

A New Species of the Genus *Lycocerus* (Coleoptera, Cantharidae) from Taiwan

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Abstract A new species of the genus *Lycocerus*, *L. yangi* sp. nov. is described from Taiwan. It belongs to the *Lycocerus oedemeroides* species-group. The habitus of both sexes are photographed, while aedeagus, the eighth abdominal sternite of female and female genitalia are illustrated. A key to the *L. oedemeroides* species-group is provided.

Introduction

The genus *Lycocerus* GORHAM, 1889 is one of the most diverse genera of Cantharidae in Asia. OKUSHIMA (2005) revised Japanese members of the genus and proposed nine species-groups and twenty-three subgroups. The *L. oedemeroides* species-group is characterized by slender body, subquadrate pronotum, long spermathecal duct and spermathecal with two spiral tubes (OKUSHIMA, 2005). All of the known species of this species group are distributed in the mainland of Japan and appear in early spring.

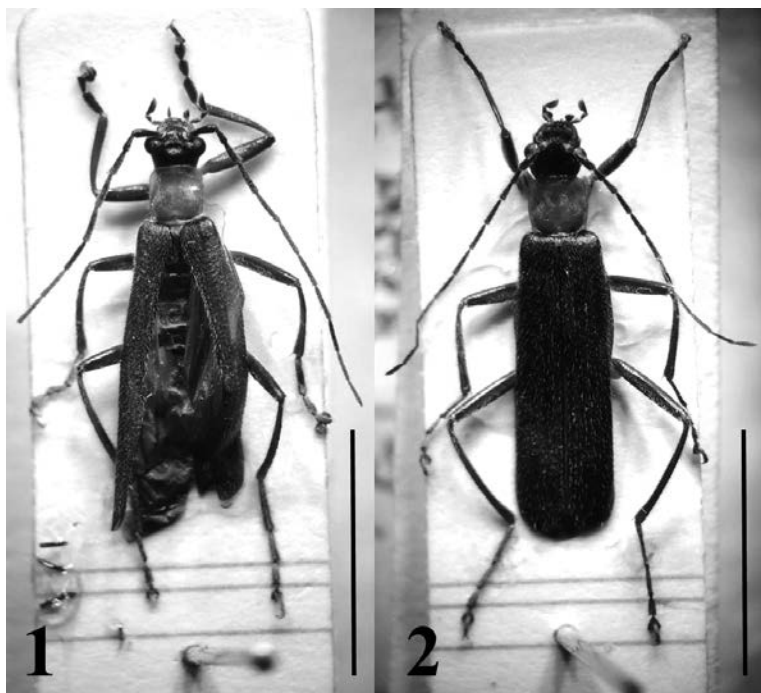
Up to present, thirty-one species of *Lycocerus* have been described yet no species of the *L. oedemeroides* species-group has been known from Taiwan, and most of the Taiwanese *Lycocerus* species are endemic to the Island. During our study on the Taiwanese fauna of Cantharidae, we discovered an unknown species of *Lycocerus*. After a careful examination, it became clear that the interesting species is a new species belonging to the *Lycocerus oedemeroides* species-group. It will be described in this paper under the name of *Lycocerus yangi*.

Materials and Methods

The holotype and most of the paratypes will be deposited in the National Museum of Natural Science, Taichung City, Taiwan (NMNS), and one paratype preserved in the Kurashiki Museum of Natural History, Kurashiki, Japan (KURA).

The terminology used in the descriptions and methods follows that of OKUSHIMA (2005), but methyl blue was used for staining the genital organs. The detached organs were glued on a separated card or preserved in a minimum test tube (products of GL-GLASS, Taiwan) with glycerol, which was pierced with the same pin as the body parts.

Body length is measured from the anterior margin of clypeus to the apices of elytra and width is measured at the widest part of conjoined elytra. The abbreviations in the figures are as follows, ag: accessory gland; di: diverticulum; sd: spermathecal duct; sp: spermatheca; va: vagina.



Figs. 1–2. *Lycocerus yangi* sp. nov., dorsal view. (1, holotype, ♂; 2, paratype, ♀). Scales: 5.0 mm.

Results

Lycocerus yangi HSIAO et OKUSHIMA, sp. nov.

(Figs. 1–3)

Type series. Holotype: ♂, Chunzkuan, 2,100 m alt., (131K) of Nanhengonlu (Southern Cross-Island Highway), Chiayi Hsien, Taiwan, 14–17. IV. 2012, C.-H. HSIEH leg. (NMNS). Paratypes: Taiwan: 1♂, Tatachia, 2,400 m alt., Chiayi Hsien, 4. III. 1991, A. SHINOHARA leg. (KURA); 1♂, 1♀, Tungpu Mountain Villa, Tatajia [=Tatachia], Nantou, 17. IV. 2014, T. HSIEH leg. (NMNS); 1♀, Hehuanshan, 24°08'15.3"S 121°17'03.7"E, Wushe Branch (31–32K) of Central Cross-Island Highway, Jenai, Nantou, 18. V. 2014, Y.-M. WENG leg. (NMNS).

