

Two New Species of the Genus *Lutera* (Coleoptera, Scarabaeidae, Rutelinae) from Borneo and Sumatra

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Abstract Two new species of the genus *Lutera* are described from Borneo and Sumatra, and are named *Lutera sumatrana* and *L. fujiokai*. The former is related to *L. striata* HELLER from Sulawesi, while the latter is an ally of *L. luteola* WESTWOOD widely distributed in Southeast Asia.

Five species of the genus *Lutera* WESTWOOD, 1875 have hitherto been known in the areas from the Himalayas to Southeast Asia. KUIJTEN (1988) examined the type series of four of the five and redescribed them, i.e., *L. luteola* WESTWOOD, *L. striata* HELLER, *L. boettcheri* OHAUS and *L. nigromaculata* OHAUS. He temporarily regarded *L. nigrita* OHAUS as being identical with *L. nigromaculata* OHAUS, though he failed in finding out the type specimen of *L. nigromaculata* OHAUS in the collection of the Muséum National d'Histoire Naturelle, Paris.

I have seen the type material of the described species of the genus *Lutera* and its relatives in European museums, including that of *L. nigromaculata* OHAUS which was relocated by M. L. JAMESON. On the other hand, through the courtesy of Takeshi ITOH, I obtained some remarkable specimens of a *Lutera* from Sumatra. Recently, I also had an opportunity of examining some Bornean specimens of another species through the courtesy of Masayuki FUJIOKA.

After a detailed study, I have concluded that these species are new to science. In this article, I am going to describe them under the names *Lutera sumatrana* and *L. fujiokai*.

Before going further, I wish to express my cordial thanks to Dr. Kimio MASUMOTO of Otsuma Women's University, Tokyo, for his constant guidance of my entomological study. Deep appreciation is also due to Dr. Mary Liz JAMESON of the University of Nebraska State Museum, Nebraska, for her kind help in the course of this study. My thanks are also due to Dr. Manfred UHLIG and Mr. Joachim SCHULZE of the Museum für Naturkunde der Humboldt Universität zu Berlin, and Dr. Roger-Paul DECHAMBRE of the Muséum National d'Histoire Naturelle, Paris, for the loan of materials under their care. Deep indebtedness should be expressed to Dr. C. O'TOOL of the Hope Entomological Collections of the University Museum, Oxford, and Mr. Malcolm D. KERLEY of the Natural History Museum, London, for giving me the opportunity to exam-

ine collections of the genus *Lutera* and its related genera. Thanks are also due to Mr. Takeshi ITOH, Hyôgo, and Mr. Masayuki FUJIOKA, Tokyo, for providing me with the materials.

The holotypes of the new species to be described will be preserved in the collection of the Kanagawa Prefectural Museum of Natural History, Odawara, Japan.

