

A Remarkable New Species of the Genus *Platycerus* (Coleoptera, Lucanidae) from Japan

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Abstract A new species of the genus *Platycerus* with peculiarly shaped genital organ is described from the mountainous region of Japan under the name *P. sue*.

It was in the 1980s that two new species of the lucanid genus *Platycerus* were consecutively found from Japan, and total number of the species included in the same genus swelled up to four, namely, *P. delicatulus* LEWIS, 1883, *P. acuticollis* Y. KUROSAWA, 1969, *P. kawadai* FUJITA et ICHIKAWA, 1982 and *P. sugitai* OKUDA et FUJITA, 1987. Since then, the genus has been widely and vigorously searched by many coleopterists attracted by this cute lucanids. As a result, not a few findings have been brought to light on their distribution, geographical variation, habitat and right down to the ecology in the last twenty years. Nevertheless, no discovery has been made at the species level until well into the 2000s, and such hypothesis as the Japanese *Platycerus* contains four species has become what everybody believes.

However, a study on detailed structure of the male genital organ recently made by myself revealed that *P. sugitai* is not a monotypical species but should be classified into at least three different categories, that is, *P. sugitai* endemic to Shikoku and two new species from Kyushu and the Kii Peninsula of Honshu, respectively (IMURA, 2007; see the other pages of this volume). And besides, another remarkable species having remained undiscovered is now introduced into science.

In the course of collecting fresh *Platycerus* specimens for examination of inflated endophallus and DNA analysis, I recently had an opportunity to come across a strange species in the mountainous region of a certain district of Japan. Viewed from characteristically pointed hind angles of the pronotum, the beetle doubtless belongs to the group of *P. acuticollis* but is strikingly different from all the known species in the peculiar modification of the genital organ in both the sexes. In the present paper, I am going to describe it under the name of *P. sue* as a remarkable new species.

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Platycerus sue IMURA, sp. nov.

[Japanese name: Takané-ruri-kuwagata]

(Figs. 1-3)

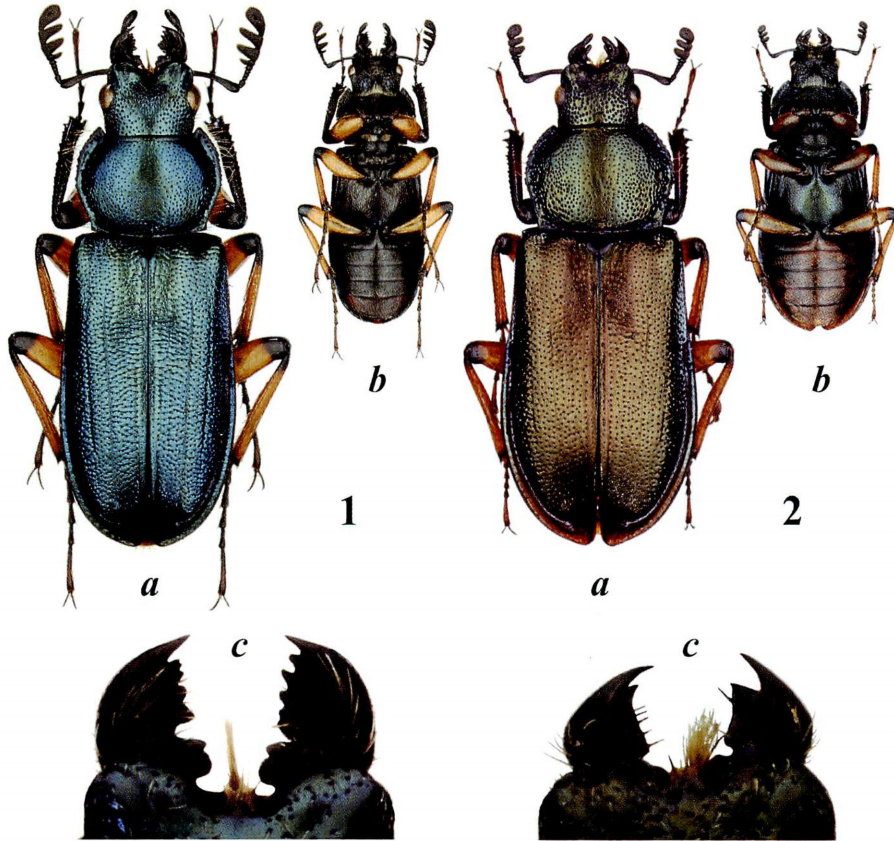
Male. Length (including mandibles): 10.2-12.1 (arithmetic mean: 10.76) mm. Body above fine blue and hardly bearing greenish tinge; mandibles, palpi, antennae, knees, protibiae and proximal parts of tarsi almost black; distal parts of tarsi and claws dark brown; meso- and metatibiae and femora except for the distal ends yellowish brown; venter black, though lateral sides of abdominal sternites VII usually brownish.

