

New Record of *Limoniscus vittatus* (Coleoptera, Elateridae, Dendrometrinae) from Amami-Ôshima Island, the Ryukyu Islands, Japan

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Abstract *Limoniscus vittatus* is recorded from Amami-Ôshima Island, the Ryukyu Islands, Japan for the first time with a supplementary description.

Introduction

Limoniscus vittatus (CANDÈZE, 1873) was originally described from Kyushu, Japan, and has so far been recorded in almost all regions of Japan except for the Ryukyu Islands. The fauna of the subfamily Dendrometrinae is poor in the Ryukyu Islands, and in the genus *Limoniscus* REITTER, 1905, only one species *L. amamiensis* (ÔHIRA, 1966) has been known from Amami-Ôshima Island. Recently, an unknown *Limoniscus* specimen from Amami-Ôshima Island was found by the author and revealed to be *L. vittatus* by comparing with the specimens of *L. vittatus* from Kyushu, though only few morphological differences were observed. In the following lines, I will report the new record of *L. vittatus* from Amami-Ôshima Island with its supplementary description.

Materials and Methods

For comparative purpose, I examined the specimens of *Limoniscus vittatus* (CANDÈZE, 1873) from Amami-Ôshima Island and Kyushu respectively (Fig. 1). The specimens examined are deposited in the collection of Hisayuki ARIMOTO and Kôichi ARIMOTO (cAR: Osaka, Japan).

Photographs of specimen were taken by a single-lens reflex camera (Canon EOS 7D) mounted on a macro lens (Canon macro photo lens MP-E 65 mm), and combined by image processing software (CombineZM, Alan Hadley). Measurements are in millimeters. The following abbreviations were used in the description: body length from apex of the head to apices of the elytra (BL), body width (BW), pronotum length including posterior angles (PL), pronotum length across the midline (PML), pronotum width including posterior angles (PW), elytral length (EL) and elytral width (EW). Map was created using free software (DIVA-GIS 7.5.0.). The digital images of photographs, drawings and map were edited by image editing software (Adobe Photoshop 7.0).

Taxonomy

Limoniscus vittatus (CANDÈZE, 1873).

[Japanese name: Tatesuji-kane-kometsuki]

(Figs. 1–7)

Limoniscus vittatus CANDÈZE, 1873: 22 (original description; type locality: Higo, Japan, and Hong Kong).

Limoniscus vittatus: ÔHIRA & SHIMOYAMA, 1990: 63 (change generic status).

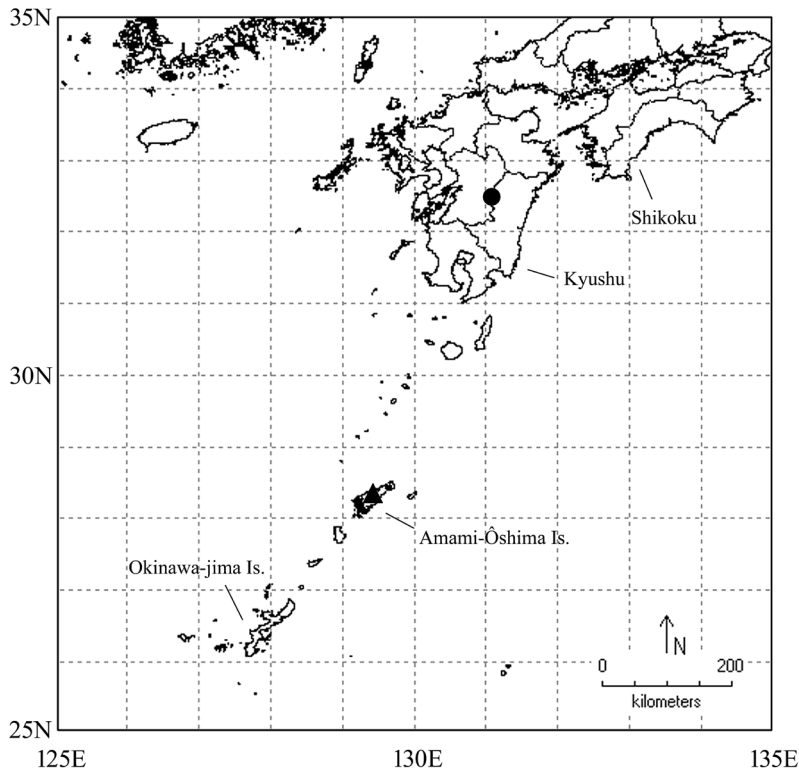


Fig. 1. Localities of *Limoniscus vittatus* (CANDÈZE, 1873). — Mt. Shiratori-yama, Yatsushiro-shi, Kumamoto Pref., Kyushu (●); Nazechinase, Amami-shi, Kagoshima Prefecture, Amami-Ôshima Is., the Ryukyu Isls. (▲).