Key to the Species of the Genus *Lutera*

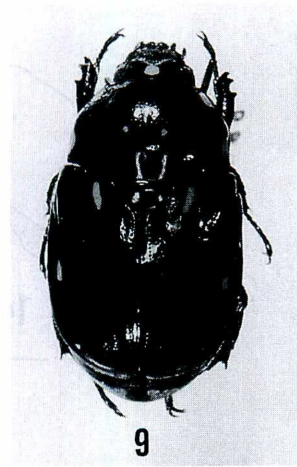
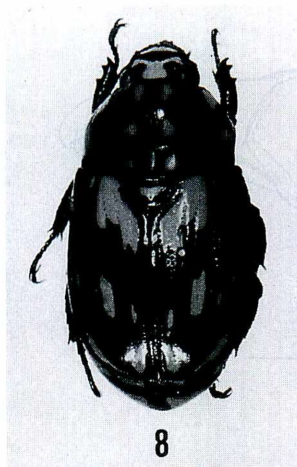
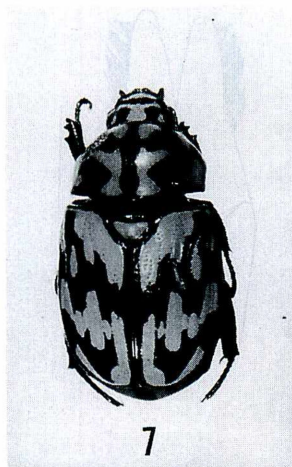
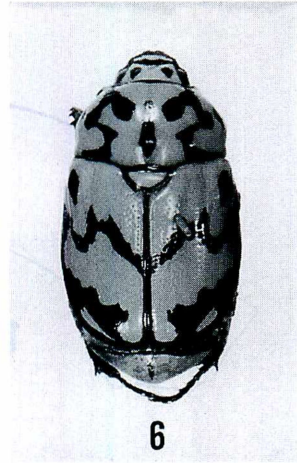
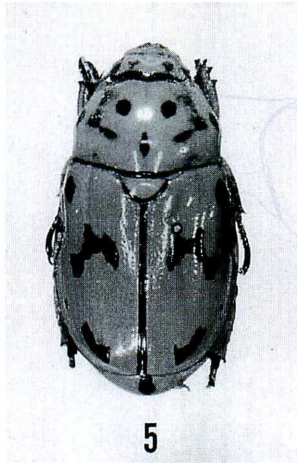
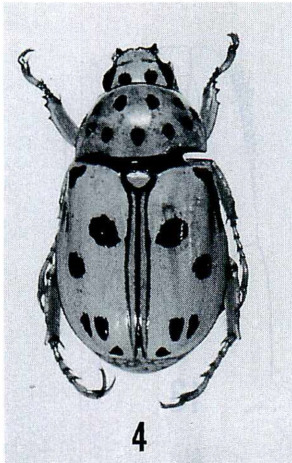
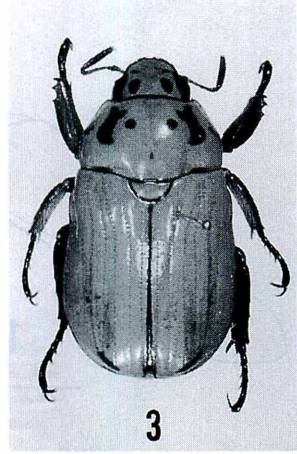
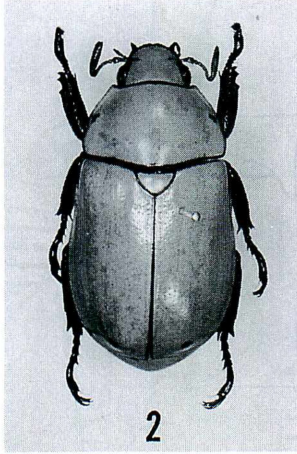
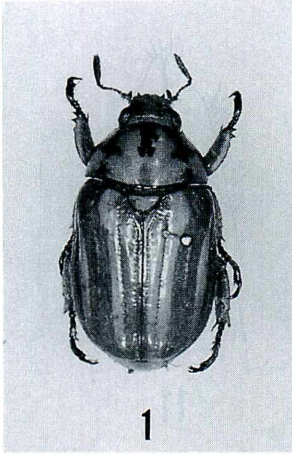
- 1 (4) Head without a pair of spots, pronotum with a pair of blackish brown spots in lateral halves.
- 2 (3) Parameres long and slender, widely separated and curved upwards; body length: 18.5–19.3 mm; Malay Peninsula, Borneo, Sumatra, Bali, Java, Sumbawa *L. luteola* WESTWOOD.
- 3 (2) Parameres short and stout, truncate at apex; body length: 23.8–26.4 mm; North Borneo (Keningau) *L. fujiokai* sp. nov.
- 4 (1) Head with a pair of brown to black patches, pronotum with variably shaped blackish brown patches.
- 5 (8) Elytra with deep punctured striae.
- 6 (7) Head, pronotum and metasternum furnished with long white setae, elytra pale brownish yellow, with sutural intervals, second striae, area between 3rd and 5th striae, bases, apices, area between 6th stria and lateral margins dusty brown; Central Sumatra *L. sumatrana* sp. nov.
- 7 (6) Head and pronotum sparsely furnished with short yellow setae, metasternum sparsely with long setae, elytra reddish yellow; Sulawesi.
. *L. striata* HELLER.
- 8 (5) Elytra with shallow punctured striae.
- 9(10) Pronotum with 11 blackish brown spots, each elytron with 7 blackish brown spots, which are sometimes connected with each other; Nepal, Indochina *L. nigromaculata* OHAUS.
- 10(11) Pronotum and elytra with variably developed black or brown markings.
- 11(12) Upper branch of fore claws of the same length as the lower one in male, parameres symmetrical; Philippine Islands *L. nigrita* OHAUS.
- 12(11) Upper branch of fore claws vestigial (very short) in male, parameres asymmetrical; Luzon Island (Mt. Imugan). *L. boettcheri* OHAUS.

