

**A contribution to knowledge of the Oriental  
and Australian subgenus *Mecinsonota* Kraatz, 1892  
(Coleoptera: Scarabaeidae: Cetoniinae: Taenioderini)**

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**Taxonomy, new subspecies, new synonymy, new combinations, new records, Coleoptera, Scarabaeidae, Cetoniinae, Taenioderini, *Ixorida*, *Mecinsonota*, Oriental Region**

**Abstract.** Distributional areas of *Ixorida (Mecinsonota) luctuosa* Snellen van Vollenhoven, 1858, *Ixorida (Mecinsonota) regia* Fabricius, 1801 and *Ixorida (Mecinsonota) venerea* J. Thomson, 1857 are studied. Based on new materials collected during the last two decades, the following subspecies are described: *Ixorida (Mecinsonota) luctuosa saparuana* ssp. nov. from Saparua Island (Indonesia), *Ixorida (Mecinsonota) luctuosa kelangana* ssp. nov. from Kelang Island (Indonesia), *Ixorida (Mecinsonota) venerea tapaya* ssp. nov. from Obi Island (Indonesia), *Ixorida (Mecinsonota) venerea ibu* ssp. nov. from Halmahera Island (Indonesia), *Ixorida (Mecinsonota) regia palawana* ssp. nov. from Palawan Island (the Philippines) and *Ixorida (Mecinsonota) regia simeuleuana* ssp. nov. from Simeuleue Island (Indonesia). *Ixorida (Mecinsonota) pseudoregia* Antoine, 1986 is synonymised with *Ixorida (Mecinsonota) regia ornata* Mikšič, 1972 and the later taxa is raised to the species level. The following new combinations for *Ixorida (Mecinsonota) ornata* Mikšič are proposed: *Ixorida (Mecinsonota) ornata ornata* Mikšič, 1972 from Java (Indonesia), *Ixorida (Mecinsonota) ornata borneensis* Antoine, 1986 from Borneo and Kalimantan (Malaysia, Indonesia), *Ixorida (Mecinsonota) ornata dehli* Antoine, 1988 from Siberut Island (Indonesia) and *Ixorida (Mecinsonota) ornata malayensis* Antoine, 1986 from peninsular Malaysia and Singapore. *Ixorida (Mecinsonota) ornata pseudodiehli* ssp. nov. is described from Belitung Island (Indonesia). All newly described taxa are compared with their nominotypical subspecies or other recently known subspecies and their illustrations are provided.

## INTRODUCTION

*Mecinsonota* Kraatz, 1892 is currently classified as a subgenus of *Ixorida* J. Thomson, 1880. It was revised by Mikšič (1972), who treated it as a genus in Taenioderini. This concept was also kept by the same author in his monograph (1976). Antoine (1986) treated *Mecinsonota* Kraatz as a subgenus of *Ixorida* J. Thomson. Since then, all other authors excepting Krajčič (1998) adhered to this concept, Sakai & Nagai (1998), Legrand & Chew Kea Foo (2010). Current amount of taxa in *Mecinsonota* Kraatz stays on 26 species and 23 subspecies.

The distributional area of the group encompasses southern parts of Indochina, Indo-Malayan Region and the Philippines. Three species with numerous subspecies crossed the Wallace line and two species crossed Weber line. According to present knowledge, the easternmost representative of *Mecinsonota* stops on Guadalcanal and Malaita Islands in Solomon Islands. Most of species or subspecies are endemic and their areas are usually restricted to one island. With exception of four species, *Mecinsonota* representatives are restricted to the Philippines and Indonesian Great Sundas including Sulawesi.

The present study deals with four *Mecionota* species (*Mecionota regia* Fabricius, 1801 *Mecionota venerea* J. Thomson, 1857, *Mecionota luctuosa* Snellen van Vollenhoven, 1858 and *Mecionota ornata* Mikšič, 1972) with larger distributional areas and with different populations island by island. Those populations are currently usually classified on the subspecies level and usually differ one from another mainly in elytral, pronotal and ventral patterns of the ornament, body size and coloration. The characters mentioned seem to be very stable in every island population.

Some very remote places were entomologically explored during the last two decades. New discoveries in *Mecionota* Kraatz are presented in the taxonomical part of the present article.

## MATERIAL AND METHODS

The following codens of institutional and private collections are used in text:

BMNH Natural History Museum, London, United Kingdom;  
KSCP Kaoru Sakai private collection, Tokyo, Japan;  
MNHN Muséum National d'Histoire Naturelle, Paris, France;  
PLCP Jean-Philippe Legrand private collection, Paris, France;  
RMNH Rijksmuseum van Natuurlijke Historie, Leiden, the Netherlands;  
SJCP Stanislav Jákl private collection, Praha, Czech Republic;  
ZMHB Museum für Naturkunde, Leibniz-Gemeinschaft, Berlin, Germany.

Specimens of newly described subspecies are provided with red and yellow printed labels, red for HOLOTYPUS, yellow for PARATYPUS. Each holotype or paratype label is provided with sex symbol, number of paratype (in paratype label) and words St. Jákl det. Label data are cited for the material examined, individual labels are indicated by a double slash (//), individual lines by a single slash (/).

## RESULTS

### *Ixorida (Mecionota) Kraatz, 1892*

*Mecionota* Kraatz, 1892: 375 (original description); Mikšič 1972b: 88 (revision, diagnosis), 1976: 32 (in key),: 227 (monograph); Krajcik 1998: 91 (catalogue).

*Ixorida (Mecionota)* Kraatz: Antoine 1986: 10 (subgeneric level); Sakai & Nagai 1998: 353 (iconography); Legrand & Chew Kea Foo 2010 (Cetoniidae of Sabah).

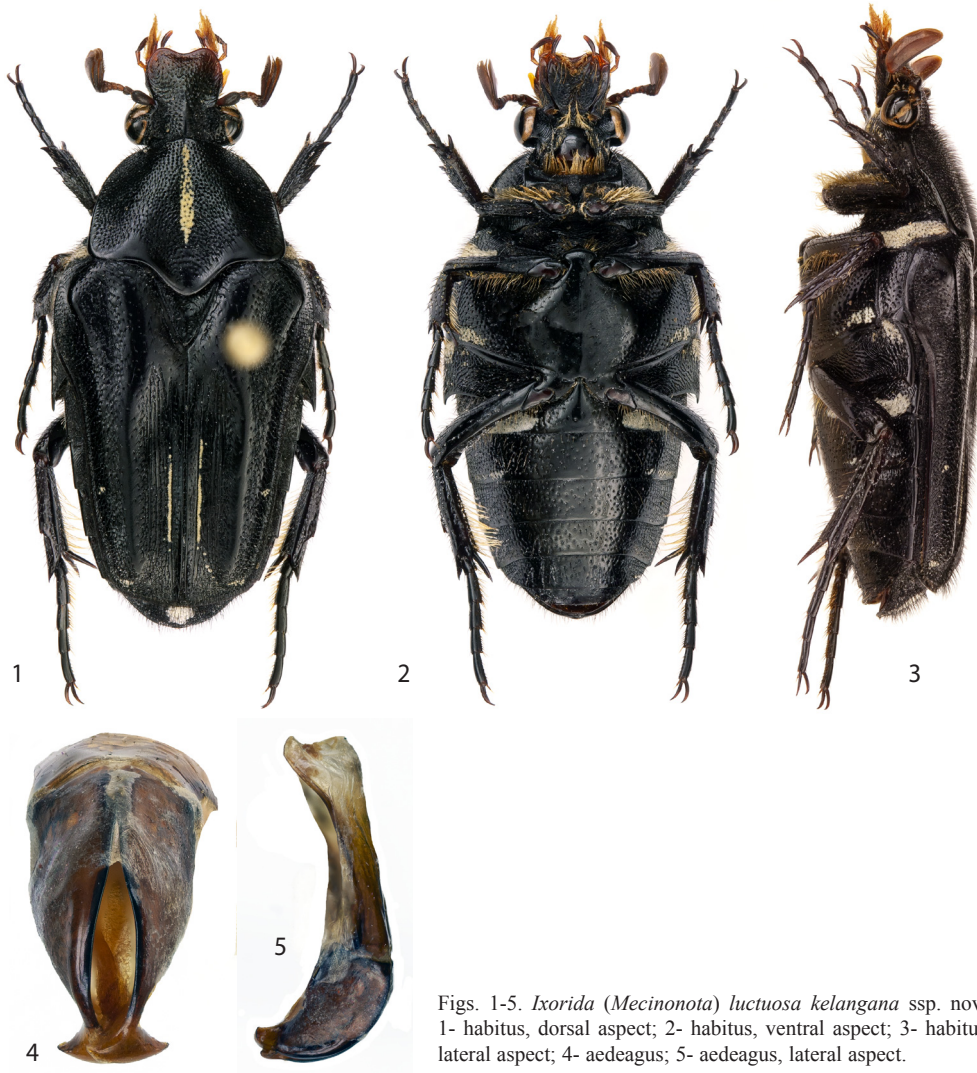
Type species *Cetonia regia* Fabricius, 1801.