Distribution. Taiwan.

Description. Male (Fig. 1). Eyes, head, antennae, elytra, prosternum, meso-, metaventrites and legs black; mandibles and claws reddish brown; pronotum and scutellum reddish orange; abdomen dark brown. Body closely covered with fine yellowish to dark brown pubescence; apical margin of clypeus and lateral margins of pronotum fringed with yellowish to brown bristles; legs covered with yellowish to blackish bristles.

Body very slender. Head slightly wider than long; vertex mostly flat, and depressed along the apical margin of clypeus and in lateral areas before eyes. Surface covered with minute grains. Anterior margin of clypeus arcuate and faintly indented in middle. Eyes moderately large, globular and prominent, ratio of an eye diameter to interocular space 1: 3.22. Terminal labial palpomeres rounded axe-shaped. Terminal maxillary palpomeres somewhat slender axe-shaped. Antennae filiform and slender,

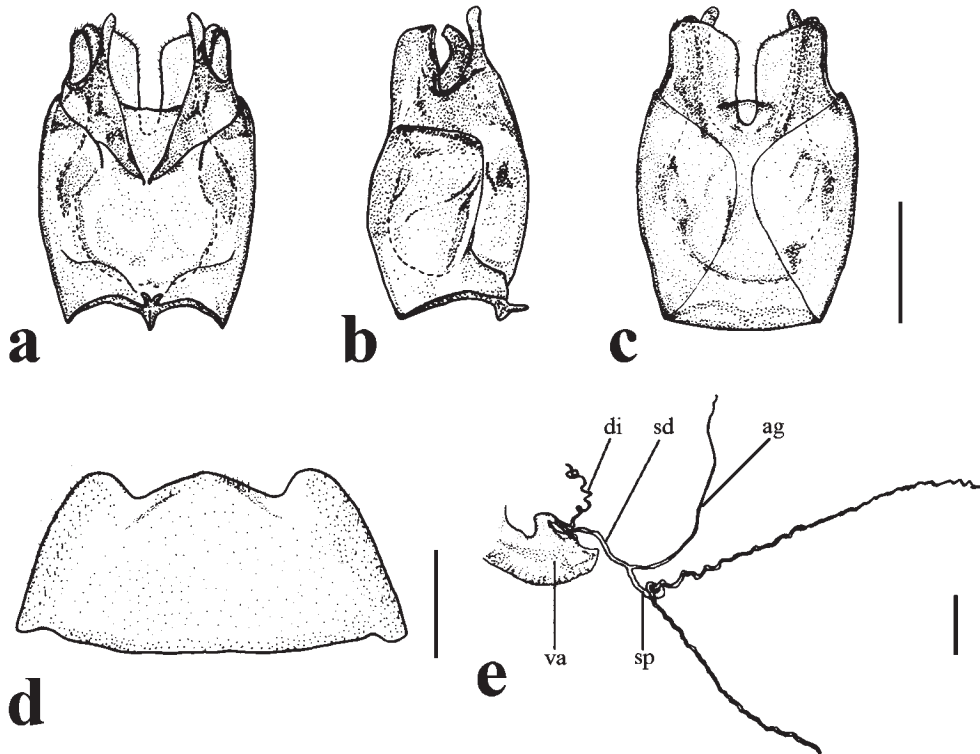


Fig. 3. *Lycocerus yangi* sp. nov. — a–c, Aedeagus (a, ventral view; b, lateral view; c, dorsal view); d, 8th abdominal sternite of female; e, female genitalia, lateral view. Scales: 0.5 mm.

extending to the apical third of elytra, antennomeres I clavate, II short and expanded apicad, III–XI subcylindrical, all antennomeres without groove. Ratio of the lengths of antennomeres as follows: 18.5 : 10 : 15 : 19 : 20 : 20.5 : 19.5 : 19.5 : 18 : 16.5 : 17.

Pronotum subquadrate, 0.90 times as wide as head, 1.08 times as long as wide. Anterior and posterior margins weakly arcuate; lateral margins feebly sinuate, faintly hollowed at anterior parts; anterior angles rounded; posterior angles obtuse. Dorsum convex, particularly elevated in the postero-lateral areas, strongly depressed along the posterior margin, antero-lateral areas hollowed along the lateral sides. Medio-longitudinal groove recognizable only in posterior half. Surface smooth and not polished. Scutellum triangular with rounded apex.

Elytra conjointly 1.56 times as wide as pronotum, 3.74 times as long as wide; subparallel-sided though slightly dilated in basal fourth and before apices; dorsum closely and rugosely punctate; each elytron provided with two indistinct costae.

Legs very slender. Femora mostly straight. Tibiae mostly straight though feebly arcuate at the base, and also at the apex of middle and hind legs; all claws simple.

Aedeagus (Fig. 3a–c). Ventral process of each paramere slender, faintly expanded apicad, and somewhat bent dorsad; dorsal plate diagonally cut at apical margin, a little shorter than ventral process in lateral view; laterophyse stout and curved towards the apex of each dorsal plate, somewhat pointed at the apex; lengthened inner sac almost same length as tegmen (measured in paratype from *Tatajia*).

