# Notes on the Lycid Genus *Plateros* (Coleoptera: Lycidae: Platerodinae) from East Asia, I Descriptions of Seven New Taxa from Japan

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**Abstract** Two new species and five new subspecies of the lycid genus *Plateros* are described from Japan. These are *P. taichii* sp. nov., *P. kurosai* sp. nov., *P. coracinus yakushimanus* subsp. nov., *P. coracinus shoichii* subsp. nov., *P. shibatai okinawanus* subsp. nov., *P. rufomarginatus yonagunianus* subsp. nov., and *P. yayeyamanus azumai* subsp. nov. A key to the known species of the *shibatai* species-group of the genus *Plateros* is given.

#### Introduction

*Plateros* Bourgeois, 1879 is one of the large genera in the family Lycidae and contains about 600 species, which are widely distributed in the tropical and temperate regions in the world. From Japan, 27 species of the genus have hitherto been recorded.

This genus is characterized by the following features: 1) body small, usually less than 10 mm in body length; 2) male antennae subfiliform, serrate or pectinate; 3) pronotum not divided into plural areolae, usually with a short longitudinal carina in front and an oval longitudinal fovea before the base; 4) each elytron bearing four primary costae, the intervals each with double rows of irregular cells or punctures; 5) male genitalia devoid of lateral lobes; distal portion of median lobe different in form in each species; basal piece ordinarily small; 6) terga of 1st to 3rd thoracic segments and 1st to 8th abdominal segments of larva usually divided into three parts.

The adults are diurnal, usually found on leaves and flowers. The larvae are found on the decayed woods. They are probably predators of *Mycetozoa* as recently reported by Bocák & Matsuda (2003) or Murayama (2004) as regards the *Lyponia* larvae.

BOCÁK & BOCÁKOVÁ (1992) once regarded the genus *Plateros* as a junior synonym of

Melaneros Fairmaire, 1877. However, Bocáková (2001) reexamined the type species of the latter genus and resolved nomenclatural problems between these two genera in her revision of the subfamily Platerodinae. In conclusion she confirmed that *M. acuticollis* Fairmaire,1877 which was the type species of *Melaneros* fixed by Bourgeois (1891), is not a member of the subfamily Platerodinae. Therefore she excluded *Melaneros* from this subfamily, and it is regarded as *incertae sedis* within the family Lycidae.

Accordingly, the genus *Plateros* was revived as a valid genus, of which the type-species is *Lycus brasiliensis* Lucas designated by Zaragoza (1999). The neotype of *L. brasiliensis* was designated by Bocáková in 2001, and now is deposited in the National Museum, Prague.

Recently the author had an opportunity to examine a series of 722 specimens of *Plateros* collected from various regions in Japan including the Ryukyu Archipelago. After the close examination, he found two new species and five new subspecies among them and is going to describe these seven new taxa and five redescriptions of the related species with 42 comparative figures.

This paper is dedicated to the late Mr. Taichi Shibata, in memory of his study on the Anthribidae of Japan and Taiwan, and also his contribution to the clarification of the lycid fauna of Amami-Ôshima Island.

#### Materials and Methods

Male genitalia were extracted from abdomen and boiled in 5.0 % KOH solution for three to five minutes, and then washed by water and preserved in 70 % ethyl alcohol. External features and male genitalia were observed and measured under a stereomicroscope (Vixen SL-60 T, 4×10, 4×20) with a micrometer attached to the right ocular lens. Magnifying photographs of head, antenna, pronotum and male genitalia were taken by using a digital camera (Nikon COOLPIX P5000) attached to the top of the stereomicroscope. Figures were illustrated from these photographs.

Abbreviations for measurements. HW – head width; E – eye diameter; DE – distance between eyes; PW – maximum width of prothorax; PL – pronotal length; EW – elytral width at humeri; EL – elytral length.

Depositories. HUM – Hokkaido University Museum, Sapporo; NSMT – National Museum of Nature and Science, Tokyo; NHNC – Natural History Museum and Institute, Chiba; OMNH – Osaka Museum of Natural History, Osaka; KMC – author's collection.

#### **Descriptions**

**Plateros taichii** MATSUDA, sp. nov. (Figs. 1–A, B, C, D, E)

Male. Body blackish brown, shining, with mandibles and claws yellowish brown; head, pronotum except for yellowish brown lateral portions and scutellum black to blackish brown, shining; antennae blackish brown to dark reddish brown; elytra uniformly black.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, reddish brown or yellowish brown pubescence; antennae closely clothed with long, suberect, dark reddish brown hairs; elytra densely clothed with long, recumbent, dark reddish brown pubescence.

Head mostly concealed under pronotum, finely and moderately punctured; frons short, strongly deflexed, slightly rounded in front, with a short feeble longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions; vertex with a distinct oval impression in central portion, which bears several coarse large punctures.

Eyes relatively small, lateral, hemispherically prominent; distance between eyes about 1.4 times as wide as eye diameter.

Antennae long, fully reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd segment triangular, about as long as the apical width; 4th to 10th segments strongly serrate and gradually decreasing in width; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9:0.3:1.0:1.3:1.2:1.3:1.2:1.3:1.3:1.6.

Maxillary palpi with terminal segment elongate, securiform, about 1.8 times as long as wide, about 1.3 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.1 times as long as wide.

Prothorax transverse, slightly diverging posteriorly at sides, about 0.6 times as long as the basal width, about 1.6 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles triangularly and obtusely projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, convex, obliquely grooved from each anterior corner to the middle of basal 1/5, deeply and triangularly impressed inside of anterior and posterior corners, respectively, finely and closely punctured on central portion, coarsely so along antero-lateral margins, provided with a short narrow longitudinal carina in front and an oval longitudinal fovea before the middle of basal margin.

Scutellum subquadrate with truncate apex; surface minutely and rather closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent in apical 9/10 and separately rounded at apices, about 2.9 times as long as wide, about 5.3 times as long as prothorax, each elytron bearing four weak primary costae, the intervals each with double rows of large subquadrate and irregular cells.

Ventral surface somewhat rugose, finely and closely punctured; 7th abdominal sternite widely emarginate at apex; anal sternite moderately swollen at middle, gradually narrowed apicad.

Legs moderate in length; hind tibiae slender, strongly dilated apicad, distinctly longer than hind femora; hind tarsi with 1st to 4th segments subequal in length; 5th segment distinctly longer than 4th segment; claws simple, somewhat angulate at base.

Male genitalia short; median lobe stirrup-shaped, with a thin membraneous part at the middle; basal piece relatively small.

Measurements. Length: 4.1–4.9 mm; width 1.2–1.3 mm.

*Type series.* Holotype:  $\circlearrowleft$ , Obara, Kisuki-chô, Shimane Pref., Honshu, West Japan, 18. VII. 2002, S. IMASAKA leg. The holotype is deposited in the collection of the Hokkaido University Museum, Sapporo. Paratypes:  $2 \circlearrowleft \circlearrowleft$ ,  $1 \circlearrowleft$ , Obara, Kisuki-chô, Shimane Pref., Honshu, West Japan, 16. VII. 2002, S. IMASAKA leg. (NSMT and KMC);  $1 \circlearrowleft$ , Obara, Kisuki-chô, 18. VII. 2002, S. IMASAKA leg. (KMC).

Distribution. Honshu, Japan.

*Etymology*. This new species is named in honor of the late Mr. Taichi Shibata, Nishinomiya City, Japan, who was an eminent specialist of Japanese and Taiwanese Anthribidae.

Remarks. This new species is similar to *Plateros kosakai* NAKANE, but can be distinguished from the latter by the following points: 1) lateral margins of pronotum widely yellowish brown, 2) 4th to 11th antennal segments longer in male, 3) terminal segment of maxillary palpi more elongate, 4) posterior angles of pronotum obtusely projecting lateroposteriorly, 5) basal piece of male genitalia smaller.

### Plateros kosakai NAKANE, 1977 (Figs. 2-A, B, C, D, E)

Plateros kosakai Nakane, 1977: 96, figs. 25, 26. Plateros kosakai: Satô & Matsuda, 1985: 100. Melaneros kosakai: Satô & Matsuda, 1998: 100.

*Redescription.* Male. Body blackish brown to dark brown, shining, with mouth parts and claws yellowish brown; head, pronotum except for yellowish brown marginal portions, scutellum and legs blackish brown to dark brown, shining; antennae blackish brown; elytra uniformly blackish brown.

