

Discovery of a New Firefly of the Genus *Luciola* (Coleoptera, Lampyridae) from Kume-jima of the Ryukyu Islands

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Abstract A remarkable new firefly of the genus *Luciola*, discovered on Is. Kume-jima west of Okinawa, the central Ryukyus, is described under the name of *Luciola owadai*. It is related to *L. kagiana* MATSUMURA from Taiwan and *L. clara* OLIVIER from Vietnam.

At the end of April, 1993, Dr. M. OWADA and the junior author made a short collecting trip to Kume-jima Island for a research of the zygaenid moth *Eterusia aedea*, under the sponsorship of the Fujiwara Natural History Foundation, Tokyo. Kume-jima is a small island lying in the East China Sea about 92 km west of Okinawa Island, the central Ryukyus. Making a light trap collecting on the 27th of April, the junior author found a large strange firefly, which resembled in general appearance the Japanese firefly, *Luciola cruciata* MOTSCHULSKY, though coloration of the pronotum was markedly different. The night collecting was not so successful that the light trap was set at about 10:00 pm, and when the mercury lamp was put out, they found a large swarming of fireflies above a small stream.

This discovery was immediately noticed to the senior author by Dr. OWADA, but he was unable to believe it until he actually saw the specimens. The junior author continued to make observation of the firefly, and confirmed that the larvae were aquatic like *Luciola cruciata*. After a careful examination of the specimens, the authors have concluded that the firefly is a member of typical *Luciola*, and is related to a Taiwanese species. It will be described as new to science in the following lines.

The authors are much indebted to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critical reading of the manuscript of this paper, to Dr. Mamoru OWADA of the same museum for his kind support in studying on the remarkable species, and to Dr. Katsuyoshi ISHIDA, Meijo University, Nagoya, for drawing fine line sketches.

Luciola owadai M. SATÔ et KIMURA, sp. nov.

(Figs. 1-2)

Male. Body elongate, moderately convex and closely covered with dark brown hairs all over, except for the hairs of pronotum which are yellowish orange. Head, elytra, antennae and legs black; metasternum and abdominal segments blackish brown except for 5th and 6th visible segments which are whitish yellow; pronotum, scutellum, base of elytral suture, protrochanters and mesosternum orange yellow.

Head rather small; vertex more or less concave, closely and distinctly punctate; eyes large, prominent, the distance between them about 1.2 times as broad as the breadth of each eye; antennae filiform, relative lengths of respective segments 2: 1: 2: 2.5: 2: 2.2: 2: 2: 2: 1.8: 2. Pronotum about 1.6 times as broad as long, broadest at the base; front angles rounded, hind angles produced backwards with obtuse apices; surface closely and strongly punctate and furnished with medio-longitudinal impression. Scutellum large and subtriangular, with obtuse apex, and covered with close strong punctures. Elytra about 1.3 times as broad as pronotum, about 2.5 times as long as breadth, the sides subparallel; surface closely and roughly punctate and provided with 4 costae

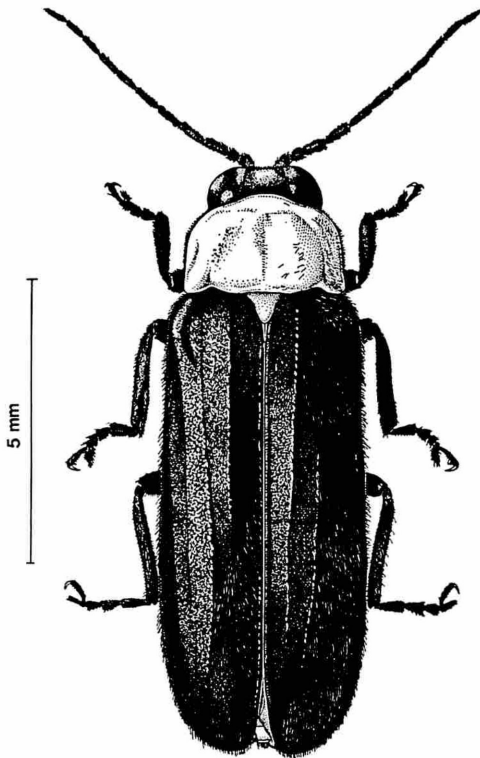


Fig. 1. *Luciola owadai* M. SATÔ et KIMURA, sp. nov.