### *Ixorida (Mecionota) luctuosa kelangana* ssp. nov.

(Figs. 1-5)

**Type locality.** Indonesia, Central Moluccas, Kelang Island, Mount Telaga Indah.

**Type material.** Holotype (♂) labelled: INDONESIA, Centr. Moluccas / KELANG I. / Mt. Telaga Indah, III. 2014 / local collector leg., (SJCP). Paratypes: (Nos. 1-5 ♂♂, 6-7 ♀♀ labelled: same as holotype, (SJCP).



Figs. 1-5. *Ixorida (Mecynonota) luctuosa kelangana* ssp. nov.: 1- habitus, dorsal aspect; 2- habitus, ventral aspect; 3- habitus, lateral aspect; 4- aedeagus; 5- aedeagus, lateral aspect.

**Description of holotype.** Black, with reduced dorsal and ventral whitish ornament. Body size 16.5 mm.

Head. Frons black, clypeal apical half reddish, rest of clypeus black. Punctuation moderately dense, punctures diameters and interspaces approximately same. Widest point at clypeal midlength. Apical margin of clypeus emarginate. Setation black, in anterior half of clypeus reddish. Whitish ornament absent. Antennae reddish to brownish, length of club and stalk approximately same.

**Pronotum.** Completely black with whitish middle line not reaching pronotal basal lobe. Punctuation dense, but simple, striolate in front of basal lobe. Pronotal margins glabrous, shining. Black setation dense.

**Scutellum.** Black, triangularly shaped, transversally striolate, immaculate.

**Elytra.** Black with very reduced white ornament, covering posterior half of first elytral interval and two lateral one, with two obsolete and irregular whitish patches on each elytron, one beside lateral margin approximately in posterior elytral third and second on apex, beside posterolateral margin. Punctuation dense excepting juxtasutural ridge and basal third of elytral disc, here punctuation fine and simply developed. Disc of elytron with five striolate lines. Lateral ridge striolate. Black setation present throughout total length. Apical half of sutural ridge elevated, but not protruding over elytral apex. Humeral and apical calli moderately developed.

**Pygidium.** Black, simply granulated, disc with whitish patch. Black setation moderately long and dense.

**Ventrum.** Black with considerably reduced white ornament covering part of lateral margins of first three abdominal segments, part of lateral margins of metacoxa, posterolateral margins of metepisternum, part of mesepimeron and lateral margins of prosternum. Abdomen arched, its punctuation rather dense, but simple. Episternum striolate, sides of mesosternum with simple, but rather deep punctuation, metasternal plate glabrous. Mesometasternal process short and wide, its apex broadly rounded. Prosternum and mentum striolated. Ventral setation blackish, moderately dense and long.

**Legs.** All coxae reddish, rest of legs deeply dark brown to black. Posterior margins of femora and inner sides of tibiae with cover of yellowish setation. Protibia tridentate, but posterior tooth very reduced. Meso- and metatibia with carina in posterior half.

**Genitalia.** Similar to nominotypical subspecies (Figs. 4-5).

**Variability.** Size of males 16-17 mm. Dorsal and ventral whitish pattern very similar or completely same.

**Sexual dimorphism.** Size of females same as in males. Protibia also tridentate with considerably reduced posterior tooth, but wider and more robust. Whitish dorsal and ventral ornament slightly more developed.

**Differential diagnosis.** It differs from the nominotypical subspecies in smaller size (16.5-18 mm in *M. luctuosa luctuosa* Snellen van Vollenhoven), reduced ventral and dorsal whitish ornament and significantly denser and deeper dorsal punctuation.

**Etymology.** Named after the Kelang Island, type locality of the newly described subspecies.

**Distribution.** INDONESIA: Central Moluccas, Kelang Island.

***Ixorida (Mecinoonota) luctuosa saparuana ssp. nov.***  
(Figs. 6-10)

**Type locality.** Indonesia, Central Moluccas, Saparua Island.

**Type material.** Holotype (♂) labelled: INDONESIA, C. Moluccas / SAPARUA ISLAND / II. 2003 / local collector leg., (SJCP). Paratypes: (No. 1 ♂) labelled: same as holotype, (SJCP); (Nos. 2-4 ♂♂, 5-9 ♀♀) labelled: Indonesia, Centr. Moluccas / SAPARUA ISL., S of Seram / Local collectors, 2. 2003, (SJCP).

**Description of holotype.** Black with abundant whitish, dorsal and ventral ornament. Size 15.5 mm.

**Head.** Black, apical third of clypeus reddish. Widest point in front of clypeal midlength. Sides of frons and basal half of clypeus with whitish vitta. Punctuation deep and dense (excepting glabrous midline in frons) with diameters larger than interspaces. Apical margin of clypeus emarginate. Antennae reddish, length of club and footstalk approximately same. Setation black.

**Pronotum.** Coloration black, decorated with three longitudinally running white vittae, one central and two lateral. Punctuation dense, shape of punctures simple, diameters of punctures approximately same as in interspaces. Setation blackish. Pronotal margins glabrous and shining.

**Scutellum.** Black, excepting sides with cover of white ornament.

**Elytra.** Black with abundant whitish ornament. White, elytral ornament covers whole surface of first three intervals of each elytron, other longitudinally running whitish vitta is placed between humeral calli and scutellum in each elytron, larger and longer vitta is placed beside lateral margin in anterior elytral half. Two smaller white maculae are placed, one in elytral apex, second laterally at approximately posterior elytral third. Lateral ridge with striolation. Humeral and apical calli developed. Black setation developed throughout total elytral length.

**Pygidium.** Black, granulate, disc with rounded white macula.

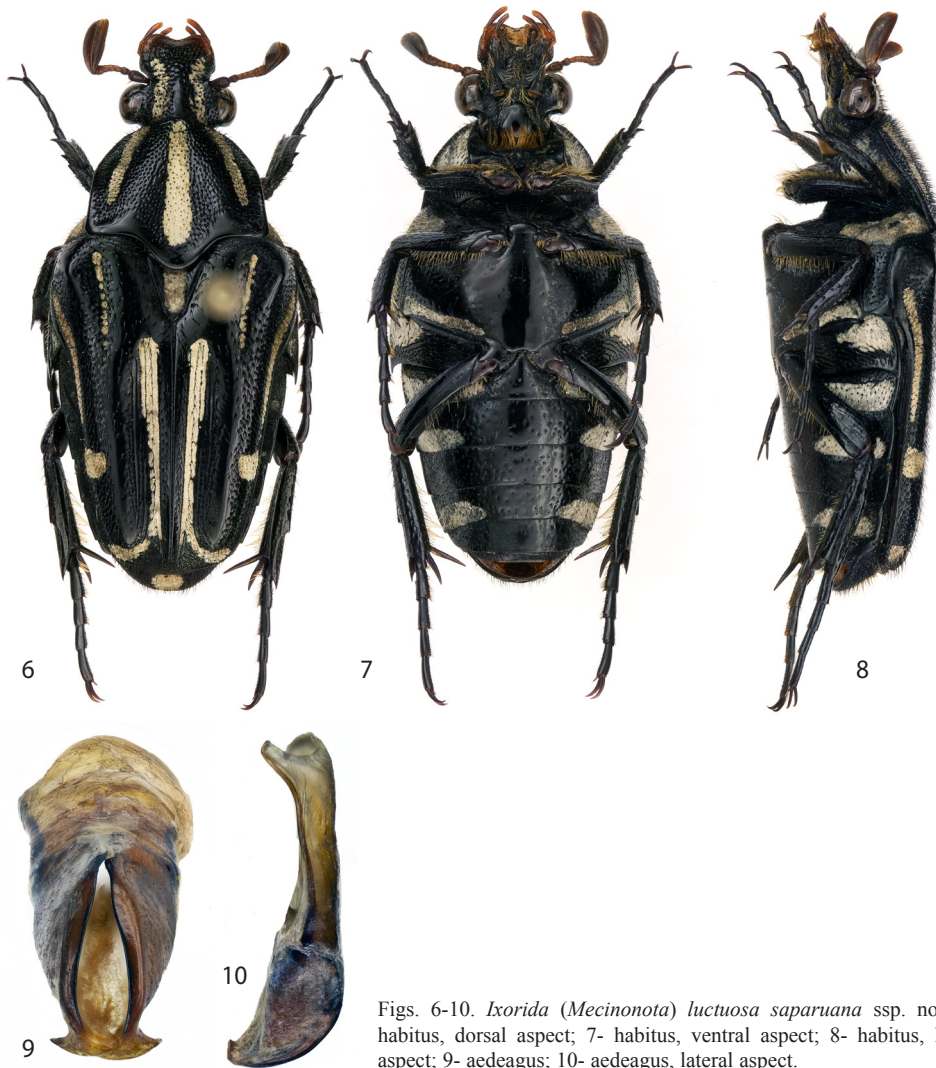
**Ventrum.** Black, abdomen arched. Whitish ornament covers lateral sides of first three and fifth abdominal segments, anterior and posterior margins of metasternum, large part of mesepimeron and sides of prosternum and mentum. Metasternal plate glabrous and reflected, mesometasternal process wider than long with obtusely rounded apex. Setation yellowish.