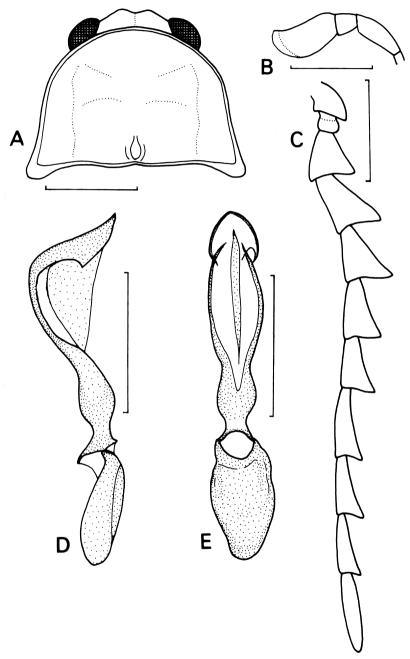


Fig. 1. *Plateros taichii* sp. nov.,  $\emptyset$ <sup>1</sup>. — A, Head and pronotum; B, maxillary palpus; C, antenna; D, male genitalia, lateral view; E, ditto, ventral view. Scales for A, C, D, E: 0.5 mm; for B: 0.25 mm.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, dark reddish brown hairs; elytra densely clothed with short, recumbent, dark reddish brown pubescence.

Head mostly concealed under pronotum, finely and moderately punctured; frons short, strongly deflexed, slightly rounded in front, with a deep longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions; vertex with a distinct oval impression in central portion.

Eyes relatively large, lateral, hemispherically prominent; distance between eyes about 1.2 times as wide as eye diameter.

Antennae long, reaching the middle of elytra; 1st segment stout, moderately swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd segment triangular, about 1.1 times as long as the apical width; 4th to 10th segments strongly serrate and gradually decreasing in width; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.7:0.3:1.0:1.1:1.1:1.2:1.2:1.2:1.0:1.0:1.4.

Maxillary palpi with terminal segment securiform, about 1.5 times as long as wide, about 1.1 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.3 times as long as wide.

Prothorax transverse, subparallel-sided, about 0.6 times as long as the basal width, about 1.6 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles narrowly and sharply projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, convex in central portion, obliquely grooved from each anterior corner to the middle of basal 1/3, deeply and triangularly impressed inside of anterior and posterior corners, respectively, finely and very closely punctured on central portion, coarsely so along antero-lateral margins, provided with a large oval longitudinal fovea before the middle of basal margin.

Scutellum tongue-shaped, transversely impressed at middle; surface minutely and rather closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent in apical 9/10 and separately rounded at apices, about 2.9 times as long as wide, about 5.3 times as long as prothorax, each elytron bearing four weak primary costae, the intervals each with double rows of large subquadrate and irregular cells.

Ventral surface somewhat rugose, finely and closely punctured; 7th abdominal sternite widely emarginate at apex; anal sternite moderately swollen at middle, sharply projecting apicad.

Legs moderate in length; hind tibiae slender, strongly dilated apicad, about as long as hind femora; hind tarsi with 1st to 4th segments subequal in length, 5th segment distinctly longer than 4th segment; claws simple, somewhat angulate at base.

Male genitalia short; median lobe hook-shaped, with a pair of short spines in the distal portion; basal piece relatively large.

Female. Unknown.

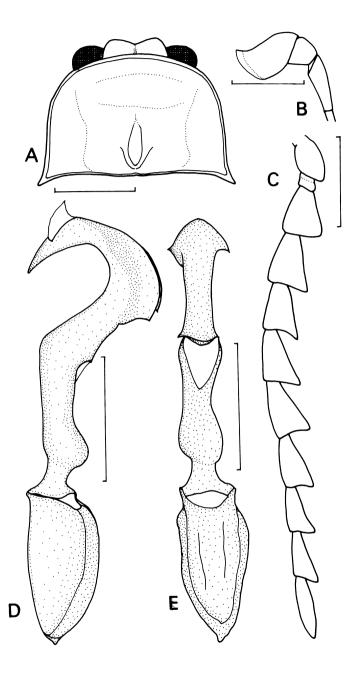


Fig. 2. *Plateros kosakai* Nakane, ♂. — A, Head and pronotum; B, maxillary palpus; C, antenna; D, male genitalia, lateral view; E, ditto, ventral view. Scales for A, C, D, E: 0.5 mm; for B: 0.25 mm.

Measurements. Length: 5.0 mm; width 1.8 mm.

*Type examined*. Holotype, ♂, labels: [HOLOTYPE], [33], [Mt. Hiba, Bingo, 12. VIII. 70, T. Kosaka], [Plateros kosakai m. 1977, Det. T. Nakane] (HUM).

Distribution. Honshu, Japan.

*Remarks*. Through the courtesy of Dr. Masahiro ÔHARA, the author was able to examine the holotype of *Plateros kosakai* NAKANE deposited in the Hokkaido University Museum, Sapporo.

This species was originally described by NAKANE in 1977 based on a single male collected on Mt. Hiba, Shôbara City, Hiroshima Prefecture, Honshu, West Japan.

It is similar to *Plateros hasegawai* NAKANE et BABA and *P. taichii* MATSUDA, sp. nov., but can be distinguished from the latter two by the following points: 1) marginal portions of pronotum yellowish brown, 2) distal portion of male genitalia different in shape.

## **Plateros kurosai** MATSUDA, sp. nov. (Figs. 3–A, B, C, D, E)

Male. Body blackish brown, shining, with mouth parts, trochanters, bases of femora and claws yellowish brown; head, pronotum except for yellowish brown marginal portions, and scutellum blackish brown to dark reddish brown, shining; antennae blackish brown with 2nd segment somewhat reddish; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum moderately clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with long, suberect, yellowish brown hairs; elytra densely clothed with short, recumbent, light reddish brown pubescence.

Head mostly concealed under pronotum, finely and moderately punctured; frons short, strongly deflexed, slightly rounded in front, with a short narrow longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions, vertex with a distinct w-shaped impression in central portion, which bears several rugose punctures.

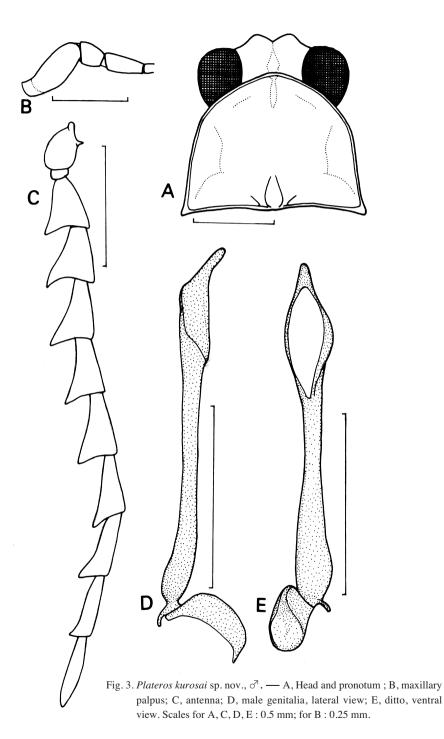
Eyes very large, lateral, hemispherically prominent; distance between eyes about 0.8 times as wide as eye diameter.

Antennae rather long, barely reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about 0.8 times as long as wide; 3rd segment triangular, about 1.1 times as long as the apical width; 4th to 10th segments strongly serrate and gradually decreasing in width; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9:0.3:1.0:1.2:1.2:1.2:1.3:1.3:1.4:1.4:1.5.

Maxillary palpi with terminal segment elongate, securiform, about 2.5 times as long as wide, about 1.7 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.3 times as long as wide.

Prothorax transverse, semicircular, subparallel-sided in apical 3/5, and slightly diverging posteriorly in basal 2/5, about 0.7 times as long as the basal width, about 1.3



times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles triangularly projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, strongly convex, obliquely grooved from each anterior corner to the middle of basal third, deeply and triangularly impressed at insides of anterior and posterior corners, respectively, finely and moderately punctured on central portion, coarsely so along antero-lateral margins, provided with a very short, narrow longitudinal carina in front and an oval longitudinal fovea before the middle of basal margin.

Scutellum trapezoidal with truncate apex; surface minutely and rather closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent behind basal 1/3 and separately rounded at apices, about 3.2 times as long as wide, about 5.3 times as long as prothorax, each elytron bearing four weak primary costae, the intervals each with double rows of large round and irregular cells.

Ventral surface finely and closely punctured on metasternum, transversely rugose on abdomen; 7th abdominal sternite slightly emarginate at apex; anal sternite long, gradually narrowed apicad.

Legs moderate in length; hind tibiae stout, strongly dilated apicad, about as long as hind femora; hind tarsi with 1st and 2nd segments subequal in length, each slightly longer than 3rd or 4th segment; 5th segment distinctly longer than 4th segment; claws simple, somewhat angulate at base.

Male genitalia long; median lobe asymmetrical, not bent at middle, widened in apical 2/5, with the distal portion suddenly narrowed to apex; basal piece small.

Female. Unknown.

Measurements. Length: 4.8 mm; width 1.3 mm.

*Type series*. Holotype: ♂, Wariya-rindô, Ogawa-machi, Saitama Pref., East Japan, 21. IX. 1992, K. Kurosa leg. The holotype is deposited in the collection of the Hokkaido University Museum, Sapporo.

Distribution. Honshu, Japan.