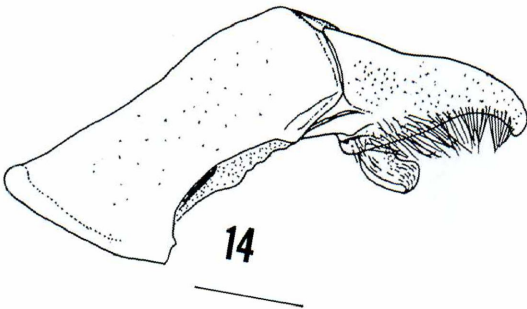
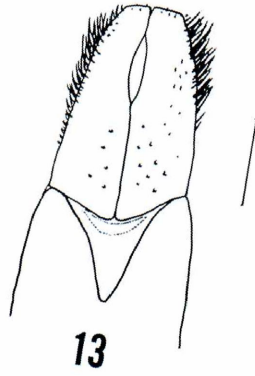
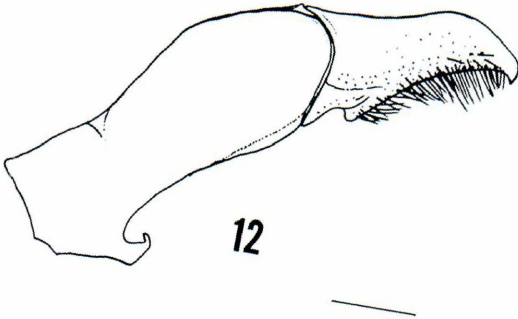
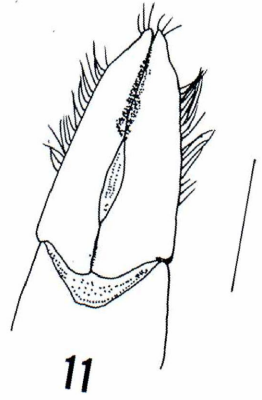
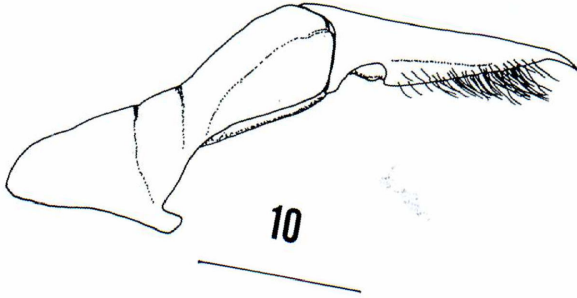
Lutera sumatrana sp. nov.

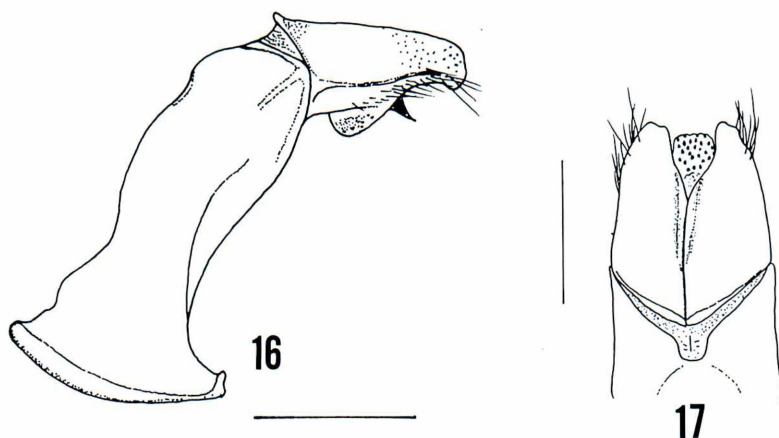
(Figs. 1, 10, 11, 18, 19)

Body length: 13.0–17.3 mm; width: 6.9–9.4 mm.

Figs. 1–9. Habitus of *Lutera* spp. — 1, *L. sumatrana* sp. nov., holotype, ♂; 2, *L. fujiokai* sp. nov., holotype, ♂; 3, *L. striata* HELLER (Tondano, North Sulawesi), ♂; 4, *L. nigromaculata* OHAUS (Thailand), ♂; 5–9, *L. nigrita* OHAUS (Sibuyan Is., Philippine Islands), ♀.