KISHII (1999) wrote “*Megapenthes flavolineatus* MIWA, 1927 was synonymized with *Limoniscus vittatus* (CANDÈZE, 1873) by MIWA (1934)”, and CATE (2007) followed this treatment in the catalogue of Palaearctic Coleoptera. The truth is that *M. flavolineatus* was synonymized with *Limoniscus imitans* LEWIS, 1894 (= *Limoniscus imitans*) in MIWA (1934).

Material examined. 1 ♂, Nazechinase, Amami-shi (Amami-Ôshima Is.), Kagoshima Pref., the Ryukyu Isls., Japan, 22.VI.2012, Ryô NODA leg. (cAR).

Comparative materials examined. 2 ♂♂, Mt. Shiratori-yama (1,200–1,300 m), Yatsushiro-shi, Kumamoto Pref., Kyushu, Japan, 1–3.V.2010, K. ARIMOTO leg. (cAR); 1 ♂, same data as the former, Ryô NODA leg. (cAR).

Distribution. Japan: Hokkaido, Honshu, Shikoku, Kyushu and the Ryukyu Isls. (Amami-Ôshima Is.); Korea and China (Hong Kong). New record from Amami-Ôshima Island of the Ryukyu Islands (Fig. 1).

Amami-Ôshima Island is the southern distributional limit of this species as well as of the genus *Limoniscus* REITTER, 1905 in Japan.

Measurements. Specimen from Amami-Ôshima Is. BL: 8.52, BW: 2.10, PL: 2.20, PML: 2.08, PW: 1.92, PL/PW: 1.15, EL: 5.62, EW: 2.10, EL/EW: 2.68. Comparative materials examined. BL: 8.50–9.20, BW: 2.22–2.41, PL: 2.27–2.49, PML: 2.14–2.40, PW: 2.00–2.21, PL/PW: 1.13–1.14, EL:

5.87–6.23, EW: 2.22–2.41, EL/EW: 2.59–2.64.

Description on the specimen from Amami-Ōshima Is. Adult. Male. Body (Fig. 2) elongate; surface smooth, with metallic luster, covered with whitish to yellowish setae, more densely around elytral bases and scutellum. Color dark gray; antennae, mouth-parts and legs black, orangish yellow in apical 1/3 of mandible, junction of femora and tibiae, apical halves of tibiae and claws; elytra decorated with longitudinal orangish yellow stripes from base to apical halves.

Head broad, convex, but flattened triangularly from the middle of base to frontal margin; frontal margin well ridged, broadly rounded; punctures coarse, becoming larger and denser posteriad. Antennae (Fig. 3) moderately long, extended beyond the posterior angles of pronotum by apical segment; segment II globular, shortest, as long as wide; segment III obconical, short, longer than wide, about 1.4 times as long as segment II; segment IV longer than wide, about 1.7 times as long as segment III, as long as the preceding two segments combined; segments IV–X weakly serrate; segment XI oblong-ovate, longest, about 1.3 times as long as the preceding.

Pronotum sub-trapezoidal, longer than wide, widened posteriad; disc convex, with a median longitudinal depression at posterior half; lateral carinae distinct, extended from bases to just before anterior angles, projecting strongly outward at apical 1/15 (Fig. 4, arrow); posterior angles short, robust, extended latero-posteriad, with distinct median carinae; punctures large and dense, becoming larger and sparser anteriorly. Prosternal process (Fig. 5) short, incurved loosely just behind coxal cavity in lateral view, broad and narrowed gently from base to apex in ventral view, with rounded apex; ventral side weakly sinuate. Scutellum shield-shaped, convex, inclined anterior-downward; punctures small and dense. Elytra elongate; disc broadly convex, concave at anterior 1/5; sides almost parallel in basal halves, then roundly convergent to apices; apices rounded and simple; striae grooved shallowly, defined by punctures; intervals slightly convex, with punctures distinctly smaller and sparser than those of pronotum. Tarsi and claws simple.