*Etymology*. This new species is named in honor of Dr. Kazuyoshi Kurosa, Tokyo, Japan, who is an excellent specialist of Japanese and Southeast Asian scutacarid mites.

Remarks. This species is similar to *Plateros japonicus* NAKANE and *P. marginicollis* NAKANE, but can be distinguished from the latter two by the following points: 1) male eyes larger, 2) 3rd to 10th antennal segments strongly serrate in male, 3) terminal segment of maxillary palpi more elongate, 4) male genitalia longer, with median lobe not bent at the middle.

Plateros coracinus coracinus (KIESENWETTER, 1874) (Figs. 4–A, D, G)

Eros coracinus Kiesenwetter, 1874: 257. Plateros coracinus: Gorham, 1883: 405. Plateros coracinus: Kôno, 1932: 60; Kleine, 1942: 72; Nakane, 1969: 79, figs. 31, 32; Satô & Matsuda, 1985: 99, pl. 16, fig. 6; Imasaka, 2007: 208, pl. 91, fig. 1904.

Plateros (Planeteros) coracinus: Bourgeois, 1902: 91.

Melaneros coracinus: Satô & Matsuda, 1998: 99, pl. 16, fig. 6.

*Redescription*. Male. Body blackish brown to dark reddish brown, shining; head, pronotum, scutellum, antennae and legs also blackish brown to dark reddish brown, shining; claws yellowish brown; elytra uniformly black to dark brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, light reddish brown pubescence; antennae closely clothed with long, suberect, reddish brown hairs; elytra rather densely clothed with short, recumbent reddish brown pubescence.

Head mostly concealed under pronotum, finely and moderately punctured; from short, strongly deflexed, slightly rounded in front, with a short narrow longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions, vertex with a distinct impression in central portion, which bears several rugose punctures.

Eyes large, lateral, hemispherically prominent; distance between eyes about 1.1–1.2 times as wide as eye diameter.

Antennae rather long, barely reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about 1.3 times as long as wide; 3rd segment triangular, about 1.2 times as long as the apical width; 4th to 10th segments serrate and gradually decreasing in width; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9:0.4:1.0:1.2:1.2:1.2:1.2:1.3:1.3:1.6.

Maxillary palpi with terminal segment elongate, securiform, about 1.9 times as long as wide, about 1.6 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.6 times as long as wide.

Prothorax transverse, slightly diverging posteriorly and slightly sinuate behind the middle at sides, about 0.7 times as long as the basal width, about 1.5 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles feebly projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, strongly convex, obliquely grooved from each anterior corner to the middle of basal 1/3, deeply and triangularly impressed at insides of anterior and posterior corners, respectively, finely and very closely punctured on central portion, coarsely so along antero-lateral margins, provided with two short, narrow longitudinal carinae in front and an oval longitudinal fovea before the middle of basal margin.

Scutellum trapezoidal with apex feebly incised; surface minutely and closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent behind basal 1/3 and separately rounded at apices, about 3.2 times as long as wide, about 5.0 times as long as prothorax; each elytron bearing four weak primary costae, the intervals each with double rows of large round and irregular cells.

Ventral surface finely and closely punctured on metasternum, transversely rugose on abdomen; 7th abdominal sternite slightly emarginate at apex; anal sternite rather short, strongly narrowed apicad.

Legs moderate in length; hind tibiae stout, strongly dilated apicad, about as long as hind femora; hind tarsi with 1st and 2nd segments subequal in length, each slightly longer than 3rd or 4th segment; 5th segment distinctly longer than 4th segment; claws simple, somewhat angulate at base.

Male genitalia long; median lobe bent at apical 2/5, with the distal portion somewhat twisted and flattened, and gradually narrowed to apex; basal piece small.

Female. Eyes small, weakly prominent, distance between eyes about 1.3-1.4 times as long as eye diameter. Antennae serrate, not reaching the middle of elytra; 3rd segment about 1.4 times as long as wide; relative lengths of 1st to 11th segments from basal to apical: 1.0:0.4:1.0:1.2:1.2:1.2:1.2:1.2:1.2:1.2:1.5. Prothorax about 0.7 times as long as the basal width, about 1.7 times as wide as head. Elytra about 3.1 times as long as wide, about 5.0 times as long as prothorax.

Measurements. Length: 6.0-8.4 mm; width: 1.6-2.3 mm.

Material examined. [Hokkaido] 50, Ikutahara, Abashiri-shichô, Hokkaido, East Japan, 29–31. VII. 1982, S. TSUYUKI leg. (KMC); 1♂, Yasukuni, Abashiri-shichô, 30–31. VII, 1982, S. TSUYUKI leg. (KMC); 1♂, 1♀, Kitamoshiri, Sorachi-shichô, Hokkaido, Japan, 1–3. VIII. 1982, S. TSUYUKI leg. (KMC); 1♀, Shumarinai, Sorachi-shichô, 2–3. VIII. 1982, S. TSUYUKI leg. (KMC):[Honshu] 8 3 3, Yasugamori-rindô, Masuzawa, Tateiwa-mura, Minamiaizu-gun, Fukushima Pref., East Japan, 15-16. VI. 1996, K. AKIYAMA leg. (KMC); 4  $\mathcal{P}$ , Yasugamori-rindô, Fukushima Pref., 23. VI. 1996, S. Kondo leg. (KMC);  $1 \mathcal{P}$ , Mt. Maya-san, Kobe City, Hyôgo Pref., West Japan, 29. V. 1941, K. Kurosa leg. (KMC); 1♂, 1 ♀, Mt. Myoken-san, alt. 600 m, Nose-chô, Toyono-gun, Osaka Pref., West Japan, 4. VI. 1977, K. MATSUDA leg. (KMC); 2♂♂, Mt. Takahachi-yama, alt. 1,100 m, Yazu-gun, Tottori Pref., West Japan, 13. VI. 1976, O. YAMAJI leg. (KMC): [Shikoku] 1♂, Mt. Ishizuchi-san, alt. 1,500 m, Saijô City, Ehime Pref., West Japan, 28. VII. 1979, K. MATSUDA leg. (KMC); 1♂, Mt. Akaboshi-yama, alt. 1,300 m, Shikoku-chûô City, Ehime Pref., M. SHIRAISHI leg. (KMC); 1 ♂, Hougatani, Takamatsu City, Kagawa Pref., West Japan, 1. VIII. 1979, M. TAKAGI leg. (KMC):[Kyushu]  $8 \, \vec{\sigma} \, \vec{\sigma}$ ,  $1 \, \hat{\varphi}$ , Mt. Mayu-yama, alt. 600 m, Shimabara City, Nagasaki Pref., West Japan, 2. VII. 1977, S. IMASAKA leg. (KMC);  $1 \circlearrowleft$ ,  $1 \circlearrowleft$ , Mt. Aso-zan, alt. 1,200 m, Asogun, Kumamoto Pref., West Japan, 4. VI. 2002, M. YAGI leg. (KMC); 1♂, Kagoshima Univ., Kagoshima City, Kagoshima Pref., West Japan, 26. IV. 1984, E. MATSUI leg., ex. coll. M. ÔHARA, (KMC).

Distribution. Hokkaido, Honshu, Shikoku and Kyushu, Japan.

*Remarks*. This species was originally described by Kiesenwetter in 1874 based on the materials from Hyôgo and Nagasaki, Japan, collected by G. Lewis.

It is similar to *Plateros nojirianus* NAKANE, but can be distinguished from the latter by the following points: 1) body larger, 2) terminal segment of maxillary palpi longer, 3) median lobe of male genitalia longer.

HAYASHI & TAKENAKA (1962) reported the immature stages of this species. They

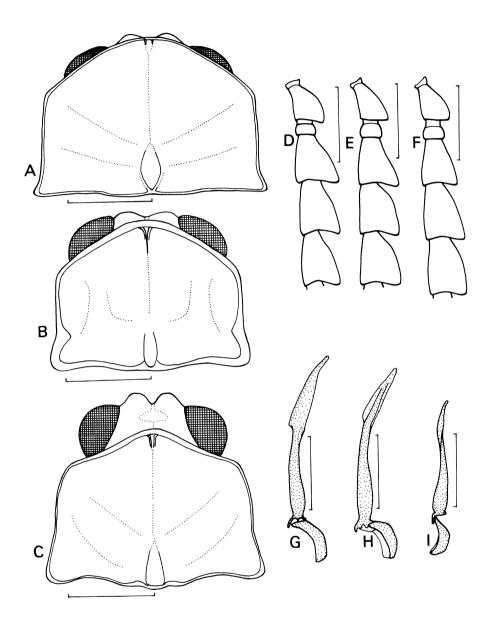


Fig. 4. Male of *Plateros coracinus* ssp. — A, D, G, *P. c. coracinus* (Kiesenwetter); B, E, H, *P. c. yakushi-manus* subsp. nov.; C, F, I, *P. c. shoichii* subsp. nov., — A, B, C, Head and pronotum; D, E, F, 1st to 5th antennal segments; G, H, I, male genitalia, lateral view. Scale: 0.5 mm.

described the larva and pupa collected from the decayed wood of a pine-tree or pine stump (*Pinus*, *Cryptomeria*) in March and April. The pupation occurs in the middle to the end of April.