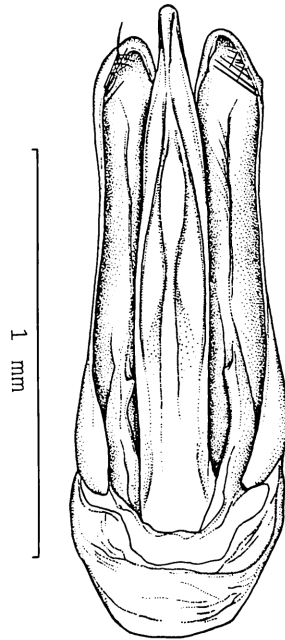


Fig. 2. Male genitalia of *Luciola owadai* M.
SATÔ et KIMURA, sp. nov.

Apex of sixth abdominal segment slightly emarginate on each lateral side.

Male genitalia: basal lobe short; median lobe slender, inwardly reflexed in ventral aspect, with rounded apex; lateral lobe more or less stout, twofold in basal area and provided with some bristles at the outer preapex, the apex being gently rounded and not reaching the level of that of median lobe.

Length (from anterior margin of pronotum to apices of elytra): 12.7–14.5 mm; breadth: 4.8–5.5 mm.

Female. Almost identical with the male, but 5th abdominal segment is whitish yellow.

Length (from anterior margin of pronotum to apices of elytra): 15.2–16.0 mm; breadth 5.8–6.4 mm.

Holotype: ♂, Shirasegawa, Mt. Uegusuku, Is. Kume-jima, Ryukyu Islands, 27–IV–1993, M. OWADA leg. Allotype: ♀, same data as for the holotype. Paratypes: 18 ♂♂, same data as for the holotype; 32 ♂♂, 1 ♀, same locality as for the holotype, 27–IV–1993, M. KIMURA leg.; 5 ♂♂, 15 ♀♀, same locality, 8–V–1993, M. KIMURA leg.

The holo-, allo- and some paratypes are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The remaining paratypes are distributed to the collections of the Entomological Laboratory, Ehime University, the Entomological Laboratory, the University of the Ryukyus, Nagoya Women's University, Natural History Museum and Institute, Chiba, Yokosuka Natural

History Museum, and M. KIMURA.

Notes. The present new species is related to *L. kagiana* MATSUMURA from Taiwan and *L. clara* OLIVIER from Vietnam, but it can be distinguished from them by the following points: different form of pronotum, darkened colour of ventral surface, yellowish orange portion of elytral suture restricted to the base, and characteristic feature of male genitalia.

The specific name is given in honour of Dr. Mamoru OWADA who is one of the discoverers of the new species.

要 約

佐藤正孝・木村正明：琉球列島久米島産 *Luciola* 属の 1 新種。—— 1993 年 4 月に、大和田守博士と木村によって久米島で得られた *Luciola* 属のホタルは、台湾の *L. kagiana* MATSUMURA およびヴェトナムの *L. clara* OLIVIER に類似の新種とわかったので、クメジマボタル *L. owadai* M. SATÔ et KIMURA と命名して、ここに記載した。

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Elytra, Tokyo, 22 (1): 162–164, May 15, 1994

A List of Lepturine Beetles (Coleoptera, Cerambycidae) Collected by Using Malaise Traps in Illinois, USA

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Through the courtesy of Professor Michael GOODRICH of Eastern Illinois University, Charleston, Illinois, USA, I have had the opportunity to examine lepturine specimens collected by using Malaise traps. These traps were set in forests in Jackson Co., Clark Co., Coles Co. and Wabash Co., Illinois, by Prof. M. GOODRICH and his graduate students. I