**Legs.** Black with reddish coxae. Posterior margins of meso- and metafemora with yellowish setation. Protibia tridentate, meso- and metatibia carinate.

**Genitalia.** Similar with nominotypical subspecies (Figs. 9-10).

**Variability.** Size of males 15.5-16 mm. White dorsal and ventral pattern uniformly developed. In other morphological characters males also similar to each other or completely same.

**Sexual dimorphism.** Size of females 15.5-16.5 mm. White dorsal vittae slightly wider than in females. Protibia slightly more robust and wider. In other aspects similar with males.



Figs. 6-10. *Ixorida (Mecinsonota) luctuosa saparuana* ssp. nov.: 6- habitus, dorsal aspect; 7- habitus, ventral aspect; 8- habitus, lateral aspect; 9- aedeagus; 10- aedeagus, lateral aspect.

**Differential diagnosis.** *Ixorida (Mecinsonota) luctuosa saparuana* ssp. nov. differs from the nominotypical subspecies in smaller size, denser dorsal punctation and much more developed whitish, dorsal ornament. From subspecies described from Kelang Island it also differs by very abundant white ornament which is considerably reduced in *Ixorida (Mecinsonota) luctuosa kelanga* ssp. nov.

**Etymology.** Named after Saparuwa Island, the type locality of the newly described subspecies.

**Distribution.** INDONESIA: Central Moluccas, Saparuwa Island.

***Ixorida (Mecinsonota) venerea tapaya* ssp. nov.**  
(Figs. 11-15)

**Type locality.** Indonesia, Central Moluccas, Obi Island, Seribu Mountains, Tapaya vill. environment.

**Type material.** Holotype (♂) labelled: Indonesia, C. Moluccas / OBI ISL., S coast, 0-100 m / Seribu Mts., TAPAYA env. / 20.VI. - 20.VII. 2008 / St. Jákl leg., (SJCP). Paratypes: (Nos. 1-26 ♂♂, 27-39 ♀♀) labelled: same as holotype, (SJCP); (Nos. 40- 480 unsexed specimens) labelled: same as holotype, (SJCP).

**Description of holotype.** Body size 15.0 mm (excluding pygidium). Bicolored with blackish pronotum and reddish elytra, decorated with yellowish ornament.

Head. Coloration black in frons, reddish in rest of head. Sides of basal half of clypeus and sides of frons with yellow vittae. Punctuation moderately dense, slightly denser in clypeus, in frons with glabrous middle line. Antennae reddish, length of club and footstalk approximately same.

Pronotum. Completely black with brownish lateral margins. Lateral border obtuse and indistinct. Punctuation simple, but rather dense and deeply developed. Sides and disc with three longitudinally running yellow vittae, black area between them much wider than vittae. Setation black and yellow.

Scutellum. Black, midlength with cover of yellowish ornament.

Elytra. Brown with blackish sutural ridge and area below and beside scutellum. Yellow ornamental vittae composed similarly as in other subspecies. Subhumeral emargination shallow. Lateral ribs nearly impunctate and shining, sides and apex striolated. Humeral and apical calli moderately developed. Sutural ridge elevated in its apical half, elytral apex nearly straight, protrusion of sutural ridge not developed.

Pygidium. Black, granulated. Disc with yellowish patch of ornament.

Ventrum. Black with yellow sides of abdomen, metacoxae, metasternum, mesepimeron and prosternum. Punctuation in abdomen and metasternum simple and rather sparse, metacoxae and prosternum wrinkled. Metasternal plate glabrous, in disc longitudinally grooved. Mesometasternal process wider than long, its apex very obtusely rounded.

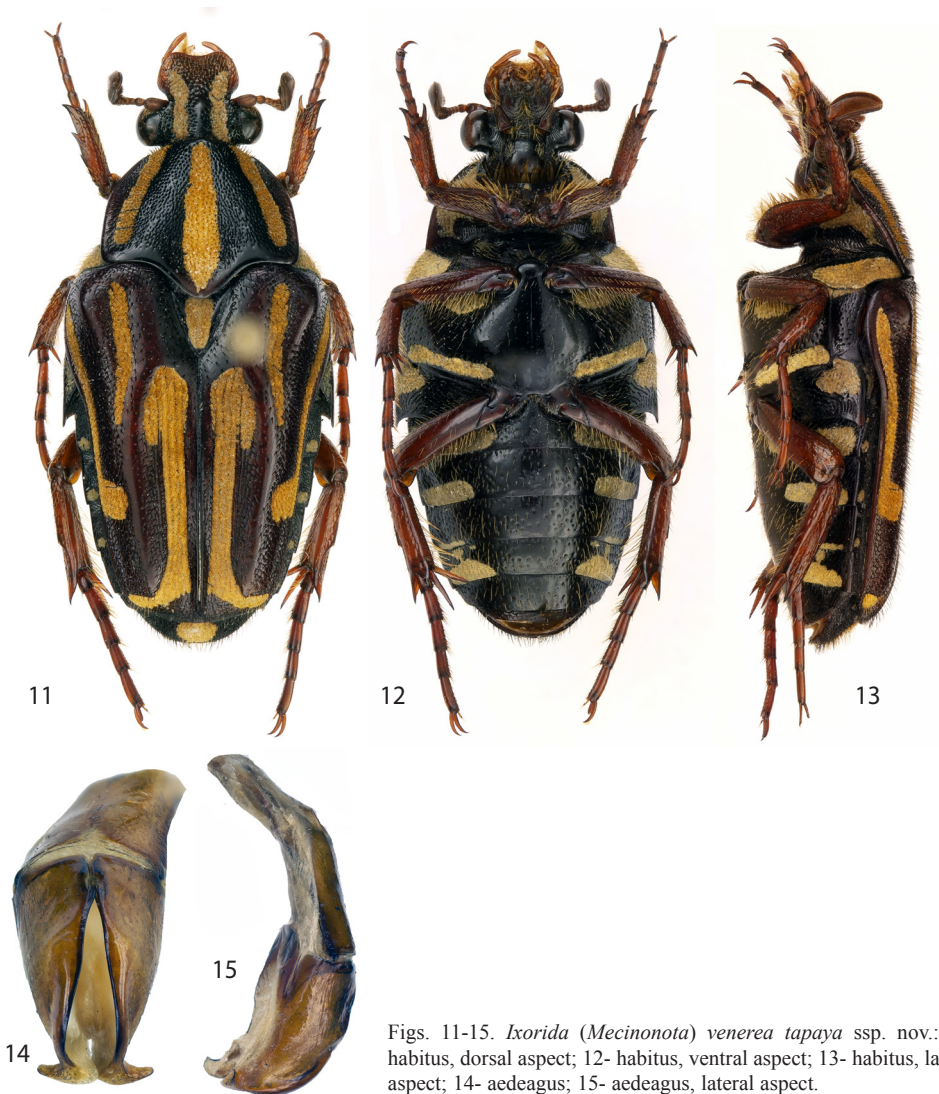
Legs. Coloration of femora, tibiae and tarsi brownish. Meso- and metafemora with yellow setation in posterior margin. Metatibia with long setae on inner side. Protibia tridentate, teeth nearly equidistant, posterior tooth very small and reduced.

Genitalia. Similar to other subspecies (Figs. 14-15).

**Variability.** Size 14-16 mm. Coloration and ornamental pattern in pronotum very uniform. Elytra with slight variability in ornamental pattern and brownish coloration, which is in some specimens much darker than in holotype. Some specimens with blackish elytral sides.

**Sexual dimorphism.** Size same as in males. Appearance very similar to males, but elytra slightly wider and more robust, protibiae also wider and more robust than in males.

**Differential diagnosis.** The newly described subspecies *Ixorida (Mecinsonota) venerea tapaya* ssp. nov. stays close to *Ixorida (Mecinsonota) venerea apelles* Thomson, 1860



Figs. 11-15. *Ixorida (Mecinonota) venerea tapaya* ssp. nov.: 11- habitus, dorsal aspect; 12- habitus, ventral aspect; 13- habitus, lateral aspect; 14- aedeagus; 15- aedeagus, lateral aspect.

described from the Bacan Island. It differs in elytral and pronotal punctation which is more denser and deeper in the newly described subspecies. Pronotal vittae in ssp. nov. always narrow with much wider black interspaces, but wider in subspecies from Bacan. Also elytral ornament slightly less developed in sense that elytra longitudinal stripes are generally narrower and shorter. Elytral coloration brownish in both congeners, but in population from Bacan slightly lighter and in large part of specimens very distinctly lighter.