### **Plateros coracinus yakushimanus** MATSUDA, subsp. nov. (Figs. 4–B, E, H)

Color. Body blackish brown to dark reddish brown, shining; head and pronotum except for yellowish brown marginal portions dark reddish brown, shining; antennae, scutellum and legs blackish brown to dark reddish brown; claws yellowish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with long, suberect, reddish brown hairs; elytra rather densely clothed with short, recumbent reddish brown pubescence.

*Quantitative characters*. DE/E  $\rightleftharpoons$  0.9 (male), 1.3 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.8 : 0.4 : 1.0 : 1.1 : 1.1 : 1.2 : 1.1 : 1.3 : 1.3 : 1.3 : 1.4 (male), and 0.9 : 0.4 : 1.0 : 1.2 : 1.1 : 1.1 : 1.0 : 1.0 : 0.9 : 1.6 (female); PW/HW  $\rightleftharpoons$  1.4 (male), 1.8 (female); PL/PW  $\rightleftharpoons$  0.7 (male), 0.7 (female); EL/EW  $\rightleftharpoons$  3.1 (male), 2.9 (female); EL/PL  $\rightleftharpoons$  4.6 (male), 4.8 (female).

Measurements. Length: 6.5–7.8 mm; width: 1.8–2.3 mm.

*Diagnosis*. This new subspecies is closely related to the nominotypical subspecies, distributed in Hokkaido to Kyushu, Japan, but can be distinguished from the latter by the following points: 1) marginal portions of pronotum widely yellowish brown, 2) male eyes larger, 3) marginal rims of pronotum wider, 4) median lobe of male genitalia shorter.

*Type series*. Holotype: ♂, Miyanoura, Yaku-shima Is., Kagoshima Pref., Ôsumi Islands, West Japan, 28. VII. 1981, N. Okuda leg. The holotype is deposited in the Hokkaido University Museum, Sapporo. Paratypes: 1 ♂, Miyanoura, Yaku-shima Is., Ôsumi Islands, West Japan, 21. VII. 1971, T. Hatayama leg. (KMC); 1 ♀, Kosugidani, Yaku-shima Is., 18. VII. 1974, T. Mikage leg. (KMC); 1 ♂, Shiratani, Yaku-shima Is., 20. VII. 1976, S. Naomi leg. (KMC); 1 ♀, Kosugidani, Yaku-shima Is., 3. VIII. 1978, K. Matsuda leg. (KMC); 9 ♂ ♂, 1 ♀, Miyanoura, Yaku-shima Is., 28. VII. 1981, N. Okuda leg. (HUM, NSMT, OMNH, NHMC and KMC).

Distribution. Yaku-shima Is., Ôsumi Islands, Japan.

Etymology. This new subspecies is named after the type locality, Yaku-shima Island.

### *Plateros coracinus shoichii* MATSUDA subsp. nov. (Figs. 4–C, F, I)

Color. Body blackish brown to dark reddish brown, shining; head, pronotum except

for yellowish brown marginal rims, scutellum and legs blackish brown to reddish brown, shining; antennae blackish brown; claws yellowish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with long, suberect, reddish brown hairs; elytra rather densely clothed with short, recumbent, reddish brown pubescence.

*Quantitative characters.* DE/E  $\rightleftharpoons$  1.0 (male), 1.3 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.8 : 0.4 : 1.0 : 1.2 : 1.2 : 1.3 : 1.4 : 1.4 : 1.4 : 1.4 : 1.7 (male), and 1.1 : 0.4 : 1.0 : 1.2 : 1.2 : 1.4 : 1.3 : 1.3 : 1.2 : 1.1 : 1.6 (female); PW/HW  $\rightleftharpoons$  1.3 (male), 1.4 (female); PL/PW  $\rightleftharpoons$  0.7 (male), 0.7(female); EL/EW  $\rightleftharpoons$  3.2 (male), 3.2 (female); EL/PL  $\rightleftharpoons$  5.2 (male), 4.9 (female).

Measurements. 5.8–7.0 mm; width 1.5–2.0 mm.

*Diagnosis*. This new subspecies is closely related to the nominotypical subspecies, *Plateros coracinus coracinus* (Kiesenwetter) distributed in Hokkaido to Kyushu, Japan, but can be distinguished from the latter by the following points: 1) male eyes larger, 2) male antennae longer, 3) median lobe of male genitalia shorter.

Distribution. Shimokoshiki-jima Is., Koshiki-jima Islands, Japan.

*Etymology*. This new subspecies is named in honor of Mr. Shoichi IMASAKA, Kurume City, Fukuoka Pref., Japan, who collected this interesting new subspecies.

### Plateros shibatai shibatai NAKANE, 1961 (Figs. 5–A, C, E)

Plateros shibatai Nakane, 1961: 13, pl. 3, fig. 5; 1969: 75, fig. 29. Plateros shibatai: Satô & Matsuda, 1985: 99, pl. 16, fig. 13. Melaneros shibatai: Satô & Matsuda, 1998: 99, pl. 16, fig. 13.

*Redescription.* Male. Body blackish brown to dark reddish brown, shining, with claws yellowish brown; head, pronotum, scutellum and legs blackish brown to dark reddish brown, shining; antennae blackish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubes-

cence; head, pronotum and scutellum closely clothed with short, recumbent, light reddish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; elytra densely clothed with short, recumbent, reddish brown pubescence.

Head mostly concealed under pronotum, finely and moderately punctured; frons short, strongly deflexed, slightly rounded in front, with a short narrow longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions; vertex with a distinct W-shaped impression in central portion, which bears several coarse punctures.

Eyes large, lateral, hemispherically prominent; distance between eyes about 1.1 times as wide as eye diameter.

Antennae rather long, barely reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about 0.7 times as long as wide; 3rd segment triangular, about 1.1 times as long as the apical width; 4th to 10th segments strongly serrate and gradually decreasing in width, 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.7:0.3:1.0:1.1:1.1:1.2:1.2:1.2:1.2:1.2:1.2:1.2.

Maxillary palpi with terminal segment elongate, securiform, about 1.8 times as long as wide, about 2.0 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.7 times as long as wide.

Prothorax transverse, subparallel-sided in apical 3/5, and slightly diverging posteriorly at sides in basal 2/5, about 0.8 times as long as the basal width, about 1.3 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles triangularly projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, strongly convex, obliquely grooved from each anterior corner to the middle of basal 3rd, deeply and triangularly impressed at inside of anterior and posterior corners, respectively, finely and moderately punctured on central portion, coarsely so along anterolateral margins, provided with a very short, narrow longitudinal carina in front and an oval longitudinal fovea before the middle of basal margin.

Scutellum trapezoidal with truncate apex; surface minutely and rather closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent behind basal 3rd and separately rounded at apices, about 3.4 times as long as wide, about 5.0 times as long as prothorax, each elytron bearing four weak primary costae, the intervals each with double rows of large round and irregular cells.

Ventral surface finely and closely punctured on metasternum, transversely rugose on abdomen; 7th abdominal sternite slightly emarginate at apex, anal sternite long, gradually narrowed apicad.

Legs moderate in length; hind tibiae stout, strongly dilated apicad, slightly longer than hind femora; hind tarsi with 1st to 4th segments gradually diminishing in length, 5th segment distinctly longer than 4th segment; claws simple, somewhat angulate at base.

Male genitalia long; median lobe asymmetrical, widened in apical 2/5, with the distal

portion suddenly narrowed to apex; basal piece small.

Female. Eyes small, weakly prominent; distance between eyes about 1.0 times as long as eye diameter. Antennae serrate, not reaching the middle of elytra; 3rd segment about 1.1 times as long as wide; relative lengths of 1st to 11th segments from basal to apical: 0.8:0.2:1.0:0.9:0.9:1.0:1.0:1.0:1.0:0.9:1.2. Prothorax about 0.7 times as long as the basal width, about 1.5 times as wide as head. Elytra about 3.1 times as long as wide, about 4.6 times as long as prothorax.

Measurements. Length: 5.4-6.6 mm; width 1.4-1.8 mm.