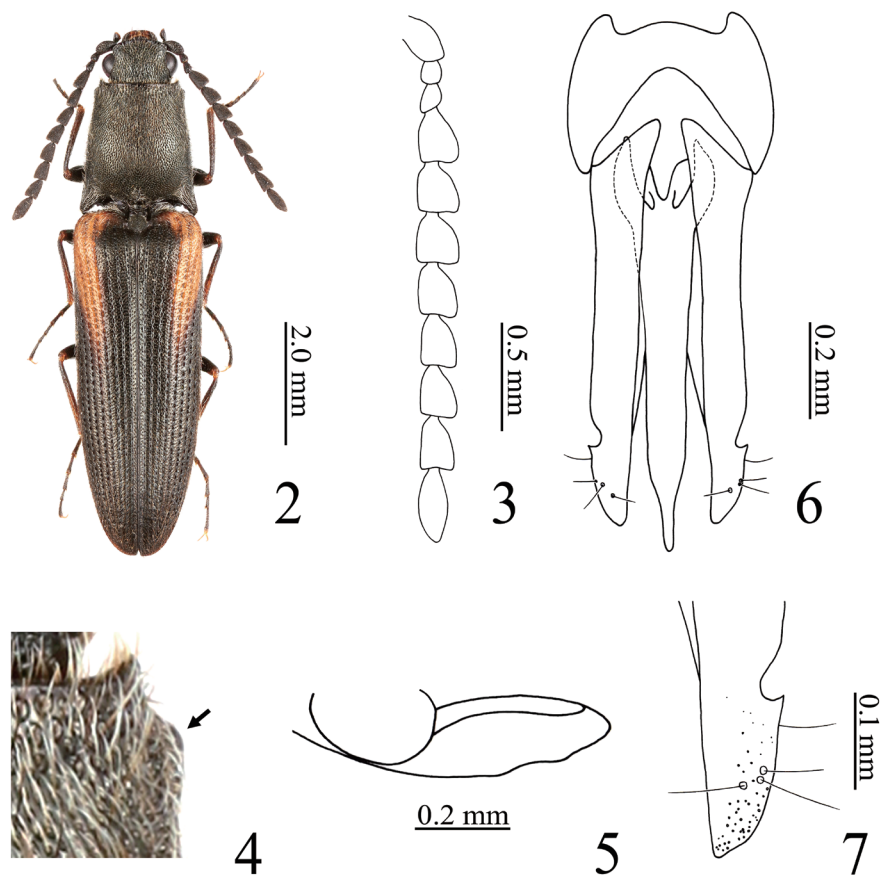
Aedeagus (Fig. 6) elongate; median lobe exceeding the apices of parameres, strongly narrowed near apex; basal struts not exceeding the basal margin of parameres; parameres separate each other, with apical portion long fan-shaped, about 0.2 times as long as the whole length of parameres, with three setae at ventral side and one seta at dorsal side (Fig. 7).

Details of discovery. The specimen from Amami-Ōshima Island was collected by sweeping the flowers of *Schima wallichii* (DC.) KORTH. subsp. *noronhae* (REINW. ex BLUME) BLOEMB. (Family: Theaceae) in lowland laurel forests.

Discussion

Limoniscus vittatus (CANDÈZE, 1873) is very similar to *L. imitans* (LEWIS, 1894) from Honshu and Shikoku, and *L. kawaharai* KISHII, 2002 from Hokkaido. The following characters have been used as their diagnostic keys: body size, degree of metallic luster, lengths of yellowish stripes on elytra, sizes and densities of punctures on head and pronotum, shape of the posterior angles of pronotum, and apical portion of parameres (MIWA, 1934; KISHII, 2002, 2004). However, the differences of these characters are very trivial in those three species, and there is no detailed report about whether the slight differences are useful for specific diagnosis or not. Therefore these species are currently difficult to be identified from each other, and their distributional records need to be reviewed.

I compared the single specimen from Amami-Ōshima Island with the specimens from a nearby type locality in Kumamoto Prefecture, Kyushu. The former exhibits slightly elongate elytra, more linear posterior angles of the pronotum, more weakly sinuate ventral side of the prosternal process, and very slightly shorter apical portion of the parameres. However, these differences seem to be un-



Figs. 2–7. *Limoniscus vittatus* (CANDÈZE, 1873), male from Amami-Ôshima Is., the Ryukyu Isls., Japan. — 2, Habitus, dorsal side; 3, right antenna; 4, lateral projection of pronotum; 5, prosternal process, lateral side; 6, aedeagus, ventral side; 7, apical portion of paramere, ventral side.

obvious, and the specimens from these two localities are similar to each other in the degree of metallic luster, and sizes and densities of the punctures on the head and pronotum. I accordingly consider the differences are the intraspecific variations among the single taxon since their characteristics are probably not useful for diagnosis among closely allied species.

Two sympatric *Limoniscus* species from Amami-Ôshima Island, *Limoniscus vittatus* and *L. amamiensis* (ÔHIRA, 1966), are easily distinguished from each other by the gray elytra with longitudinal yellowish stripe in the former species, whereas the uniformly reddish elytra in the latter.

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要 約

有本晃一：奄美大島からのタテスジカネコメツキ（鞘翅目コメツキムシ科カネコメツキ亜科）の初記録。
—— タテスジカネコメツキ *Limoniscus vittatus* (CANDÈZE, 1873) は、琉球列島を除く日本全土と韓国、中国から記録されている。筆者は、国内では南限となる琉球列島の奄美大島から得られた本種を検したので、形態記載を添えて記録した。奄美大島の個体は、タイプ産地周辺の九州産個体と比較すると、鞘翅がやや細長く、前胸背板後角がより直線状で、交尾器側片の先端部がわずかに短い。しかし、これらの違いは軽微なため、同一種内の変異であると判断した。

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