Head almost as in the other members of the genus; its dorsal surface not so coarsely scattered with small punctures which are not confluent with one another; mandibles (Fig. 1-c) very small and short, not concave above in basal portions, not forming a longitudinal ridge along inner margins, with the outer margins roundly arcuate throughout and not subangulate at the apical third as is often observed in allied species; apical portions rather acutely tapering towards the tips which are sharply pointed; inner margins of retinacula irregularly serrated, with three to five teeth on each side.

Pronotum transverse, 1.47-1.58 (arithmetic mean: 1.52) times as wide as long, widest at or a little behind the middle; lateral sides roundly arcuate and irregularly serrated in apical portions, faintly angulate at the widest part, then rather acutely and straightly convergent towards hind angles which are protrudent laterally with the tips rather sharply pointed; front angles remarkably protruding anteriorly and triangularly pointed; disc moderately convex above, rather remarkably depressed along lateral margins near front angles, with the disc scattered with punctures which are a little smaller in size than those on head.

Elytra rather robust for a member of the genus, 1.68-1.77 (arithmetic mean: 1.70) times as long as wide, widest obviously behind the middle, with the lateral sides nearly straight and slightly divergent posteriorly in apical halves and roundly arcuate near apices; shoulders distinct and subangulate, with a very small humeral tooth on each side; surface rather uniformly scattered with small punctures which are often arranged in longitudinal rows; intervals rather roughly rugoso-striate near the sutural part in median portions.

Male genital organ as shown in Figs. 3 a-f; apical margin of basal piece on ventral side not triangularly pointed but subtrapezoidally protruded apicad; paramere with the lateral side not strongly inflated in basal portion, its inner margin on ventral side faintly emarginate throughout, and inner-apical angle effaced in both ventral and lateral views; viewed dorsally, inner margin of each paramere widely and roundly emarginate throughout, with the inner-basal angle obliquely protrudent; aedeagus with the proximal part as in the other members of the genus; distal part wineglass-like in shape, deeply re-entrant apicad at the middle to form a large U-shaped sclerotized plate in ventral view; its surface rather coarsely and transversely wrinkled though no oblique keel is developed, with the peripheral portion near the borders between endophallus rather coarsely scattered with small granules; endophallus when fully inflated large, robust and



Figs. 1-2. *Platycerus sue* sp. nov.; 1, ♂ (holotype); 2, ♀ (paratype). — a, Habitus in dorsal view; b, ditto in ventral view; c, mandibles in dorsal view.

nearly rectangularly inflexed at the middle; its basal portion strongly inflated, stoutly produced ventrad, with a pair of small protrusions at the tip; median portion cylindrical, nearly parallel-sided in dorsal view, with a pair of larger membranous projections on both sides of flagellum; flagellum indicated by longitudinally set linear sclerite completely attached to the membranous wall of endophallus, though vestigial in the area between the paired projections in mid-endophallus; apical portion of endophallus cylindrical and stout, no accessory inflation being developed, with the tip hemispherically rounded.

F e m a l e. Length (including mandibles): 9.8–21.1 mm. Body above brassy with a greenish tinge on head and pronotum; antennae almost black, mandibles, palpi, knees, protibiae and tarsi reddish black to reddish brown; meso- and metatibiae and femora except for the distal ends dark yellowish brown; venter black, with a remarkable greenish tinge on metasterna; abdominal sternites dark reddish brown.

Head smaller than in male, with the dorsal surface much more coarsely scattered with larger punctures which are confluent with one another in anterior and lateral portions; mandibles (Fig. 2-c) small and short, with the basic structure almost as in the other members of the same genus.

Pronotum transverse, 1.41 times as wide as long, widest nearly at the middle, and more acutely narrowed towards apex than towards base; front angles much shorter and less strongly protruded anteriorly than in male, hind angles as in male; lateral margins irregularly and distinctly serrated; disc scattered with larger punctures than in male, which are confluent with one another in lateral portions.