Type locality. Naze, Amami-Ôshima Is., Kagoshima Pref., Ryukyu Islands, South-

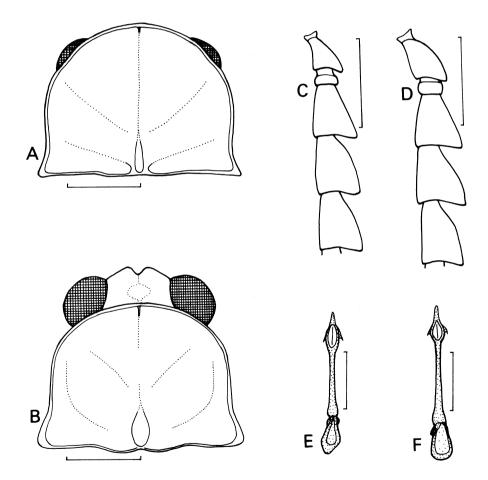


Fig. 5. Male of *Plateros shibatai* ssp. — A, C, E, P. s. shibatai Nakane; B, D, F, P. s. okinawanus subsp. nov.
 — A, B, Head and pronotum; C, D, 1st to 5th antennal segments; E, F, male genitalia, ventral view.
 Scales: 0.5 mm.

west Japan.

*Material examined.* 1 $\checkmark$ , Hatsuno, Amami-Ôshima Is., Ryukyu Islands, Southwest Japan, 1. IV. 1968, H. NARA leg. (KMC); 1 $\overset{\circ}{+}$ , Akatsuchiyama, Amami-Ôshima Is., 28. VI. 1978, A. WATANABE leg. (KMC); 1 $\overset{\circ}{+}$ , Shinokawa, Amami-Ôshima Is., 28. VI. 1978, A. WATANABE leg. (KMC).

Distribution. Amami-Ôshima Is., Ryukyu Islands, Japan.

*Remarks*. This species was originally described by NAKANE in 1961 from Amami-Ôshima Island, type-locality, Naze, based on a single male collected by the late Mr. Taichi Shibata, Nishinomiya City, Japan.

This species is closely related to *Plateros kirishima* NAKANE from Kyushu and Honshu, Japan, *P. udoensis* NAKANE from Kyushu, Japan and *P. sakishimana* NAKANE from Iriomote-jima Island and Ishigaki-jima Island, Ryukyu Archipelago, Japan.

These four species seem to form a species-group from the shape of male genitalia with the distal portion of median lobe arrowhead-shaped. In the present paper the author is going to propose a new name, the *shibatai* species-group for them. A key to the *shibatai* species-group is given in the last part of the descriptive section.

The female of this species was first recorded by SATÔ & OHBAYASHI (1968), based on a single specimen collected at Hatsuno, Amami-Ôshima Island. According to the author's examination, however, the specimen labeled [Hatsuno, Amami-Ôshima, 7.VII. 1962, N. OHBAYASHI leg.], [Plateros shibatai NAKANE, Det. M. Satô, 1967] is not P. shibatai, but a female of P. shirakii NAKANE, which has sympatric distribution in the same island, because the latter species has wider pronotum and longer 4th antennal segment. As the result, the record of P. shibatai by SATÔ & OHBAYASHI (1968) should be replaced by P. shirakii.

# **Plateros shibatai okinawanus** MATSUDA, subsp. nov. (Figs. 5–B, D, F)

Color. Body blackish brown to dark reddish brown, shining, with claws yellowish brown; head, pronotum, scutellum and legs blackish brown to dark reddish brown, shining; antennae blackish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, light reddish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; elytra densely clothed with short, recumbent, reddish brown pubescence.

*Quantitative characters.* DE/E  $\rightleftharpoons$  1.0 (male), 1.1 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.9 : 0.3 : 1.0 : 1.1 : 1.2 : 1.2 : 1.3 : 1.3 : 1.3 : 1.2 : 1.5 (male), and 0.9 : 0.4 : 1.0 : 1.1 : 1.1 : 1.2 : 1.1 : 1.1 : 1.1 : 1.1 : 1.4 (female); PW/HW  $\rightleftharpoons$  1.3 (male), 1.4 (female); PL/PW  $\rightleftharpoons$  0.7 (male), 0.8 (female); EL/EW  $\rightleftharpoons$  3.3 (male), 3.0 (female); EL/PL  $\rightleftharpoons$  5.1 (male), 4.7 (female).

Measurements. Length: 5.3-6.8 mm; width: 1.3-1.8 mm.

*Diagnosis*. This new subspecies is closely related to the nominotypical subspecies, distributed in Amami-Ôshima Island, Ryukyu Islands, Southwest Japan, but can be distinguished from the latter by the following points: 1) male eyes larger, 2) median lobe of male genitalia longer, 3) elytra shorter.

Type series. Holotype: ♂, Mt. Yonaha-dake, alt. 450 m, Okinawa-hontô Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 30. III. 1987, I. MATOBA leg. The holotype is deposited in the Hokkaido University Museum, Sapporo. Paratypes: 2♂♂,1♀, Mt. Yonaha-dake, Okinawa-hontô Is., Ryukyu Islands, Southwest Japan, 30. III. 1987, I. MATOBA leg. (HUM, NSMT and KMC); 1♀, Ie-rindo, Okinawa-hontô Is., 11. IV. 1982, M. SAWAI leg. (KMC); 1♀, Mt. Nishime-dake, alt. 300 m, Okinawa-hontô Is., 10. VII. 1986, Y. MATSUNAGA leg. (KMC); 1♂, Ohkuni-rindo, Okinawa-hontô Is., 27. III. 1987, M. SAWAI leg. (KMC); 1♂, Ohkuni-rindo, 2. IV. 1987, M. SAWAI leg. (KMC); 1♂, Benoki-rindô, Okinawa-hontô Is., 2. IV. 1987, M. SAWAI leg. (KMC); 1♂, Benoki-rindô, 5. IV. 1987, M. SAWAI leg. (KMC); 2♂♂, 1♀, Haneji, Okinawa-hontô Is., 1. IV. 1993, M. MATSUMURA leg. (OMNH and KMC); 2♂♂, Otowa-dake, Okinawa-hontô Is., 24. VI. 1995, M. KIMURA leg. (NHMC).

Distribution. Okinawa-hontô Is., Ryukyu Islands, Japan.

*Etymology*. This new subspecies is named after the type locality, Okinawa-hontô Island.

#### Plateros sakishimana NAKANE, 1985

Plateros sakishimana NAKANE, 1985: 155, figs. 9-11.

Color. Body blackish brown to dark reddish brown, shining, with claws yellowish brown; head, pronotum, scutellum and legs blackish brown, shining; antennae blackish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum, and scutellum closely clothed with short, recumbent, light reddish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; elytra densely clothed with short, recumbent, light reddish brown pubescence.

*Quantitative characters.* DE/E = 0.6 (male), 0.9 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.9 : 0.3 : 1.0 : 1.2 : 1.2 : 1.2 : 1.3 : 1.3 : 1.2 : 1.2 : 1.4 (male), and 0.8 : 0.3 : 1.0 : 1.0 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 (female); PW/HW = 1.2 (male), 1.4 (female); PL/PW = 0.8 (male), 0.8 (female); EL/EW = 3.4 (male), 3.2 (female); EL/PL = 4.8 (male), 4.5 (female).

Measurements. Length: 5.5-5.8 mm; width: 1.4-1.5 mm.

*Type locality*. Ushikumori, Iriomote-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan.

*Material examined*. 1♂, Sonai, Iriomote-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 1. IV. 1982, S. TAKEDA leg. (KMC); 1♀, Mt. Omoto-dake, alt. 400 m,

Ishigaki-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 24. VII. 1976, I. MATOBA leg. (KMC); 1♀, Mt. Omoto-dake, Ishigaki-jima Is., 5. V. 1980, A. WATANABE leg. (KMC); 1♂, Mt. Omoto-dake, Ishigaki-jima Is., 1. VII. 1983, S. KUWAHARA leg. (KMC); 2♂♂, Mt. Omoto-dake, Ishigaki-jima Is., 2. IV. 1997, H. YOSHITAKE leg. (KMC).

Distribution. Iriomote-jima Is. and Ishigaki-jima Is. (new record), Ryukyu Islands, Japan.

#### Plateros kirishima NAKANE, 1975

Plateros shibatai kirishima Nakane, 1975: 30, fig. Plateros kirishima: Nakane, 1985: 154, figs. 5, 6.

Color. Body blackish brown to dark reddish brown, shining, with claws yellowish brown; head, pronotum except for yellowish or light reddish brown marginal rims, scutellum and legs blackish brown, shining; antennae blackish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; elytra densely clothed with short, recumbent, reddish brown pubescence.

*Quantitative characters*. DE/DE = 0.7 (male), 1.2 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.9 : 0.3 : 1.0 : 1.0 : 1.1 : 1.2 : 1.2 : 1.1 : 1.1 : 1.2 : 1.5 (male), and 1.0 : 0.4 : 1.0 : 1.2 : 1.0 : 1.2 : 1.0 : 1.1 : 1.1 : 1.4 (female); PW/HW = 1.2 (male), 1.4 (female); PL/PW = 0.7 (male), 0.7 (female); EL/EW = 3.7 (male), 3.1 (female); EL/PL= 5.4 (male), 4.7 (female).

Measurements. Length: 4.8-5.6 mm; width: 1.1-1.5 mm.