Figs. 10–17 (on pp. 362–363). Male genitalia (scale: 1 mm). — 10–11, *Lutera sumatrana* sp. nov., 10, dorsal view, 11, lateral view; 12–13, *L. fujiokai* sp. nov., 12, dorsal view, 13, lateral view; 14–15, *L. striata* HELLER, 14, dorsal view, 15, lateral view; 16–17, *L. nigromaculata* OHAUS, 16, dorsal view, 17, lateral view.

Antennae reddish brown; head pale brownish yellow, with a pair of reddish brown spots at the median part of frons; pronotum pale brownish yellow, with a somewhat M-shaped blackish brown patch at the median part in apical 2/3; elytra pale brownish yellow, each with sutural interval, 2nd stria, area between 3rd and 5th striae, base, apex, area between 6th stria and lateral margin dusty brown; pygidium pale brownish yellow; ventral surface except for metasternum pale brownish yellow, metasternum reddish brown, femora and tibiae pale brownish yellow, claws and tarsi reddish brown to dark brown; dorsal surface with vitreous lustre, ventral surface with rather weak vitreous lustre.

Head feebly microsculptured, with suberect yellowish white setae (0.2–0.45 mm in length); clypeus semicircular, slightly reflexed along margins, with a pair of low blunt teeth at apical margin; lateral margins weakly rimmed, with a transverse low ridge at the base of eye-canthus in lateral 1/4 of clypeus; clypeus scattered with setigerous punctures, which are connected with one another; frons and vertex with setigerous punctures, which become annulate and larger laterad, and sparser and smaller posteriad; eyes moderately convex; interocular distance 1.63–1.83 times as wide as transverse eye diameter; apex of labrum almost straight.

Pronotum 1.54–1.63 times as wide as long, rounded apicad in apical half, sublinearly, slightly narrowed basad in basal half; front angles rectangular, hind angles slightly rounded; disc feebly microsculptured, with a vague impression at the middle and a pair of vague impressions at the middle of lateral 1/4, distinctly punctate in median portion, the punctures large and annulate, becoming sparser and smaller laterad and posteriad, with long, decumbent, yellowish white setae (0.45–1.05 mm in length) in lateral portions; lateral margins with rims extending to hind angles.

Elytra 2.14–2.18 times as wide as long, subpararell-sided in anterior 3/5, weakly narrowed posteriad in basal 2/5; distal margins feebly rounded; lateral margins with thin rims extending to sutural apices, which are rounded; disc finely microsculptured, the sculpture visible under 60 \times ; striae strongly punctate, intervals sparsely scattered with minute punctures, 1st, 2nd and 5th intervals moderately convex.

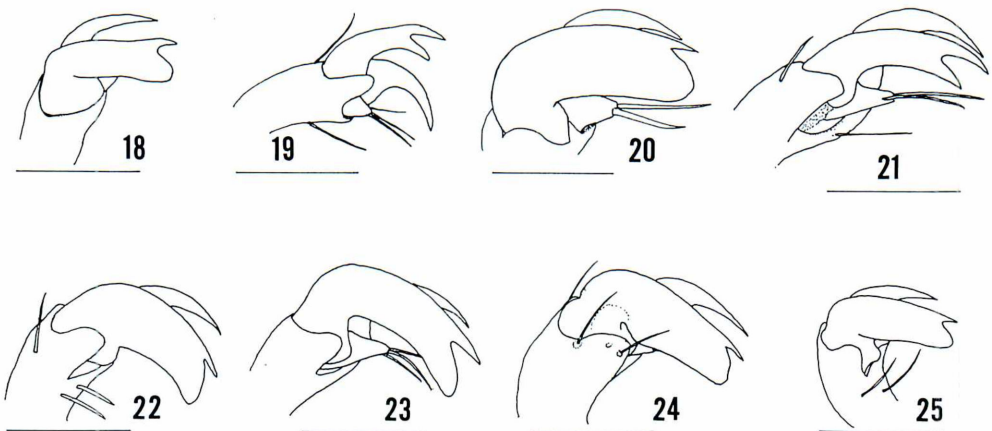
Pygidium feebly microsculptured, sparsely punctate, the punctures small and setigerous in median and lateral parts, feebly rugulose in anterior portion, furnished with long, erect, yellow setae (0.47–0.83 mm in length); outer margins with rims nearly straight in lateral parts, feebly rounded at apex.

Metasternum sparsely punctate in middle, the punctures small and setigerous, becoming denser laterad and clothed with long, appressed, pale yellow setae (0.75–1.37 mm in length); mesosternal process short, with apex rounded in ventral view and slightly angulate in lateral view.