**Etymology.** Named after Tapaya village in southern coast of Obi Island, type locality of the newly described subspecies.



**Distribution.** INDONESIA: Central Moluccas, Obi Island.

***Ixorida (Mecinsonota) venerea ibu* ssp. nov.**

(Figs. 16-20)

**Type locality.** Indonesia, Northern Moluccas, Halmahera Island, Mount Ibu.

**Type material.** Holotype (♂) labelled: Indonesia, C. Moluccas / HALMAHERA isl. / MT. IBU, 12. 2004 / local collectors lgt., (SJCP). Paratypes: (No. 1 ♂, No. 2 ♀) labelled: same as holotype, (SJCP); (No. 3 ♂) labelled: Indonesia, N. Moluccas / Halmahera, MT. IBU / 4. 2004, local collectors, (SJCP).

**Description of holotype.** Body size 15.0 mm (excluding pygidium). Bicolored, with black pronotum and reddish elytra.

Head. Frons black, clypeus reddish. Posterior side of clypeus and whole lateral side of frons with longitudinally running yellow vitta. Punctures large, larger than interspaces. Apex of clypeus moderately emarginated. Antennae reddish, length of club and footstalk approximately same. Setation yellowish and black, dense.

Pronotum. Black with three longitudinally running yellow vittae, which are wider than black interspaces. Sides obtusely bordered. Posterior, pronotal margin glabrous, shining. Punctuation dense, in some parts confluent.

Scutellum. Black, excepting anterolateral margins, with cover of yellow ornament.

Elytra. Coloration brownish to reddish. Small area beside and below scutellum blackish. Yellow, ornamental pattern similarly developed as in *Ixorida (Mecinsonota) venerea apelles* Thomson. Elytral disc finely punctured, sides and apex striolated. Sutural ridge in its apical half elevated, but not protruding over elytral apex. Humeral and apical calli moderately developed. Setation dense, its coloration yellow and black.

Pygidium. Black, granulated. Pygidial disc with yellow patch.

Ventrum. Sides of abdomen, metasternum, nearly whole mesepimeron and sides of prosternum with cover of yellow ornament. Punctuation of abdomen moderate, in metasternal plate absent. Sides of metasternum and prosternum striolated. Mesometasternal process wider than long, its apex obtusely rounded. Abdomen arched. Yellowish setation present, but sparse.

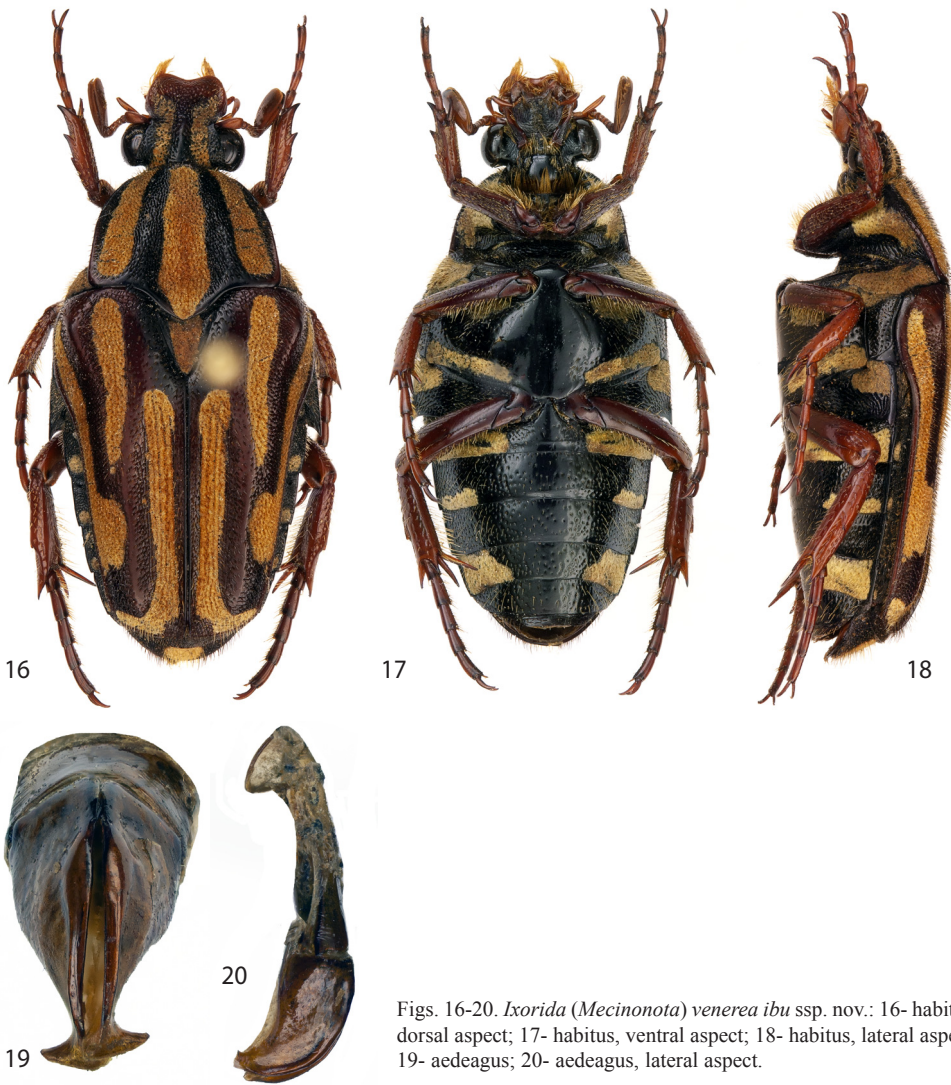
Legs. Completely reddish. Meso- and metafemora with yellowish setation in posterior margins. Metatibiae with long setation on inner sides. Protibia tridentate, nearly equidistant, posterior tooth very small.

Genitalia. Similar with other subspecies (Figs. 19-20).

**Variability.** Size 15-16 mm. In other aspects similar or same.

**Sexual dimorphism.** Size of female 14.8 mm. Body shorter, protibia tridentate, wider and more robust. Elytral ornamental vittae slightly wider than in males.

**Differential diagnosis.** The newly described subspecies *Ixorida (Mecinsonota) venerea ibu* ssp. nov. resembles populations from Bacan and Obi Islands (*Ixorida (Mecinsonota)*



Figs. 16-20. *Ixorida (Mecinsonota) venerea ibu* ssp. nov.: 16- habitus, dorsal aspect; 17- habitus, ventral aspect; 18- habitus, lateral aspect; 19- aedeagus; 20- aedeagus, lateral aspect.

*venerea apelles* Thomson and *Ixorida (Mecinsonota) venerea tapaya* ssp. nov.). It can be easily separated from both by differently composed pronotal yellow pattern. Pronotal vittae very broad with much narrower black interspaces, but with wider or same interspaces in its congeners from Bacan and Obi Islands. Pronotal punctation in the newly described subspecies approximately twice denser than in specimens from Obi Island and half times denser than in congener from Bacan Island.

**Etymology.** Named after Mount Ibu in Halmahera Island, the type locality of the newly described subspecies.

**Distribution.** INDONESIA, Northern Moluccas, Halmahera Island.

***Ixorida (Mecinonota) regia simeuleuana ssp. nov.***  
(Figs. 21-25)

**Type locality.** Indonesia, Sumatra, Aceh Province, Simeuleue Island.

**Type material.** Holotype (♂) labelled: INDONESIA / Simeuleu Isl. / 1995 5. / native collectors, (SJCP). Paratypes: (No. 1 ♂, No. 2 ♀) labelled: same as holotype, (SJCP).

**Description of holotype.** Body size 15.2 mm (excluding pygidium). Coloration completely black with strongly reduced dorsal and ventral whitish ornament.

**Head.** Black with lateral whitish vitta not reaching apex of clypeus. Anterolateral margins of clypeus brownish. Punctuation not very deep, but punctures large with circular shape. Interspaces between punctures much smaller than punctures diameters. Middle line in frons broad and glabrous. Apical margin of clypeus with shallow emargination. Antennae rather short, club brownish, footstalk black.

**Pronotum.** Black with three narrow, white longitudinally running vittae, one in disc, two running laterally. Anterior pronotal margin with fragments of white ornament. Sides in apical half with vague border, in basal half border completely flattened. Punctuation simple, sparser than in head, in sides denser than in rest of pronotum. Pronotal base glabrous.