Type locality. Mt. Kirishima, Kagoshima Pref., Kyushu, West Japan.

*Material examined*. 2♂♂, Kamikoba, Shimabara City, Nagasaki Pref., Kyushu, West Japan, 3. VI. 1976, S. Imasaka leg. (KMC); 1♂, Mt. Mayu-yama, alt. 600 m, Simabara City, 5. VI. 1976, S. Imasaka leg. (KMC); 1♀, Mt. Mayu-yama, Shimabara City, 30. VI. 1976, S. Imasaka leg. (KMC); 1♂, Mt. Kuro-dake, alt. 1,000 m, Ohita Pref., Kyushu, West Japan, 3–4. VII. 1979, A. Miyata leg. (KMC); 2♂♂, Tsukahara, Yufu-dake, alt. 1,200 m, Ohita Pref., 27. VI. 1993, S. Ogata leg. (KMC).; 1♂, Mt. Nagino-sen, alt. 1,000 m, Katsuta-gun, Okayama Pref., Honshu, West Japan, 26. VII. 1974, S. Yamaji leg. (KMC); 1♂, Kasugayama, Nara City, Nara Pref., Honshu, West Japan, 19. VII. 1974, T. Hatayama leg. (KMC); 2♂♂, Mt. Obako-dake, alt. 1,200 m, Nosegawa-mura, Yoshino-gun, Nara Pref., 10. VII. 1977, K. Matsuda leg. (KMC); 1♂, Mt. Kôya-san, Wakayama Pref., Honshu, West Japan, 16. VII. 1978, K. Sugino leg. (KMC).

Distribution. Kyushu and Honshu (new record), Japan.

#### Plateros udoensis NAKANE. 1985

Plateros udoensis NAKANE, 1985: 154, figs. 7, 8.

*Measurements*. Holotype ( $\circlearrowleft$ ): Length: 5.7 mm; width: 2.2 mm.

*Diagnosis*. This species is closely related to *P. kirishima* NAKANE, but can be distinguished from the latter by the following points: 1) male eyes very large, 2) prothorax sinuate at sides, 3) posterior angles of pronotum rather acutely produced.

Type locality. Udo, Nichinan-shi, Miyazaki Pref., Kyushu, West Japan.

Distribution. Kyushu, Japan.

*Remarks*. The author was unable to examine the holotype of this species in the present study; therefore the above diagnosis was made from the original description by NAKANE (1985).

#### Plateros rufomarginatus rufomarginatus Chûô et Satô, 1970 (Figs. 6-A, C, E)

Plateros rufomarginatus Chûjô et Satô, 1970: 28, fig. 3.

Plateros rufomarginatus: Satô & Matsuda, 1985: 99, pl. 16, fig. 12.

Melaneros rufomarginatus: SATÔ & MATSUDA, 1998: 99, pl. 16, fig. 12.

*Redescription.* Male. dark reddish brown, shining, with mouth parts, trochanters and claws somewhat paler in color; head blackish brown to dark reddish brown; pronotum blackish brown except for light yellowish brown marginal portions; elytra uniformly pale blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, light reddish brown hairs; pronotum moderately clothed with short yellowish brown pubescence; elytra rather densely clothed with short, recumbent, light reddish brown pubescence.

Head mostly concealed under pronotum, finely and closely punctured; frons short, strongly deflexed, slightly rounded in front, with a short narrow longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions, vertex with a distinct V-shaped impression in central portion.

Eyes very large, lateral, hemispherically prominent; distance between eyes about 0.8 times as wide as eye diameter.

Antennae rather long, barely reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about 0.8 times as long as wide; 3rd segment triangular, about 0.9 times as long as the apical width; 4th to 10th segments feebly serrate and gradually decreasing in width; 11th segment fusiform; relative lengths of 1st to 11th anten-

nal segments from basal to apical: 1.7:0.8:1.0:2.3:2.2:2.3:2.3:2.3:2.1:2.1:2.8.

Maxillary palpi with terminal segment elongate, securiform, about 1.4 times as long as wide, about 0.9 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 2.0 times as long as wide.

Prothorax transverse, subparallel-sided in apical 3rd, strongly diverging posteriorly in basal 2/3, about 0.7 times as long as the basal width, about 1.5 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles sharply projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, strongly convex, obliquely grooved from each anterior corner to the middle of basal 3rd, deeply and triangularly impressed at insides of anterior and posterior corners, respectively, finely and closely punctured on central portion, coarsely so along antero-lateral margins, provided with a short, narrow longitudinal carina in front and an oval, narrow longitudinal fovea before the middle of basal margin.

Scutellum subquadrate with apex truncate; surface minutely and rather closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent behind the basal 3rd and separately rounded at apices, about 3.0 times as long as wide, about 5.0 times as long as prothorax; each elytron bearing four weak primary costae, and the intervals each with double rows of large round and irregular cells.

Ventral surface finely and closely punctured, transversely rugose on metasternum and abdomen; 7th abdominal sternite deeply emarginate at apex, anal sternite long, strongly and sharply pointed apicad.

Legs of moderate length; hind tibiae stout, strongly dilated apicad, about as long as hind femora; hind tarsi with 1st to 4th segments gradually diminishing in length; 5th segment distinctly longer than 1st segment; claws simple, somewhat angulate at base.

Male genitalia long; median lobe asymmetrical, widened in apical 2/5, with the distal portion suddenly narrowed to apex; basal piece small.

Female. Eyes small, weakly prominent; distance between eyes about 1.2 times as long as eye diameter. Antennae feebly serrate, not reaching the middle of elytra; 3rd segment about as long as the apical width; relative lengths of 1st to 11th segments from basal to apical: 1.2:0.8:1.0:1.9:2.0:2.1:1.9:2.1:2.1:1.9:2.2. Prothorax about 0.7 times as long as the basal width, about 1.7 times as wide as head. Elytra about 3.2 times as long as wide, about 5.2 times as long as prothorax.

Measurements. Length: 4.5-6.0 mm; width: 1.2-1.7 mm.

*Type locality*. Ôtomi, Iriomote-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan.

*Type examined*. Paratype, 1♀, labels: [PARATYPE], [Ryukyus, Sonai, Iriomotejima, April, 14, 1969, M. Chûjô leg.], [Paratype, *Plateros rufomarginatus*, Chûjô et M. Satô, Det. M. Satô, 1970] (KMC).

Material examined. 1♂, 1♀, Uehara, Iriomote-jima Island, Okinawa Pref., Ryukyu

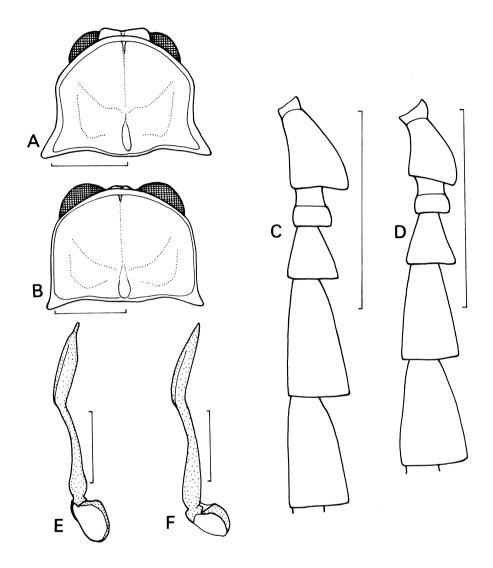


Fig. 6. Male of *Plateros rufomarginatus* ssp. — A, C, E, *P. r. rufomarginatus* Chūjô et Satô; B, D, F, *P. r. yon-agunianus* subsp. nov. — A, B, Head and pronotum; C, D, 1st to 5th antennal segments; E, F, male genitalia, lateral view. Scale: 0.5 mm.

Islands, Southwest Japan, 10–15. IV. 1974, T. Kinoshita leg. (KMC);  $1 \ensuremath{\nearrow}$ , Sonai, Iriomotejima Island, 1. IV. 1982, S. Takeda leg. (KMC);  $1 \ensuremath{\nearrow}$ ,  $1 \ensuremath{?}$ ,  $1 \ensuremath{}$ ,  $1 \ensurem$ 

Islands, Southwest Japan, 14. VI. 1975, S. Imasaka leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 26. VI. 1976, S. Kasahara leg. (KMC);  $2 \, \stackrel{\frown}{\circ} \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 1. V. 1977, O. Yamaji leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 6. V. 1978, M. Yagi leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ ,  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 28. IV. 1980, A. Watanabe leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 6. VI. 1982, A. Izumi leg. (KMC);  $2 \, \stackrel{\frown}{\circ} \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 2. V. 1985, K. Azuma leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Omoto-dake, 2-5. V. 1991, K. Emoto leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Yonehara, Ishigaki-jima Is., 2. V. 1977, O. Yamaji leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Banna-dake, alt. 200 m, Ishigaki-jima Is., 29. IV. 1985, K. Azuma leg. (KMC);  $1 \, \stackrel{\frown}{\circ} \,$ , Mt. Banna-dake, Ishigaki-jima Is., 12–13. V. 1995, A. Seki leg. (KMC).