Body length: 8.40–10.00 mm (in holotype: 8.40); width: 1.42–2.20 mm (1.42).

F e m a l e (Fig. 2). Color and pubescence resemble male. Body wider than in male. Eyes considerably smaller than in male, ratio of an eye diameter to interocular space 1: 3.96. Antennae shorter than in male, extending to the basal third to the middle of elytra; each of antennomeres III–XI distinctly shorter than in male. Ratio of the lengths of antennomeres as follows: 22: 10: 14.5: 20: 21: 23: 23: 22: 21:20: 18.5. Pronotum 0.99 times as wide as head, as long as wide. Elytra conjointly 1.42 times as wide as pronotum, 3.23 times as long as wide.

Eighth abdominal sternite emarginate on each side of terminal margin, forming rounded small lateral lobes, and broad and subtriangular median lobe, with an obtuse apex (Fig. 3d).

Female genitalia (Fig. 3e). Vagina expanded dorso-apicad; diverticulum moderately thin and spiral; spermathecal duct moderately shorter than extended diverticulum; spermatheca provided with two thin spiral tubes, one of which is much longer than the other one; accessory gland thin, longer than diverticulum.

Body length: 9.00–9.09 mm; width: 2.13–2.34 mm.

Variation. In some paratypes, abdomen orange brown.

Diagnosis. This new species resembles other members by black elytra of *L. oedemeroides* species-group from Japan, especially *L. shikokensis* (ISHIDA, 1986) and *L. miekoeae* (TAKAKURA, 1987). It differs in the more rounded anterior angles of pronotum, longer antennae and reddish orange scutellum; the aedeagus: shorter ventral process, stouter and moderately curved laterophysis, with indistinctly pointed apex, and diagonally cut apical margin of dorsal plate; the eighth abdominal sternite of female: broad and subtriangular median lobe; the female genitalia: shorter diverticulum.

Notes. One pair of paratypes from Tatachia were collected at about 2,600 m where can be characterized as coniferous forest with the dominant family Pinaceae according to the collector, Mr. Tien HSIEH. The coloration of pronotum is bright red when alive and they can be attracted by light at night.

The right half of the aedeagus and the inner sac of holotype are more or less damaged and distorted.

Ethymology. The specific name is given in honor of the Taiwanese entomologist as well as the advisor of the first author, Prof. Ping-Shih YANG (Department of Entomology, National Taiwan University, Taipei) for his contribution to the development of entomology in Taiwan.

Key to the Species of the *Lycocerus oedemeroides* Species-group

(After OKUSHIMA, 2005)

1. Elytra yellowish brown. *L. insulsus insulsus* (HAROLD)
- Elytra black. 2
2. Scutellum reddish orange. *L. yangi* sp. nov.
- Scutellum black. 3
3. Dorsal plate of aedeagus elongate, as long as ventral process; median lobe exceeding lateral lobes in eighth abdominal sternite of female. *L. watanabei* (ISHIDA et M. SATŌ)
- Dorsal plate of aedeagus stout, shorter than ventral process; median lobe as long as lateral lobes or less than that in eighth abdominal sternite of female. 4
4. Dorsal plate of aedeagus twisted in apical half of inner margin; median lobe considerably shorter than lateral lobes in eighth abdominal sternite of female. *L. shikokensis* (ISHIDA)
- Dorsal plate of aedeagus not twisted; median lobe as long as lateral lobes in eighth abdominal sternite of female. 5
5. Dorsal plate of aedeagus truncated apically; eighth abdominal sternite of female narrowly and

- deeply cleft at both outsides. *L. insulsus lewisi* (PIC)
- Dorsal plate of aedeagus rounded apically; eighth abdominal sternite of female shallowly concave at both outsides. 6
6. Body smaller; dorsal plate of aedeagus triangularly concave in inner margin, laterophysis moderately curved; median lobe rounded apically in eighth abdominal sternite of female.
..... *L. oedemeroides* (KIESENWETTER)
- Body larger; dorsal plate of aedeagus roundly concave in inner margin, laterophysis distinctly curved; median lobe subtruncated apically in eighth abdominal sternite of female.
..... *L. miekoeae* (TAKAKURA)

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要 約

蕭 昀・奥島雄一：台湾産ジョウカイボン属の1新種(鞘翅目ジョウカイボン科)。——台湾から得られたジョウカイボン科甲虫を調査したところ、ジョウカイボン属 *Lycocerus* の未知の種を見出した。詳細な形態学的研究を行ったところ、これまでに日本本土からのみ分布が知られていた *Lycocerus oedemeroides* 種群に属する新種であることが明らかとなり、*Lycocerus yangi* HSIAO et OKUSHIMA, sp. nov. として命名記載した。タイプシリーズの一部は、標高2,600 m 辺りのマツ科植物の優占する高山帯から得られている。本新種を含めた *Lycocerus oedemeroides* 種群の検索表を作成した。

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