**Scutellum.** Black, glabrous, impunctate, disc with cover of whitish ornament.

**Elytra.** Black with three irregularly shaped maculae in each elytron, one beside subhumeral emargination, second also placed laterally in posterior elytral half and one in front of elytral apex. Disc of each elytron with five, longitudinally running striolate lines. Punctuation of elytral disc fine to moderate, sides and apex shortly striolated. Setation black or orange in parts with ornament. Sutural ridge flat, in its apical half slightly elevated. Subhumeral emargination moderately developed, humeral and apical calli rather obtuse.

**Pygidium.** Black, granulated, disc with one circularly shaped macula.

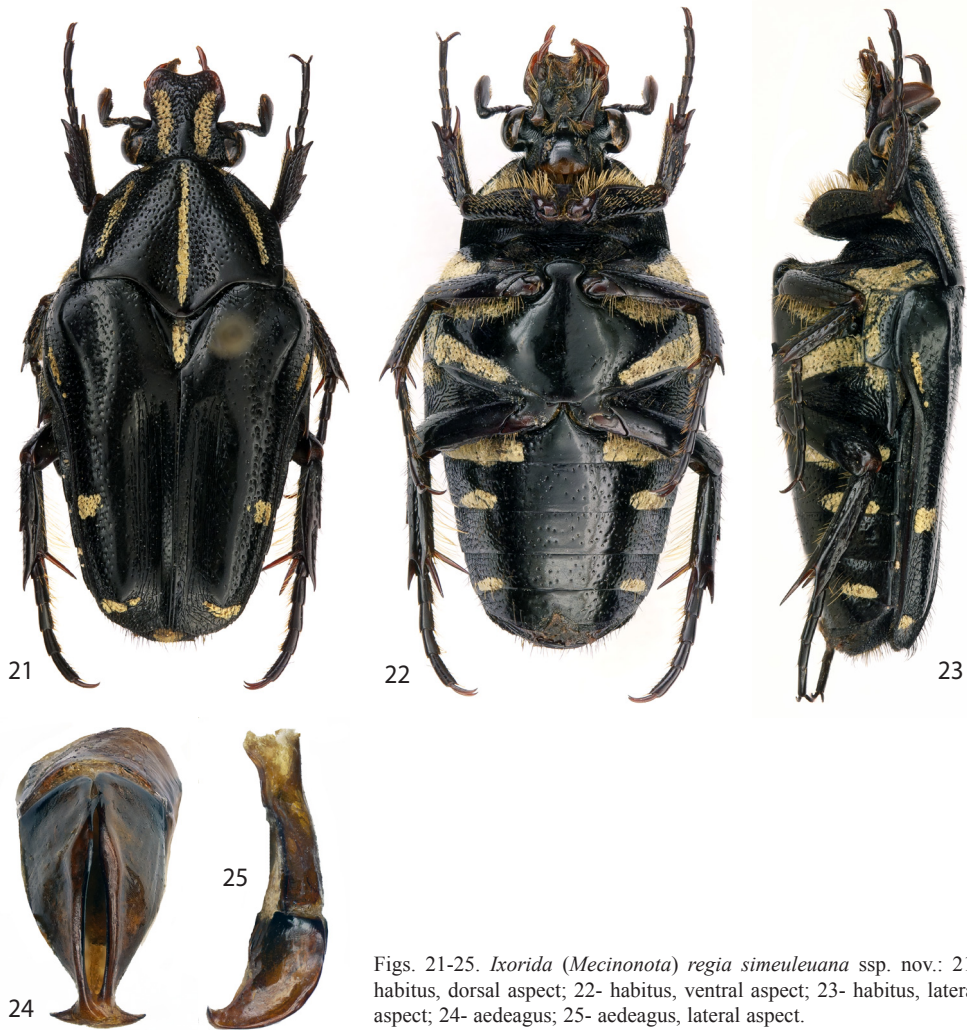
**Ventrum.** Black, moderately reflected. Whitish ornament more abundant than in dorsal side. Sides of first two and fourth abdominal segments, sides of metasternum, mesepimeron and part of prosternum with cover of whitish ornament. Abdomen arched, finely punctured. Mesometasternal plate impunctate. Mesometasternal process wider than long, its apex nearly straight. Setation whitish in parts with ornament, in rest of ventrum black.

**Legs.** Coloration dark brown to black, knees and spurs lighter. Protibia tridentate, slightly not equidistant.

**Genitalia.** Similar with other subspecies (Figs. 24-25).

**Variability.** Second available male larger, 16.2 mm and its white ornamentation of dorsum less developed.

**Sexual dimorphism.** Female size 16.0 mm. I cannot see any difference (excepting indistinctly more arched abdomen) between females and two males available.



Figs. 21-25. *Ixorida (Mecinsonota) regia simeuleuana* ssp. nov.: 21- habitus, dorsal aspect; 22- habitus, ventral aspect; 23- habitus, lateral aspect; 24- aedeagus; 25- aedeagus, lateral aspect.

**Differential diagnosis.** Newly described subspecies *Ixorida (Mecinsonota) regia simeuleuana* ssp. nov. is resembling *Ixorida (Mecinsonota) regia niasica* Mikšič, described from Nias Island. Whitish dorsal pattern more developed in subspecies from Nias, elytral subhumeral and apical maculae prolonged in vittae but more or less with maculae in newly described subspecies. In subspecies *niasica* with longitudinally running vitta in anterior half of disc in each elytron, which is completely absent in newly described subspecies. Also in ventral side whitish ornament in *niasica* broader and more abundant. Punctuation of dorsal side more expressed in subspecies from Nias Island.

**Etymology.** Named after the Simeuleue Island, type locality of the newly described subspecies.

**Distribution.** INDONESIA: Sumatra, Aceh Province, Simeuleue Island.

***Ixorida (Mecinsonota) regia palawana* ssp. nov.**

(Figs. 26-30)

**Type locality.** The Philippines, Palawan Island, Magara, Roxas.

**Type material.** Holotype (♂) labelled: PHILIPPINES / PALAWAN I., IX. 2019 / Magara, Roxas / local collector leg., (SJCP). Paratypes: (No. 1 ♀) labelled: Palawan / Roxas / I.- 2019, (PLCP); (No. 2 ♂♂, No. 3 ♀♀) labelled: Palawan/ Roxas / III. - 2019; (Nos. 4-5 ♂♂) labelled: Palawan / Roxas, Magara / VII. - 2019, (PLCP).

**Description of holotype.** Body size 14.8 mm (excluding pygidium). Bicolored pronotum and elytra with canary yellow dorsal and ventral ornament.

Head. Frons black, clypeus reddish. Lateral sides with canary yellow, longitudinally running vitta not reaching apex of clypeus. Punctuation moderately dense, diameters of punctures as large as interspaces. Frons with glabrous broad line in disc. Apex of clypeus with moderately developed emargination. Antennae reddish, length of club and footstalk approximately same.

Pronotum. Coloration black with brownish basal margin and anterolateral margins and three longitudinally running vittae, one in disc, two laterally. Punctuation deeper, but sparser than in pronotum. Diameters of punctures smaller than interspaces. Lateral border flat, more distinct near anterolateral margins. Base of pronotum glabrous and reflected.

Scutellum. Black, excepting impunctate side, with cover of yellowish ornament.

Elytra. Black, elytral disc brown. Canary yellow ornamental pattern approximately similarly looking as in other subspecies. Each elytron with five, longitudinally running striolate lines in each elytron. Rest of elytra with fine horse shoe shaped punctuation, sides and apex shortly striolated. Subhumeral emargination moderately developed, humeral and apical calli rather obtuse. Sutural ridge elevated, but rather low, its protrusion over elytral apex is missing.

