded in Okinawa-jima and Iriomote-jima Islands (KISHII, 1974; IRIE, 1976), but these records were based on misidentification. Accordingly, there are no additional records of *M. sonani*, and the species continue to be unidentified even today. One specimen of *M. sonani* collected by Dr. Teizô ESAKI was found in the collection of the Entomological Laboratory, Kyushu University, Fukuoka, Japan (ELKU) and was completely accordant with the description of MIWA (1934). Then, I found that the species should belong to the genus *Cateanus* SCHIMMEL, 2004 distributed widely in the Oriental Region by sharing its diagnostic characters. *Cateanus* have not been recorded from Japan. In this paper, I record the species for the first time after the original description, which represents the first record of *Cateanus* from Japan, and review the past records of this species as *Melanoxanthus sonani*.

Materials and Methods

Measurements are all in millimeters and were made with a stereo microscope (Nikon SMZ-U) as follows; length of body from anterior margin of head to elytral apices (BL): maximum width of body (BW): maximum length of pronotum including posterior angles (PL): length of the midline of pronotum (PML): maximum width of pronotum including posterior angles (PW): maximum length of elytra (EL): maximum width of elytra (EW). Photos of specimen were taken with a Canon PowerShot G7 with a macro lens Reynox CM-3500, and combined by an image processing software (CombineZM).

The specimen has been deposited in the Entomological Laboratory, Kyushu University, Fukuoka, Japan (ELKU).

Genus *Cateanus* SCHIMMEL, 2004

[Japanese name: Misuji-tsuyakeshi-kometsuki-zoku]

Cateanus SCHIMMEL, 2004: 243 (original description; type species: *Melanoxanthus bakeri* FLEUTIAUX, 1914: 443, by original designation).

Diagnosis. The genus is distinguished easily from other Megapenthini genera by its pointed V-shaped frons and head with three longitudinal carinae. It is most similar to the genus *Platianeus* SCHIMMEL, 2004, but is distinguished easily by its rectangular scutellum, which slightly pointed at the middle of posterior margin and posterior angles.

Distribution. Japan (Okinawa-jima Is. of the Ryukyus); China (Sichuan, Yunnan); Thailand; Vietnam; Myanmar; Malaysia (the Malay Peninsula, Borneo); Indonesia (Sumatra, Flores, Sulawesi); Philippines (Mindanao, Luzon); Nepal; India; Sri Lanka. New record from Japan.

Comment. The genus contains 28 species from the Oriental Region (SCHIMMEL, 2004; SCHIMMEL & TARNAWSKI, 2009, 2010). The record of the genus from Japan is isolated geographically, and this discovery is surprising. In the future, the genus will be recorded widely in southwestern China and Taiwan.

Cateanus sonani (MIWA, 1934), comb. nov.

[Japanese name: Misuji-tsuyakeshi-kometsuki]

(Figs. 1–10)

Melanoxanthus sonani MIWA, 1934: 252 (original description).