Abdominal sternites sparsely punctate, 2nd to 5th sternites with a row of short, decumbent, yellow setae, 7th sternite with decumbent yellow setae in anterior portion.

Protibiae tridentate, denticles acute in male, those in female larger and acuter; outer claw of fore leg and inner claws of middle and hind legs simple, acuminate and sickle-shaped, inner claw of fore leg and outer claws of middle and hind legs apically incised, forming two branches, the lower branch of fore leg broad and rounded at apex in male, short and acute in female; femora and tibiae furnished with suberect yellow setae (0.35–0.75 mm in length).

Holotype: ♂, Harau Valley, Paya Kumbuh, Central Sumatra, IV~V–1988, S. AWANG leg. Allotype: ♀, same data as for the holotype. Paratypes: 3 ♂♂, same data as for the holotype; 1 ♂, 1 ♀, same locality as for the holotype, XI~XII–1988, Marlis ELIS leg.



Figs. 18–25. Left fore claws (scale: 1 mm). — 18–19, *L. sumatrana* sp. nov., 18, ♂, 19, ♀; 20–21, *L. fujiokai* sp. nov., 20, ♂, 21, ♀; 22, *L. striata* HELLER, ♂; 23, *L. nigromaculata* OHAUS, ♂; 24, *L. nigrita* OHAUS, ♂; 25, *L. luteola* WESTWOOD (Borneo), ♂.

Notes. This new species, which is locally distributed in Central Sumatra, is allied to *L. striata* HELLER, 1897 by the similarity in the pattern of elytral striae.

***Lutera fujiokai* sp. nov.**

(Figs. 2, 12, 13, 20, 21)

Body length: 23.8–26.4 mm; width: 12.0–13.6 mm.

Dorsal surface, abdominal sternites except for lateral portions, middle and hind femora, and lateral portions of metasternum strongly reddish yellow; pronotum with a pair of reddish brown spots at about middle of lateral parts, each elytron with a reddish brown spot on apical swelling; antennae, apical margin of clypeus, eye-canthus, anterior and posterior margins of pronotum, margins of scutellum, elytral suture, anterior part of pygidium, lateral parts of abdominal sternites, metasternum except for lateral parts, claws, tarsi and tibiae reddish brown; dorsal surface with weak vitreous luster, ventral surface with rather weak vitreous luster.

Head microsculptured; clypeus semicircular, scattered with punctures in anterior and middle portions, those in the former striated and those in the latter becoming deeper and rounded, slightly reflexed along margins, with a short transverse line at the base of eye-canthus whose width is about 1/5 times that of clypeus, and with a pair of low blunt teeth at apical margin; frons and vertex scattered with deep and large punctures, which become denser and smaller laterad, those in posterior portion sparse and fine; eyes moderately convex; interocular distance 1.77–2.02 times as wide as a transverse eye diameter; apex of labrum almost straight.

Pronotum microsculptured, 1.58–1.63 times as wide as long, narrowed apicad in apical 2/5, slightly rounded in middle and narrowed basad in basal 1/5; front angles rectangular, hind angles rounded; disc scattered with small punctures, with a pair of vague impressions at the middle of lateral 1/6; rims of lateral margins extending onto hind margin to opposite 2nd elytral stria. Scutellum transversely triangular, scattered with small punctures.

Elytra 2.4–2.7 times as wide as long, slightly sinuous at the sides in basal 2/5, weakly widened in middle, then narrowed posteriad; distal margins slightly rounded; rims of lateral margins thin and extending to sutural apices; sutural apices angular and slightly prominent; disc with 9–10 rows of shallow punctures; intervals sparsely scattered with small punctures, 2nd interval irregularly scattered with round punctures.

Pygidium reticulately rugulose, with erect reddish yellow setae (0.12–0.5 mm in length) along apical margin; outer margins rimmed, straight in lateral portions, broadly rounded at apex.

Metasternum sparsely punctate in middle, the puncture becoming denser laterad, lateral portions clothed with long, decumbent, pale yellow setae (0.5–1.25 mm in length); mesosternal process short and angulate, with weakly rounded apex.

Abdominal sternites sparsely punctate in middle, reticulately rugulose in lateral portion.