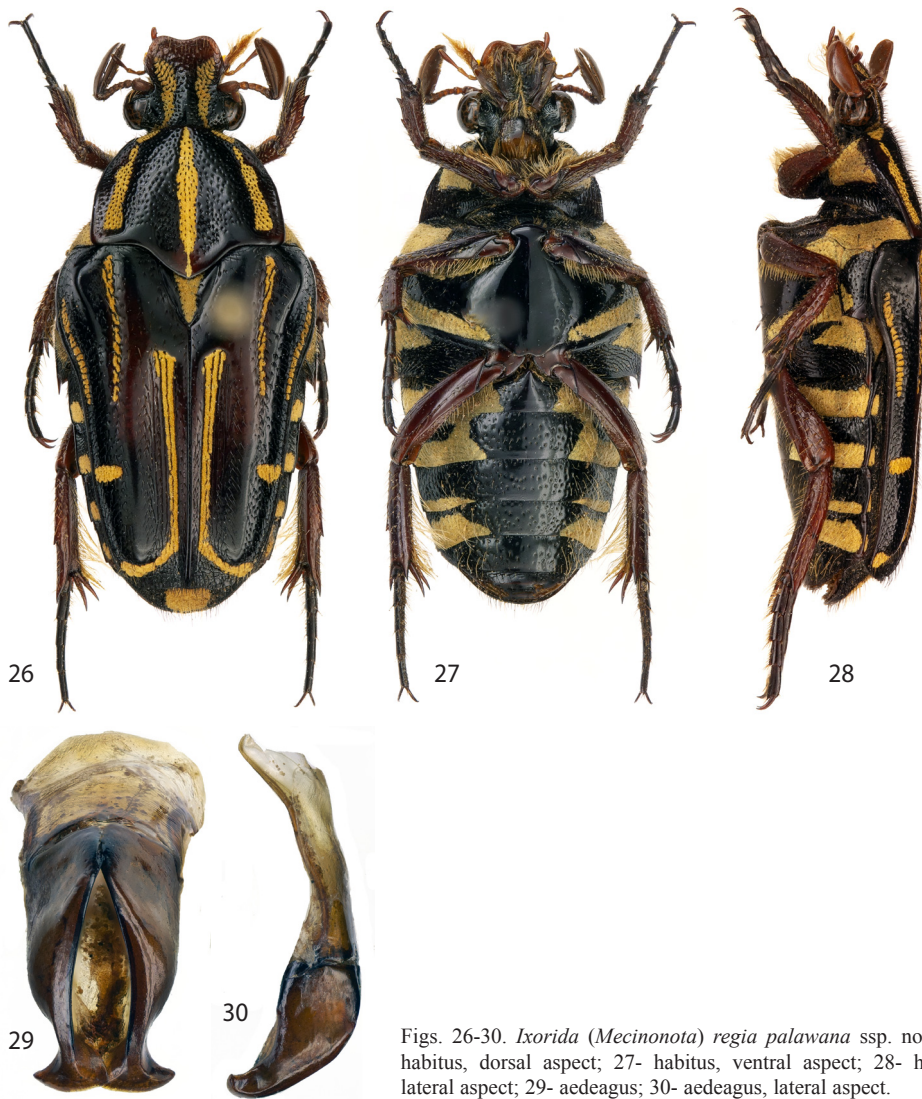
Pygidium. Black, rugose, pygidial disc with one circularly shaped patch of yellow ornament.

Ventrum. Black with arched abdomen and pattern of canary yellow ornament, which covers each lateral side of abdominal segments, part of metacoxa, sides of metasternum, nearly whole mesepimeron and sides of prosternum. Metasternal plate glabrous, shining, impunctate. Mesometasternal process wider than long, its apex broadly rounded. Setation mostly yellowish, setation in sides much longer.

Legs. Coloration reddish, tarsi brown to black, tarsal claws lighter. Protibia tridentate, teeth nearly equidistant. Inner sides of meso- and metatibia with long yellowish setation.

Genitalia. Comparing to other subspecies, male aedeagus of population from Palawan with broader and larger hook in parameral apex (Figs. 29-30).

**Differential diagnosis.** Newly described subspecies of *Mecinsonota regia* Fabricius from Palawan Island differs from other subspecies occurring in Indonesia and continental Asia by a complex of the following characters: pronotum black with brownish pronotal base and



Figs. 26-30. *Ixorida (Mecynonota) regia palawana* ssp. nov.: 26- habitus, dorsal aspect; 27- habitus, ventral aspect; 28- habitus, lateral aspect; 29- aedeagus; 30- aedeagus, lateral aspect.

brownish anterolateral margins; elytra brownish with black disc; canary yellow ornament covers parts of head, pronotum, elytra, pygidium and ventrum; antennae reddish; size 15-16 mm; protibia of males tridentate, nearly equidistant; apical hook of male aedeagus broad and large.

**Etymology.** Named after the Palawan Island, type locality of the newly described subspecies.

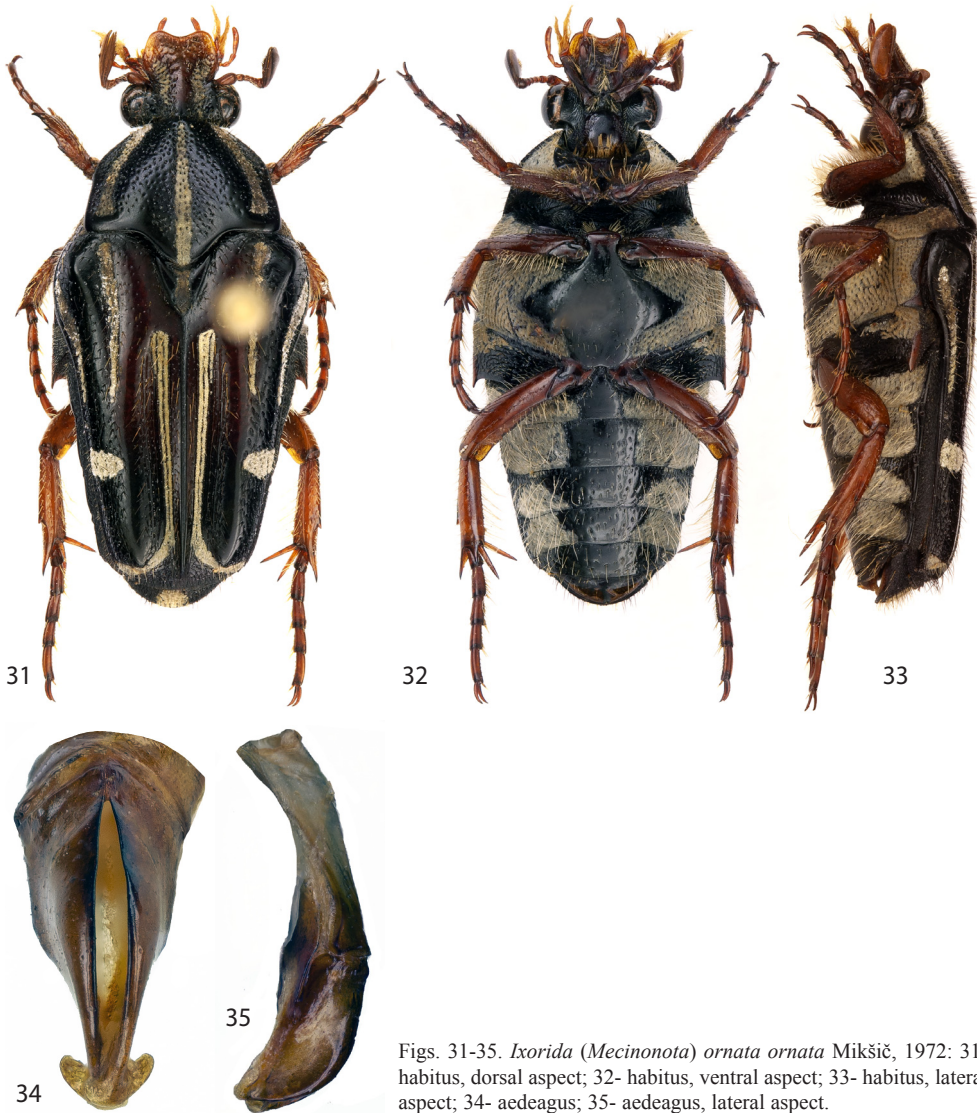
**Distribution.** The PHILIPPINES: Palawan Island.

*Ixorida (Mecinsonota) ornata ornata* Mikšič, 1972 stat. nov.

(Figs. 31-35)

*Ixorida (Mecinsonota) pseudoregia malayensis* Antoine, 1986: 14 (original description); Type locality. "S'pore" (= Singapore). Type material. Holotype (♂) (BMNH), Paratypes 3 ♂♂ and 1 ♀ (BMNH, MNHN); **syn. nov.**  
*Mecinsonota pseudoregia malayensis* Antoine: Krajčič 1998: 91 (catalogue).

**Type locality.** "West-Sumatra" (= Indonesia, West Sumatra).



Figs. 31-35. *Ixorida (Mecinsonota) ornata ornata* Mikšič, 1972: 31- habitus, dorsal aspect; 32- habitus, ventral aspect; 33- habitus, lateral aspect; 34- aedeagus; 35- aedeagus, lateral aspect.

**Type material.** Holotype (♂), Allotype (♀) labelled: West-Sumatra, (ZMHB). Paratypes: (6 ♂♂, 1 ♀) labelled: same as holotype, (ZMHB).

**Additional material examined:** 1 ♂ (SJCP) labelled: INDONESIA, West / Sumatra, MT. SANGGUL / ca 35 km N Payakumbuh / VIII.2013, Landai vill. env. / Local collector leg, 1200 m; 2 ♂♂ (SJCP) labelled: INDONESIA, West Sumatra pr. / MT. SANGGUL, 1200 m alt. / ca 35 km N of Payakumbuh / 17.XI. 2014, local collector leg; 1 ♂, 1 ♀ (SJCP) labelled: INDONESIA, West Sumatra Prov. / MT. SANGGUL, 1200-1900 m alt. / VI. 2013, cca 35 km N of / Payakumbuh, Landai vill. env. local collector leg; 1 ♂ (SJCP) labelled: INDONESIA, West Sumatra/ HARAU VALLEY ENV. / 600-900 m, II. 2013, cca 25 / km N of Payakumbuh/ St. Jákl leg; 1 ♂ (SJCP) labelled: I.W. Sumatra, 600m/ Payakumbuh, 6.-10. I. / Harau vill. env. / St. Jakl lgt, 1991; 1 ♀ (SJCP) labelled: WEST SUMATRA / Annai Valley - Lapai vill. / 600-700m, 1995 5. / native collectors; 1 ♀ (SJCP) INDONESIA, SE Sumatra/ Jambi prov. / X. 2009 / local collector leg.