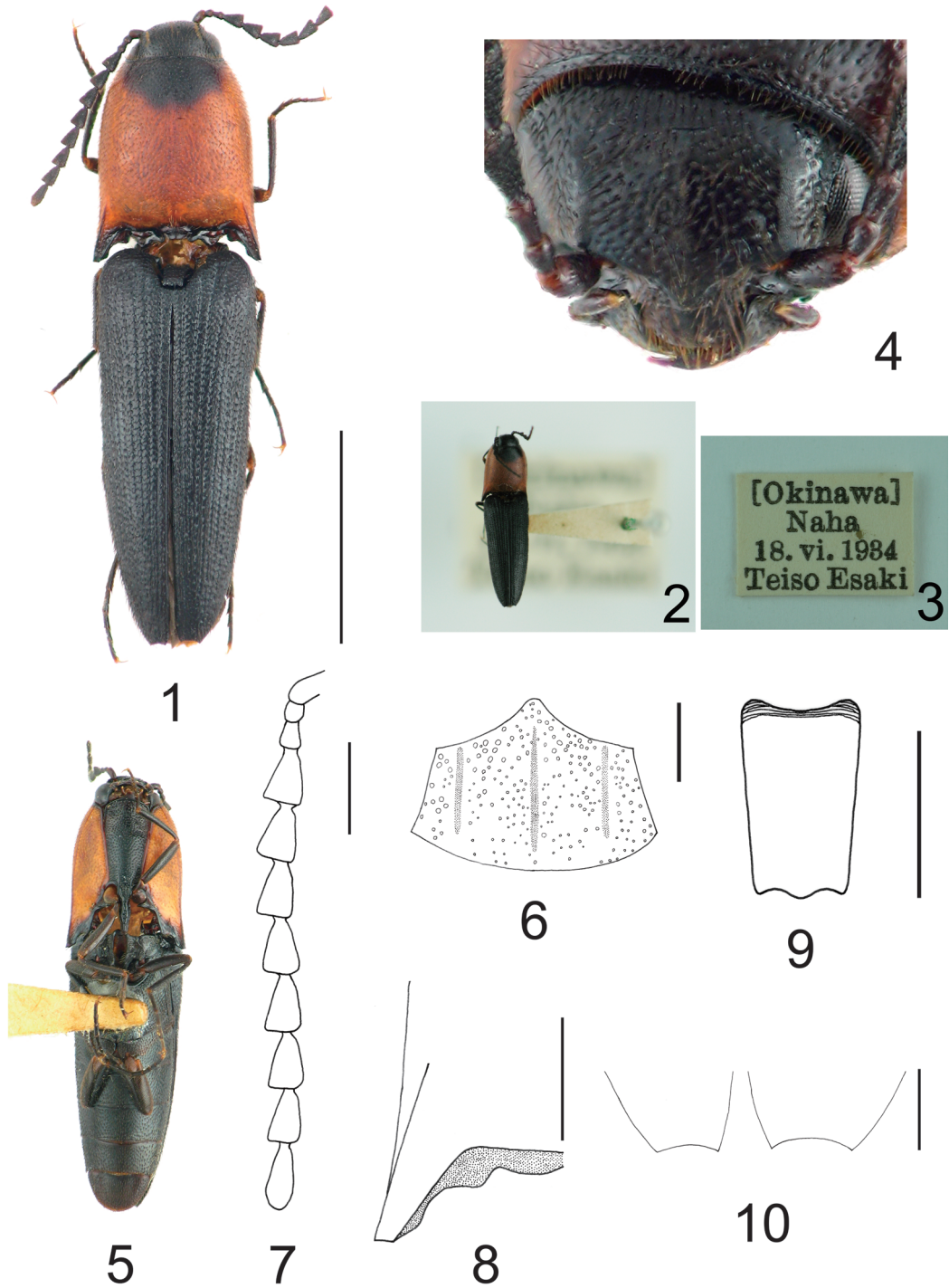
Diagnosis. The species is similar to *Cateanus carinulatus* (SCHWARZ, 1902) recorded from Borneo and Thailand, but it is distinguished easily from the latter by its larger body, black prosternum, different shape of elytral apices.

Material examined. 1 ♀, Naha-shi (Okinawa-jima Is.), Okinawa-Pref., the Ryukyus, Japan, 18–VI–1934, Teizô ESAKI leg. (ELKU).

Redescription. Female. Body (Figs. 1, 2) elongate, BL: 8.77, BW: 2.51; subparallel-sided, convex above; pronotum weakly with opalescent luster. Colour black except for pronotum and propleurite dark orange, but base and posterior angles of prothorax black (Fig. 5); carina of pronotum black; anterior portion of pronotum with black and semicircular marking, which is probably colour variation; mouth-parts brownish black.

Head moderately clothed with yellowish brown, short and recumbent setae; pronotum moderately with brownish black, short and recumbent setae; elytra moderately densely with black setae; ventral surface moderately with tawny, short and recumbent setae. Antennae with a mixture of black and yellowish brown, fine, recumbent and dense setae and with some moderate long and yellowish brown setae. Legs clothed with yellowish brown, short and recumbent setae except for femora with moderate long setae.

Head (Fig. 4) shorter than basal width, convex above, with a scabrous and longitudinal carina at the midline and a very scabrous, rough and longitudinal carina each inside of eye, which are provided with dense, very fine and yellowish brown setae (Fig. 6); clypeal margin incurved and convergent



Figs. 1–10. *Cateanus sonani* (MIWA, 1934), comb. nov., ♀ — 1, Habitus; 2, ditto; 3, label; 4, head; 5, ventral surface; 6, head; 7, left antenna; 8, left posterior angle; 9, scutellum; 10, apices of elytra. Scales: 3 mm for 1; 0.5 mm for 6–8; 0.1 mm for 9, 10.

from base to apex, rather vertical near apex, flattened at the middle; surface winkled obscurely hexagonally; punctures moderate and coarse.

Antennae (Fig. 7) short, not reaching the apices of posterior angles of pronotum by apical segments; basal segment robust, cylindrical, distinctly longer than width; segment II shortest, as long as width; segment III obconical, longer than width, about 1.37 times as long as segment II; segment IV distinctly longer than width, about 1.92 times as long as segment III, longer than the preceding two segments combined; segments IV–X serrate; segment XI oblong-ovate, distinctly longer than width, about 1.23 times as long as segment X.