Distribution. Iriomote-jima Is., and Ishigaki-jima Is., Ryukyu Islands, Japan.

Remarks. This species is similar in coloration to *Plateros marginicollis* NAKANE, but can be distinguished from the latter by the following points: 1) male eyes larger, 2) 1st antennal segment longer than 3rd segment in male, 3) terminal segment of maxillary palpi more elongate; 4) median lobe of male genitalia less flattened in apical half.

# **Plateros rufomarginatus yonagunianus** Matsuda, subsp. nov. (Figs. 6–B, D, F)

Color. Body dark reddish brown, shining, with front coxae, trochanters and claws yellowish brown; head blackish brown, shining; pronotum and scutellum light yellowish brown; antennae and legs dark reddish brown; elytra uniformly blackish brown.

Body surface closely furnished with short, recumbent, yellowish brown pubescence; head closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; pronotum and scutellum closely clothed with short yellow pubescence; elytra rather densely clothed with short, recumbent, dark reddish brown pubescence.

Quantitative characters. DE/E = 0.7 (male), 1.2 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 1.4 : 0.7 : 1.0 : 1.9 : 2.1 : 2.1 : 2.0 : 2.0 : 2.1 : 2.1 : 2.4 (male), and 1.2 : 0.6 : 1.0 : 1.6 : 1.7 : 1.9 : 1.8 : 1.8 : 1.8 : 1.8 : 2.2 (female); PW/HW = 1.4 (male), 1.6 (female); PL/PW = 0.8 (male), 0.7 (female); EL/EW = 3.3 (male), 3.1 (female); EL/PL = 4.9 (male), 5.1 (female).

Measurements. Length: 4.5–5.0 mm; width: 1.2–1.3 mm.

*Diagnosis*. This new subspecies is closely related to the nominotypical subspecies, distributed in Iriomote-jima Is. and Ishigaki-jima Is. Ryukyu Islands, Southwest Japan, but can be distinguished from the latter by the following points: 1) pronotum and scutellum uniformly light yellowish brown, 2) male eyes larger, 3) 4th and 5th antennal segments of shorter in male, 4) elytra longer.

*Type series*. Holotype:  $\varnothing$ , Yonaguni Airport, Yonaguni-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 27. IV. 1985, K. AZUMA leg. The holotype is deposited in the Hokkaido University Museum, Sapporo. Paratypes:  $1 \varnothing$ ,  $1 \circ$ , Yonaguni Airport, Yonaguni-

jima Is., Ryukyu Islands, Southwest Japan, 27. IV. 1985, K. AZUMA leg. (KMC); 3♂♂, Mt. Urabu-dake, alt. 200 m, Yonaguni-jima Is., 19. IV. 2000, M. KASAGI leg. (KMC); 1♂, Mt. Kubura-dake, alt. 100 m, Yonaguni-jima Is., 20. IV. 2000, M. KASAGI leg. (KMC).

Distribution. Yonaguni-jima Is., Ryukyu Islands, Japan.

*Etymology*. This new subspecies is named after the type locality, Yonaguni-jima Island, the western limit of Japan.

## Plateros yayeyamanus yayeyamanus CHÛIÔ et SATÔ, 1970 (Figs. 7–A, C, E)

Plateros yayeyamanus Chûjô et Satô, 1970: 30, fig. 2. Plateros yayeyamanus: Satô & Matsuda, 1985: 99, pl. 16, fig. 14. Melaneros yayeyamanus: Satô & Matsuda, 1998: 99, pl. 16, fig. 14.

*Redescription.* Male. Body blackish brown to dark reddish brown, shining, with mandibles and claws yellowish brown; head, pronotum except for paler marginal portions, scutellum and legs blackish brown to dark reddish brown, shining; antennae blackish brown; elytra uniformly bright red.

Body surface closely furnished with long, recumbent, light reddish brown pubescence; head, pronotum and scutellum closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; elytra densely clothed with long, recumbent or suberect, bright red pubescence.

Head mostly concealed under pronotum, finely and closely punctured; frons short, strongly deflexed, slightly rounded in front, with a short narrow longitudinal groove between frontal tubercles, which are not strongly swollen just behind antennal insertions, and vertex with distinct, two deep impressions in central portion.

Eyes very large, lateral, hemispherically prominent; distance between eyes about 0.7 times as wide as eye diameter.

Antennae rather long, barely reaching the middle of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about 0.8 times as long as wide; 3rd segment triangular, about 0.9 times as long as the apical width; 4th to 10th segments acutely serrate and gradually decreasing in width; 11th fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9:0.4:1.0:1.4:1.3:1.4:1.3:1.3:1.3:1.3:1.3.

Maxillary palpi with terminal segment elongate, securiform, about 1.5 times as long as wide, 0.9 times as long as 2nd segment.

Labial palpi with terminal segment subtriangular, about 1.7 times as long as wide.

Prothorax transverse, gradually diverging posteriorly, semicircular about 0.7 times as long as the basal width, about 1.6 times as wide as head; anterior margin widely arched; anterior angles widely rounded; posterior angles sharply projecting latero-posteriorly; basal margin bisinuate; sides widely reflexed; disc smooth, strongly convex, obliquely grooved

from each anterior corner to the middle of basal 2/3, deeply and triangularly impressed at insides of anterior and posterior corners, respectively, finely and closely punctured on central portion, coarsely so along antero-lateral margins, provided with a very short, narrow longitudinal carina in front and an oval longitudinal fovea before the middle of basal margin.

Scutellum trapezoidal with apex truncate; surface minutely and closely punctured.

Elytra subparallel-sided, slightly diverging posteriorly, dehiscent behind the basal half and separately rounded at apices, about 2.9 times as long as wide, about 4.3 times as long as prothorax, each elytron bearing four weak primary costae, the intervals each with double rows of large round and irregular cells.

Ventral surface finely and closely punctured, transversely rugose on metasternum and abdomen; 7th abdominal sternite slightly emarginate at apex; anal sternite long, gradually narrowed apicad.

Legs moderate in length; hind tibiae stout, strongly dilated apicad, about as long as hind femora; hind tarsi with 1st to 4th segments gradually diminishing in length, 5th segment distinctly longer than 1st segment; claws simple, somewhat angulate at base.

Male genitalia elongate; median lobe asymmetrical, dilated at apical 3rd, thence narrowed toward apex which bears a short spine; basal piece small.

Female. Eyes small, weakly prominent, distance between eyes about 1.1 times as long as eye diameter. Antennae serrate, not reaching the middle of elytra; 3rd segment about 0.9 times as long as wide; relative lengths of 1st to 11th segments from basal to apical: 1.1:0.5: 1.0:1.4:1.5:1.5:1.5:1.5:1.4:1.3:1.6. Prothorax about 0.7 times as long as the basal width, about 1.7 times as wide as head. Elytra about 3.1 times as long as wide, about 4.9 times as long as prothorax.

Measurements. Length: 6.8–7.7 mm; width: 1.5–2.1 mm.

*Type locality*. Taketomi, Taketomi-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan.

*Type examined*. Paratype, 1♀, labels: [PARATYPE], [Ryukyus, Ôtomi, Iriomote-jima, April, 7, 1969, M. Chûjô leg.], [Paratype, *Plateros yayeyamanus*, Chûjô et M. Satô, Det. M. Satô, 1970] (KMC).

*Materials examined*.  $1 \, \stackrel{\frown}{\circ}$ , Inda, Iriomote-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 16. IV. 1969, R. Musashino leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Kuira-gawa, Iriomote-jima Is., 4. VI. 1974, M. Takakuwa leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Mt. Omoto-dake, alt. 400 m, Ishigaki-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 8. VI. 1974, M. Takakuwa leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Mt. Omoto-dake, Ishigaki-jima Is., 21. IV. 1985, M. Sawai leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Omoto-dake, Ishigaki-jima Is., 28. III. 1992, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Mt. Omoto-dake, Ishigaki-jima Is., 5. IV. 1993, M. Matsumura leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Yonehara, Ishigaki-jima Is., 5. V. 1977, O. Yamaji leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Yonehara, Ishigaki-jima Is., 4. IV. 1991, M. Matsumura leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg. (KMC);  $1 \, \stackrel{\frown}{\circ}$ , Takeda-rindô, Ishigaki-jima Is., 13. IV. 1991, T. Hanatani leg.