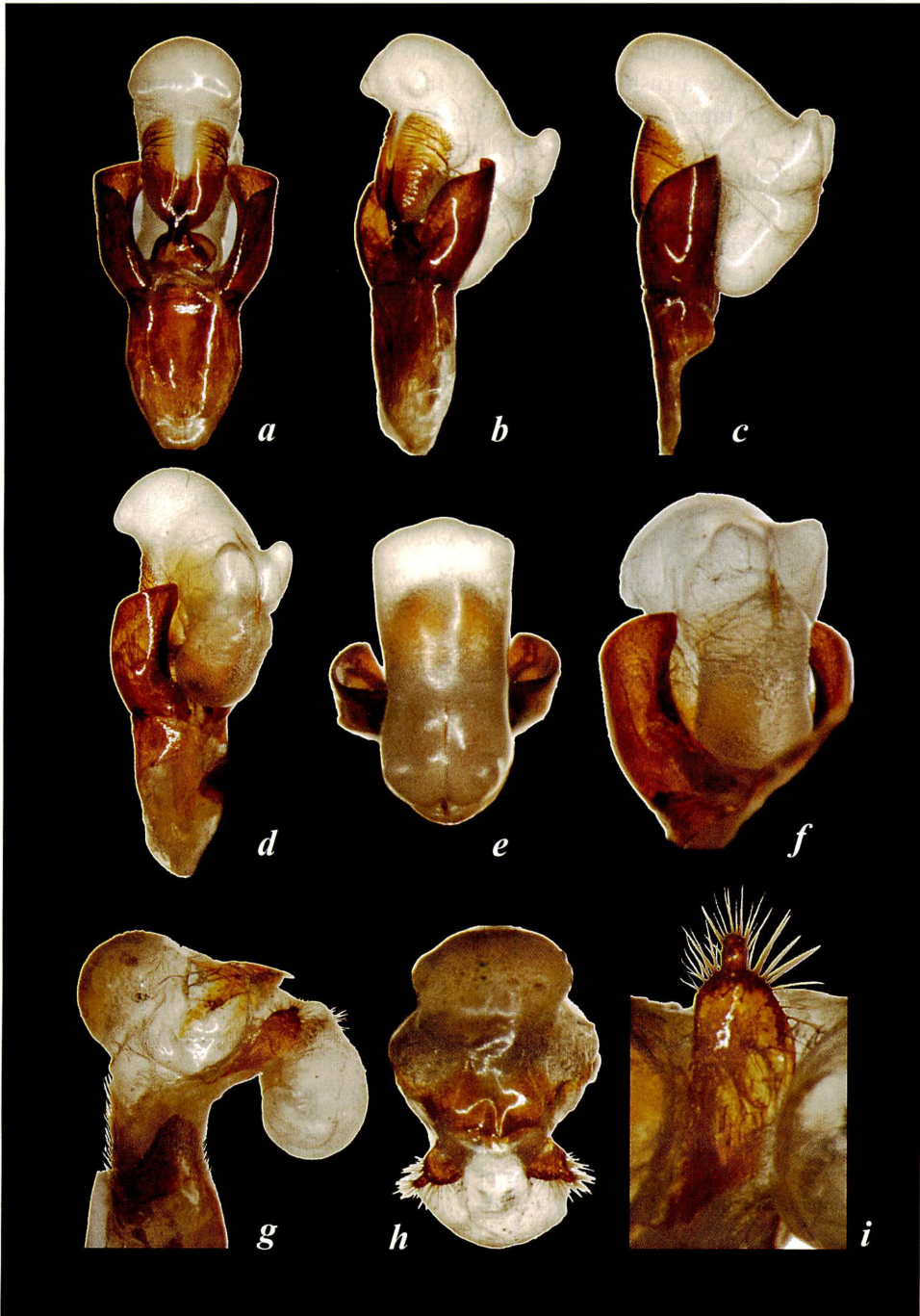
Elytra much robuster than in male, 1.50 times as long as wide, widest obviously behind the middle, with the sides either straight or very slightly emarginate for a short way behind shoulders, moderately arcuate from behind the middle to apical tips; shoulders distinct and subangulate, with a small humeral tooth on each side; surface rather uniformly scattered with small punctures which are often arranged in longitudinal rows; intervals only faintly rugoso-striate near the sutural part in median portions.

Female genital organ as shown in Figs. 3 g-f; gonocoxite rather stout, subovoid in shape, with the lateral sides gradually divergent towards the base in ventral view; its inner-apical corner not angulate but nearly straight or faintly rounded, outer corner effaced.