**Distribution.** SINGAPORE; INDONESIA: Sumatra Island.

**Note.** Examination of type material of *Ixorida (Mecynonota) regia ornata* Mikšič, 1972 deposited in ZMHB and *Ixorida (Mecynonota) pseudoregia malayensis* Antoine, 1986 deposited in MNHN revealed that species are conspecific and therefore, a proposal here is to treat *Ixorida (Mecynonota) pseudoregia malayensis* Antoine, 1986 as a junior synonym of *Ixorida (Mecynonota) regia ornata* Mikšič, 1972. *Ixorida (Mecynonota) ornata* Mikšič, 1972 is here raised on species level.

***Ixorida (Mecynonota) ornata borneensis* Antoine, 1986 stat. nov.**

(Figs. 36-40)

*Ixorida (Mecynonota) pseudoregia borneensis* Antoine, 1986: 14, fig. 6 (original description); Legrand & Chew Kea Foo 2019: 56, photo 146 (Cetoniidae of Sabah).

*Mecynonota pseudoregia borneensis* Antoine: Krajčik 1998: 91 (catalogue).

**Type locality.** “N.Borneo, Bettotan, Nr. Sandakan” (= Malaysia, N. Borneo, Sabah state, Bettotan, near Sandakan).

**Type material.** Holotype (♂), Allotype (♀) labelled: N. Borneo, Bettotan, Nr. Sandakan, 6. VIII. 1927, (BMNH). Paratypes: (6 ♂♂, 2 ♀♀) (BMNH, MNHN).

**Additional material examined:** 1 ♂ (SJCP) labelled: INDONESIA, X. 2007 / S. Kalimantan / Mts. Meratus / local collector; 1 ♂ (SJCP) labelled: Indonesia, S. Kalimantan prov. / Kandangan distr., LOKSADO / 17km NE, St. Jákl lgt, 15.-30.11.97; 1 ♀ (SJCP) labelled: Mt. Bawang / W. Kalimantan/ INDONESIA/ III. 1992 // I. (*Mecynonota/pseudoregia / borneensis / Antoine/ Ph. ANTOINE det. 1998.*

**Distribution.** MALAYSIA: Borneo; INDONESIA: Kalimantan.

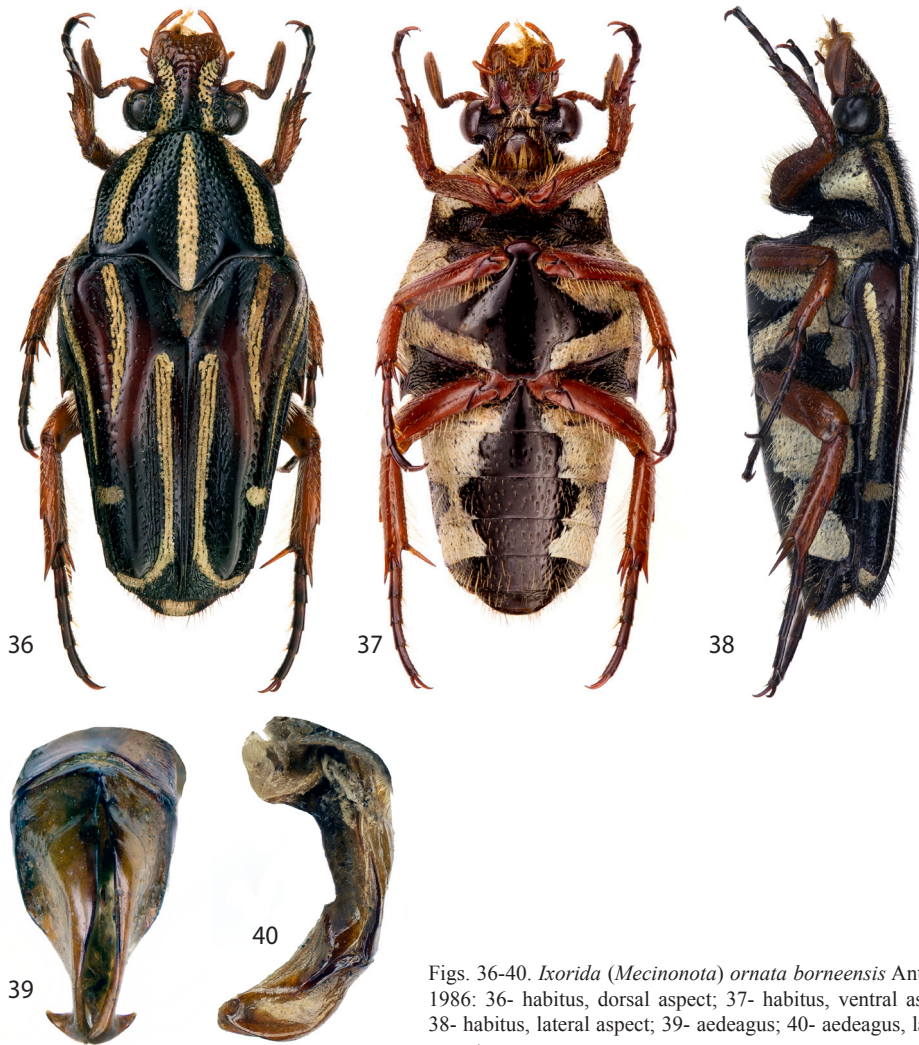
***Ixorida (Mecynonota) ornata diehli* Antoine, 1998 stat. nov.**

(Figs. 41-45)

*Ixorida (Mecynonota) pseudoregia diehli* Antoine, 1998: 76, figs. 26-31 (original description).

**Type locality.** “Indonesie, Siberut Isl., Saliguma” (= Indonesia, Mentawai Archipelago, Siberut Island, Saliguma village).



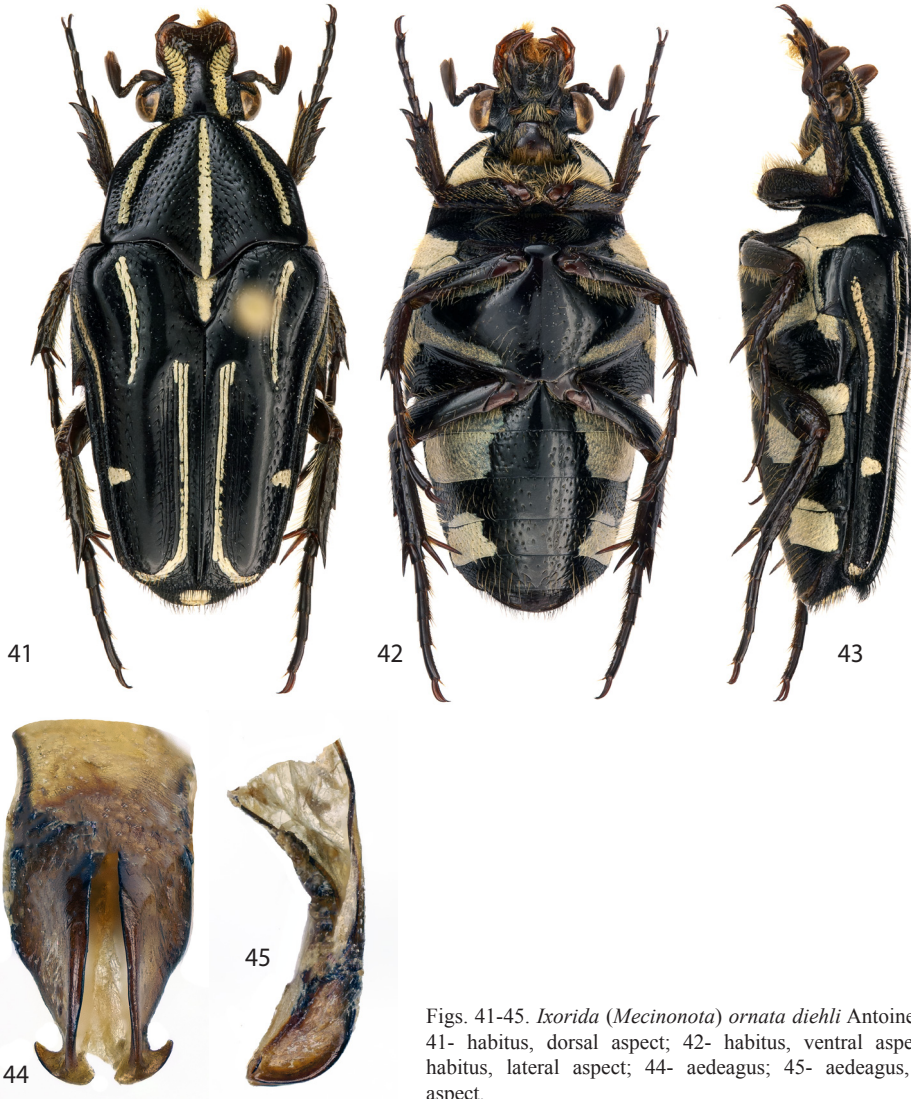


Figs. 36-40. *Ixorida (Mecynonota) ornata borneensis* Antoine, 1986: 36- habitus, dorsal aspect; 37- habitus, ventral aspect; 38- habitus, lateral aspect; 39- aedeagus; 40- aedeagus, lateral aspect.