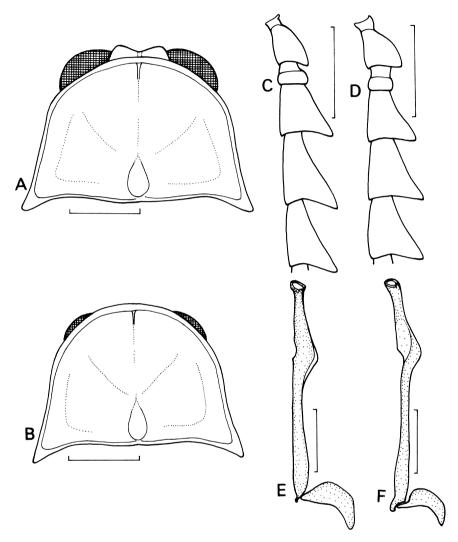


Fig.7. Male of *Plateros yayeyamanus* subsp. — A, C, E, P. y. yayeyamanus Chújô et SATÔ; B, D, F, P. y. azumai subsp. nov. — A, B, Head and pronotum; C, D, 1st to 5th antennal segments; E, F, male genitalia, lateral view. Scales: 0.5 mm.

Takeda-rindô, Ishigaki-jima Is., 23. III. 1992, T. Hanatani leg. (KMC);  $2 \stackrel{\circ}{\uparrow} \stackrel{\circ}{\uparrow}$ , Mt. Banna, alt. 200 m, Ishigaki-jima Is., 12–13. IV. 1995, A. Seki leg. (KMC);  $3 \stackrel{\circ}{\uparrow} \stackrel{\circ}{\uparrow}$ , Mt. Banna, Ishigaki-jima Is., 19. IV. 1996, A. Seki leg. (KMC);  $1 \stackrel{\circ}{\uparrow}$ , Hirakubo, Ishigaki-jima Is., 4. IV. 1981, S. Takeda leg. (KMC);  $1 \stackrel{\circ}{\circlearrowleft}$ , Tomino, Ishigaki-jima Is., 30. V. 1981, T. Omoto leg. (KMC).

*Distribution*. Iriomote-jima Is., Ishigaki-jima Is. and Taketomi-jima Is., Ryukyu Islands, Japan.

Remarks. This species is similar in coloration to *Plateros nakachii* NAKANE, but can be distinguished from the latter by the following points: 1) male eyes larger, 2) 3rd antennal segment longer in male, 3) median lobe of male genitalia not coiled in apical half, with a short spine at apex.

### **Plateros yayeyamanus azumai** MATSUDA, subsp. nov. (Figs. 7–B, D, F)

Color. Body blackish brown to dark reddish brown, shining, with mandibles, metasternum and claws yellowish brown; head and legs dark reddish brown, shining; antennae blackish brown; pronotum, scutellum and elytra uniformly orangish red.

Body surface moderately furnished with long, recumbent, yellowish brown pubescence on metasternum, and with shorter ones on abdomen; head and legs closely clothed with short, recumbent, yellowish brown pubescence; antennae closely clothed with short, suberect, reddish brown hairs; pronotum, scutellum and elytra densely clothed with long, recumbent or suberect, light orangish red pubescence.

*Quantitative characters.* DE/E≒ 0.8 (male), 1.0 (female); relative lengths of 1st to 11th antennal segments from basal to apical: 0.9:0.4:1.0:1.4:1.3:1.4:1.4:1.3:1.3:1.3:1.3:1.3:1.3:1.7 (male), and 1.1:0.5:1.0:1.4:1.5:1.5:1.5:1.5:1.5:1.4:1.3:1.6 (female); PW/HW ≒ 1.6 (male), 1.7 (female); PL/PW ≒ 0.7 (male), 0.7 (female); EL/EW ≒ 2.9 (male), 3.1 (female); EL/PL ≒ 4.3 (male), 4.9 (female).

Measurements. Length: 6.2-7.5 mm; width: 1.6-2.1 mm.

*Diagnosis*. This new subspecies is closely related to the nominotypical subspecies, distributed in Iriomote-jima Is., Ishigaki-jima Is. and Taketomi-jima Is., Ryukyu Islands, Japan, but can be distinguished from the latter by the following points: 1) pronotum, scutellum and elytra uniformly orangish red, 2) elytra densely clothed with light orangish red pubescence, 3) male eyes smaller, 4) 1st antennal segment shorter in male, 5) median lobe of male genitalia more elongate.

Distribution. Yonaguni-jima Is., Ryukyu Islands, Japan.

*Etymology*. This new subspecies is named in honor of Mr. Koji AZUMA, Osaka, who collected this new interesting subspecies.

#### Key to the Species and Subspecies of the *Plateros shibatai* Species-Group of Japan Based on Males

- 2(1) Eye large to very large, distance between eyes about 0.7 to 1.1 times as wide as eye diameter; prothorax about 0.7 times as long as wide.
- 3(6) Pronotum uniformly blackish brown to dark reddish brown; disc strongly convex at the middle.

- 6(3) Pronotum blackish brown to dark reddish brown with marginal rims light reddish brown or yellowish brown; disc moderately convex at the middle.

#### Discussion

In the present paper the author described two new species and five new subspecies belonging to the genus *Plateros* Bourgeois, 1879 from Japan. *Plateros taichii* Matsuda, sp. nov. is very similar in appearance to *P. kosakai* Nakane. The author was able to confirm their difference after close examination of the holotype of latter species deposited in the Hokkaido University Museum. These two species seem to be sympatrically distributed on the Chûgoku Hilly District in Honshu, West Japan. *Plateros kurosai* Matsuda, sp. nov., from Saitama Pref., Honshu, East Japan is very unique on the shape of male genitalia among Japanese *Plateros*.

The latter five new subspecies, *Plateros coracinus yakushimanus* MATSUDA, subsp.

nov., *P. c. shoichii* MATSUDA, subsp. nov., *P. shibatai okinawanus* MATSUDA, subsp. nov., *P. rufomarginatus yonagunianus* MATSUDA, subsp. nov. and *P. yayeyamanus azumai* MATSUDA, subsp. nov. are taxonomically different from respective nominotypical subspecies in coloration, external morphology, quantitative characters and male genitalia at the subspecies-level.

These new subspecies would seem to become differentiated from respective nominotypical subspecies by geographical isolation in the adjacent islands after the last Glacial Epoch in the Quaternary.

The *shibatai* species-group, which is newly proposed herein, now contains the following four species and one subspecies, *Plateros shibatai shibatai* NAKANE, *P. s. okinawanus* MATSUDA, subsp. nov., *P. sakishimana* NAKANE, *P. kirishima* NAKANE, and *P. udoensis* NAKANE. *Plateros udoensis* should possibly be an individual variant of *P. kirishima* as NAKANE (1985) had already mentioned in his original description. The author was unable to not examine the holotype and any additional materials of this taxon. Therefore the nomenclatural problem about this species ought to be carried over to the further study including the inspection of the holotype.

NAKANE (1969) reported and illustrated a geographical cline on the length of median lobe of male genitalia of *Plateros coracinus* (KIESENWETTER), which is widely distributed in Japan.

The author also has found another geographical variation of the same species in his taxonomic research. The ratio of distance between eyes (DE) and eye diameter (E) in the male gradually increases in numerical value from south to north in Japan. DE/E = 0.9 (Yaku-shima Is., Southern Kyushu); DE/E = 1.0 (Shimokoshiki-jima Is., southern Kyushu.); DE/E = 1.1 (Shimabara, Kyushu; Osaka, Fukushima, Honshu); DE/E = 1.2 (Abashiri, Hokkaido). Accordingly the eye size of *P. coracinus* is the largest in Yakushima Is. and the smallest in Hokkaido.

In this paper, he described two new subspecies, *P. c. yakushimanus* MATSUDA, subsp. nov. and *P. c. shoichii* MATSUDA, subsp. nov. for the reason not only based on these interesting quantitive characters and other external morphology but also their isolation on Yakushima Is. and Shimokoshiki-jima Is., respectively.

In the future, Japanese and neighboring Asian *Plateros* species ought to be investigated to elucidate the phylogenetic relationship between them.

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#### 要 約

松田 潔:東アジア産ハナボタル属の研究 I — 日本各地の標本に基づき、ベニボタル科ハナボタル属Platerosの2新種、イズモハナボタルPlateros taichii sp. nov.,クロサハナボタルPlateros taichii subsp. nov.,シバタハナボタル沖縄本島亜種Plateros taichii subsp. nov.,シバタハナボタル沖縄本島亜種Plateros taichii subsp. nov.,ヤエヤマキベリクロハナボタル与那国島亜種Plateros taichii subsp. nov.,ヤエヤマベニハナボタル与那国島亜種Plateros taichii subsp. nov.。ヤエヤマベニハナボタル与那国島亜種Plateros taichii subsp. nov.を記載した.これまでわが国からは,既知種のハナボタルが27種知られてきたが,上記2新種5新亜種は,これらのいずれの種とも体色・外部形態,あるいは雄交尾器の差異で明瞭に区別できる.

なお、島根県産の新種のハナボタルの種名は、日本と台湾のヒゲナガゾウムシ科の研究と 奄美大島産のベニボタル相の解明に多大の貢献をされ、昨年逝去された西宮市の故芝田太 一氏に哀悼の意を表して献名した.

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