Type series. Holotype: ♂, mountainous region of Japan, collected by Y. IMURA in 2007, to be preserved in the Department of Zoology, National Museum of Nature and Science, Tokyo. Paratypes: 15 ♂♂, 10 ♀♀, same data as for the holotype, preserved in the collection of Y. IMURA (Yokohama).

Notes. The present new species is readily discriminated from all the other species of the genus by peculiarly shaped male genital organ as described above. Concerning the female genitalia, the new species differs from the allied species in characteristically featured gonocoxite which is robuster and much less acutely narrowed towards the apex. Also from the external appearance, the new species is distinguishable from the allied species in the following respects: 1) outer margins of male mandibles usually more roundly arcuate throughout and occasionally subangulate as in most individuals of *P. acuticollis* and *P. sugitai*; 2) inner margins of male mandibles not forming longitudinal ridge as in *P. acuticollis* and *P. sugitai*; 3) pronotal disc more widely depressed along lateral margins near front angles; 4) elytra a little robuster, with the disc less finely and a little more sparsely rugoso-striate than in *P. sugitai*, though rather similar in sculptural pattern to a certain geographical race of *P. acuticollis*. These diagnostic points are also available for two new species allied to *P. sugitai* described from Kyushu and the Kii Peninsula on the other pages of this volume (IMURA, 2007).

Fig. 3. Genital organ of *Platycerus sue* sp. nov.; a-f, male genitalia with fully inflated endophallus; g-i, female genitalia. — a, Ventral view; b, right subventral view; c, right lateral view; d, right subdorsal view; e, apical view; f, right subdorsal view; g, left lateral view; h, subapical view, i, left gonocoxite in ventral view.



The distribution of the new species is considered to be restricted to the high altitudinal area on a certain mountain range, and its habitat might be easily damaged if many collectors make a rush for there. Since the genus *Platycerus* is immensely popular among maniacs in Japan, it is highly plausible that an announcement of detailed locality causes a rush of collectors, and in its turn gives an adverse effect to the habitual environment. This is why I refrain from revealing the exact locality in the present paper. Its details will be brought to light after we know more on the distributional range, local and individual variations, habitat and ecology of the new species, so that we can make a prospects for the protection of this valuable lucanid.

Etymology. The name of the new species, *Sue* [su: or sû], comes from a nickname of my wife, Masumi, Professor of International University of Health and Welfare, who is always sympathetic about my entomological activities.

要 約

井村有希: 本邦から発見されたルリクワガタ属の顕著な1新種。—— 本邦の山岳地帯から得られたルリクワガタ属の1種を新種と認め、タカネルリクワガタ *Platycerus sue* という新名を与えて記載した。形態学的には、前胸背板の後角が尖るコルリクワガタ群に属するが、雌雄交尾器の形態がおおき異なるため、既知種からの識別はきわめて容易である。新種名の「スー」は、筆者の妻の愛称にちなむ。本種はこれまで、某山塊の一角から得られているにすぎず、きわめて局地的な分布を示すものと考えられる。ルリクワガタ属は愛好家からの人気はひじょうに高いグループであるため、20年ぶりに本邦から発見された顕著な新種であることや、生息範囲が限定されている可能性が高いことなどを考慮すると、産地の公表は採集者の殺到と乱獲に伴う現地の環境破壊を招き、ひいては社会問題にまで発展する可能性が高い。したがって、本種の分布範囲や生息環境、生態などに関するより詳細な知見が得られ、その保全対策に対する目処が立つまで、具体的な産地名の公表は差し控えておくことにしたい。

References

- FUJITA, H., & T. ICHIKAWA, 1982. A new species of the genus *Platycerus* GEOFFROY from Central Japan (Lucanidae). *Elytra, Tokyo*, **10**: 1-8.
- IMURA, Y., 2007. Endophallic structure of the genus *Platycerus* (Coleoptera, Lucanidae) of Japan, with descriptions of two new taxa. *Elytra, Tokyo*, **35**: 471-489.
- KUROSAWA, Y., 1969. A revision of the genus *Platycerus* GEOFFROY in Japan. *Bull. natn. Sci. Mus., Tokyo*, **12**: 475-485.
- LEWIS, G., 1883. On the Lucanidae of Japan. *Trans. ent. Soc. Lond.*, **1883**: 338-339.
- OKUDA, N., & H. FUJITA, 1987. A new species of the genus *Platycerus* GEOFFROY from Southwest Japan (Coleoptera, Lucanidae). *Gekkan-Mushi, Tokyo*, (192): 3-13. (In Japanese, with English description.)