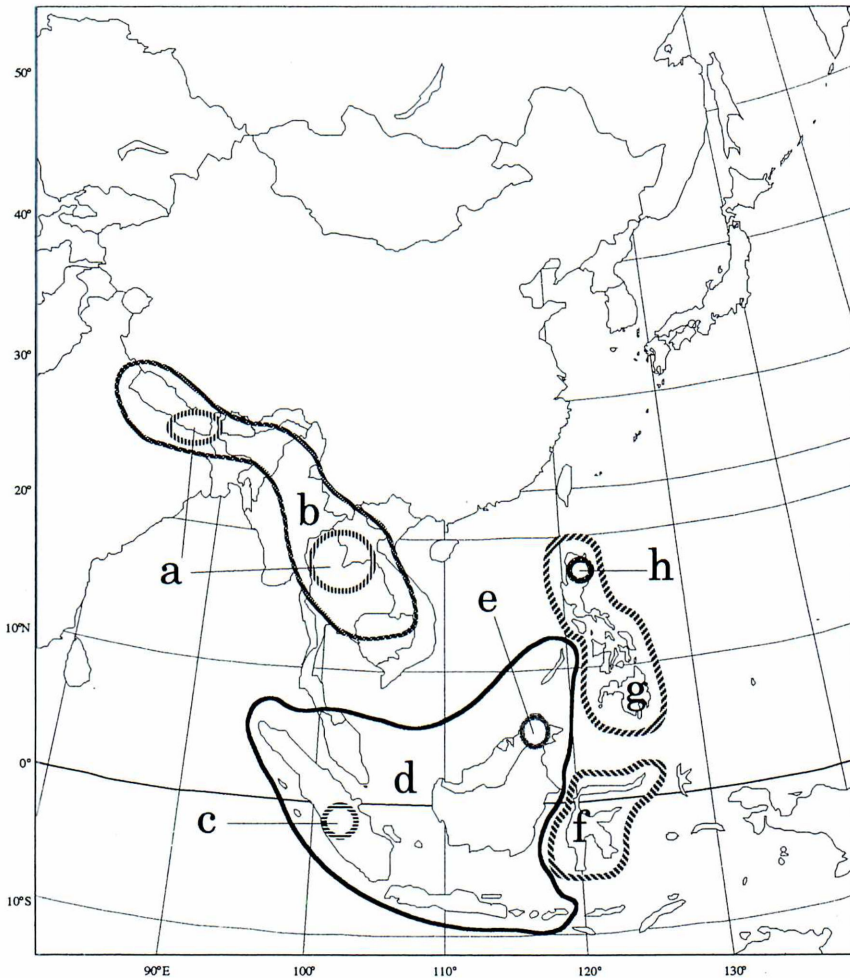


Fig. 26. Approximate distribution of the genera *Chyphelytra* and *Lutera*. — a, *Chyphelytra ochracea* WATERHOUSE, 1875; b, *Lutera nigromaculata* OHAUS, 1900; c, *L. sumatrana* sp. nov.; d, *L. luteola* WESTWOOD, 1875; e, *L. fujiokai* sp. nov.; f, *L. striata* HELLER, 1897; g, *L. nigrita* OHAUS, 1930; h, *L. boettcheri* OHAUS, 1916.

Protibiae tridentate; apico-external denticle acute in male; outer claw of fore leg and inner claws of middle and hind legs simple, acuminate and sickle-shaped; inner claw of fore leg and outer claws of middle and hind legs incised apically, forming two branches, the upper branch of fore leg spinescent, about 1/8 times the width of the lower one at the base, the lower branch of fore leg parabolic in male; the upper branch of fore leg longer than the lower one, almost of the same width at the base in female; dorsal surface of middle and hind tibiae sparsely furnished with reddish yellow setae, legs except for the dorsal surfaces of middle and hind tibiae glabrous.

Holotype: ♂, Near Keningau, Sabah, North Borneo, 26-IV-1989.

Allotype: ♀, same data as for the holotype. Paratypes: 2 ♂♂, same data as for the holotype.

Notes. This new species, locally distributed in North Borneo, is closely allied to *L. luteola* WESTWOOD, 1875, but can be distinguished from the latter by the large-sized body and the peculiar shape of male genitalia.

要 約

和田 薫：スマトラおよびボルネオから発見された *Lutera* 属コガネムシの2新種。——
Lutera 属のコガネムシは従来、東南アジアからヒマラヤにかけて5種が知られていたが、今回新たに、*L. sumatrana* をスマトラから、また *L. fujiokai* をボルネオから記載した。これらの種はいずれもその特徴的な色彩から *Lutera* 属の他種とは容易に区別できる。

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