Pronotum trapezoidal, PL: 2.88, PML: 2.37, PW: 2.51, convex above; sides widening roundly and gradually from anterior angles to apical halves, then sub-parallel to base; surface winkled distinctly hexagonally; punctures small and moderate, but made denser and larger toward the outside, smaller than those of head; posterior angles (Fig. 8) moderate long, extended posterior laterad, angular at apices, with distinct carina above.

Scutellum (Fig. 9) elongate, rectangular, pointed slightly and roundly at the middle of posterior margin and posterior angles, convex above, almost vertically inclined anterior downwards; anterior margin ridged; surface punctured small and moderately.

Elytra elongate, EL: 5.71, EW: 2.36, about 2.42 times as long as width; moderate convex above; sides gently narrowed from base to basal halves, then rounded and gradually convergent towards apices, which are emarginated (Fig. 10); striae defined, punctuated deeply and circularly; intervals slightly convex above, coarsely granulated, rugose transversely, punctuated small and sparsely, smaller than pronotum.

Prosternal process moderate long, extended lineally posteriad in lateral aspect, in ventral aspect widening gradually and roundly from base to basal half, then convergent to apex.

Legs slender; tarsi and claws simple.

M a l e. Unknown.

Discussion and Distribution. The original description by Miwa (1934) states “Head . . . with a median longitudinal carina which is rather obliterated and scarcely perceptible, in front of each eye is a scabrous longitudinal ridge which is free from puncture.” But all Japanese Megapenthini species do not possess three carinae on the head, and the expression was obscured. Moreover, since the holotype is deposited in TARI, Japanese researchers could not easily examine the holotype. Thence, *M. sonani* has been unidentified for a long time. The specimen used in this study has three longitudinal carinae on the head, and the external structures are completely accordant with the expression of MIWA (1934), and then I could conclude immediately that the specimen is *M. sonani*. The character is a diagnostic character of the genus *Cateanus* by established SCHIMMEL (2004), therefore the species was transferred to *Cateanus*.

In Japan, the species is distributed only in Okinawa-jima Island of the Ryukyus. After the original description, two records were published as “*Melanoxanthus sonani*” (KISHII, 1974; IRIE, 1976), but their specimens are in readily not truly “*M. sonani*.” One specimen recorded by KISHII (1974) from Iriomote-jima Island is clearly *Melanoxanthus doriai ryukyuensis* H. ARIMOTO, 2004 judging from the figure and text of the reference. Among eight specimens recorded by IRIE (1976), seven specimens from Iriomote-jima Island can be determined distinctly *Megapenthes azumai* H. ARIMOTO, 1993 judging from the text of IRIE (1976) and other one specimen from Okinawa-jima Island, which was explained easily in external structure by ÔHIRA (1998), was used as a paratype of *Melanoxanthus matsu-murai* H. ARIMOTO, 2010. Accordingly, the paper is the second record of “*Melanoxanthus sonani*” (= *Cateanus sonani* comb. nov.).

Habitats. The specimen used in this study was collected in Naha (Naha-shi), Okinawa-jima Is-

land (Fig. 3). The holotype was also collected in Naha, though detail collecting sites of both specimens are unknown. Many specimens of the three *Melanoxanthus* species, *M. okinawensis*, *M. sekii*, and *M. matsumurai*, have been collected in the northern Okinawa-jima Island so-called “Yambaru” (ARIMOTO, 2010; MATSUMURA, 2012), but *Cateanus sonani* have not been collected at all since 1934.

Details of life history are unknown. Its allied species are collected by sweeping flower and from tree hollow. This species possibly have the same life history.

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要 約

有本見一：ツヤケシコメツキ族(鞘翅目コメツキムシ科)の分類学的研究I. 日本初記録のミスジツヤケシコメツキ属。——ソナンヒメツヤケシコメツキ *Melanoxanthus sonani* MIWA, 1934 は沖縄島那覇から得られた性別不明の1個体を基に記載され、以後再記録がなく、全く未知の存在となっていた。筆者は九州大学昆虫学教室に保管されている標本中に、故江崎梯三博士によって沖縄島から採集された本種の1雌個体を見出した。標本を詳細に検した結果、本種は東洋区に広く分布し、日本からは未知であったミスジツヤケシコメツキ属(和名新称) *Cateanus* SCHIMMEL, 2004 に属することがわかった。そこで本種をミスジツヤケシコメツキ(和名改称) *Cateanus sonani* (MIWA, 1934), comb. nov. として再記載し、合わせて誤同定によって本種と見なされていた過去の記録の見直しをおこなった。

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