**Type material.** Holotype (♂) labelled: Indonésie, Siberut Isl., Saliguma, 4. VII. 1993, (MNHN). Paratypes: (1 ♂) labelled: same as holotype; (1 ♂) labelled: Indonésie, Siberut Isl., 20.1.1993; (1 ♀) labelled: Indonésie, Siberut Isl., VIII.1989, (all MNHN - ex Antoine coll., KSCP).

**Additional material examined:** 10 ♂♂, 10 ♀♀ (SJCP) labelled: Indonesia, Mentawai Isls. / SIBERUT Is., N., Bojakan v. / 10.-23.IV. 2005, 100 m alt. / St. Jakl lgt; 1 ♀ (SJCP) labelled: Indonesia, Mentawai Isls. / S. Siberut Isl., 2. 2006/ Salappa env., 0-150m/ S. Jakl lgt.

**Distribution.** INDONESIA: Mentawai Archipelago, Siberut Island.



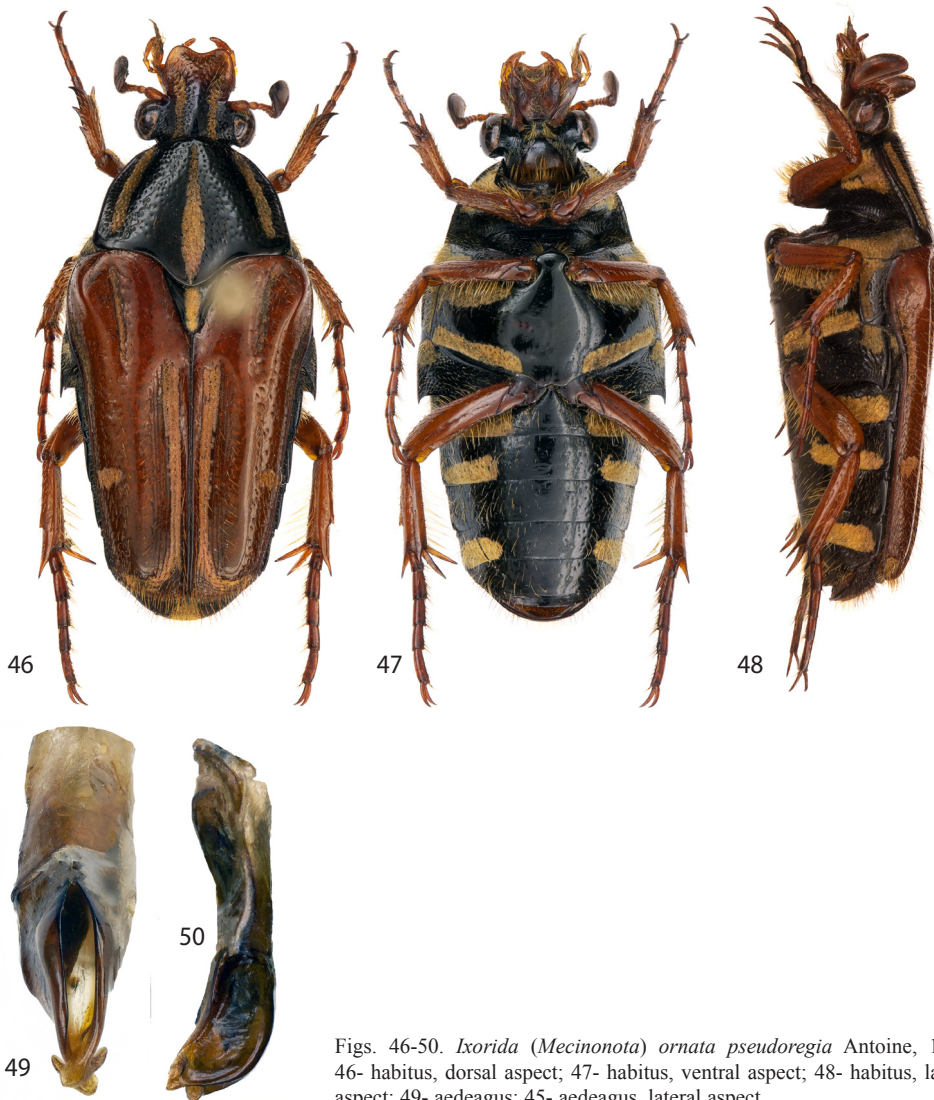
Figs. 41-45. *Ixorida (Mecinsonota) ornata diehli* Antoine, 1998: 41- habitus, dorsal aspect; 42- habitus, ventral aspect; 43- habitus, lateral aspect; 44- aedeagus; 45- aedeagus, lateral aspect.

***Ixorida (Mecinsonota) ornata pseudoregia* Antoine, 1986 stat. nov.**  
(Figs. 46-50)

*Ixorida (Mecinsonota) pseudoregia pseudoregia* Antoine, 1986: 14, fig. 6 (original description).

**Type locality.** "Java, Mts. Kawie" (= Indonesia, East Java, Kawie Mts.).

**Type material.** Holotype (♂), Allotype (♀) labelled: Java, Mts. Kawie, (BMNH). Paratypes: (2 ♂♂) labelled: Java, Mts. Kawie; (2 ♂♂, 3 ♀♀) labelled: Java, Plaboan Ratoe (= Java Island, Pelabuhan Ratu), (MNHN, BMNH).



Figs. 46-50. *Ixorida (Mecionota) ornata pseudoregia* Antoine, 1986:  
 46- habitus, dorsal aspect; 47- habitus, ventral aspect; 48- habitus, lateral  
 aspect; 49- aedeagus; 50- aedeagus, lateral aspect.

**Additional material examined:** 1 ♂ (SJCP) INDONESIA, East Java pr. / MT. ARGOPURO, I. 2018 / Bermi vill.  
 env., 1200-1500 m / local collector leg.

**Distribution.** INDONESIA: Java Island.

***Ixorida (Mecinsonota) ornata pseudodiehli* ssp. nov.**  
(Figs. 51-55)

**Type locality.** Indonesia, Great Sundas, Belitung Island.

**Type material.** Holotype (♂) labelled: Belitung Is. / Indonesia / IV. 1998, (SJCP). Paratypes: (No. 1 ♀) labelled: Indonesia, S Sumatra / BELITUNG ISL. / 5. 2005, local collectors lgt., (SJCP); (No. 2 ♀) labelled: same as paratype No.1, but 6.2002, (SJCP).

**Description of holotype.** Body size 12.8 mm (excluding pygidium). Completely black with whitish dorsal and ventral ornamental pattern.

Head. Coloration black, apical half of clypeus reddish. Sides with whitish ornamental vitta, which doesn't reach clypeal apex. Moderately punctured, diameters of punctures approximately same as interspaces. Sides wrinkled. Widest point in anterior half of clypeus. Antennae brownish, scape darker. Club slightly shorter than footstalk. Setation white.

Pronotum. Black, moderately shining. Sides and disc with light yellowish, longitudinally running vitta, which doesn't reach basal margin in sides, but discal one reaches base of pronotal lobe. Lateral border visible only in front of anterolateral margins, in rest of pronotal sides flat and obtuse. Punctation rather dense, diameters of punctures slightly smaller than interspaces. Posterior margin and basal lobe glabrous, shining. Setation dense, its coloration black.

Scutellum. Black, impunctate, disc with short and narrow white vitta.

Elytra. Black with light yellow pattern of ornament, its composition similar with other subspecies. Each elytron with five striolate lines, first three inner intervals with cover of whitish ornament. Rest of elytral disc with few fine punctures, each bearing black seta, this part of elytra strongly reflected. Lateral ridge and sides with denser punctation, usually horse shoe shaped. Elytral apex striolate. Sutural ridge slightly elevated, not protruding over elytral apex. Setation denser in sides, its coloration black.

Pygidium. Black with striolation, disc with white macula.

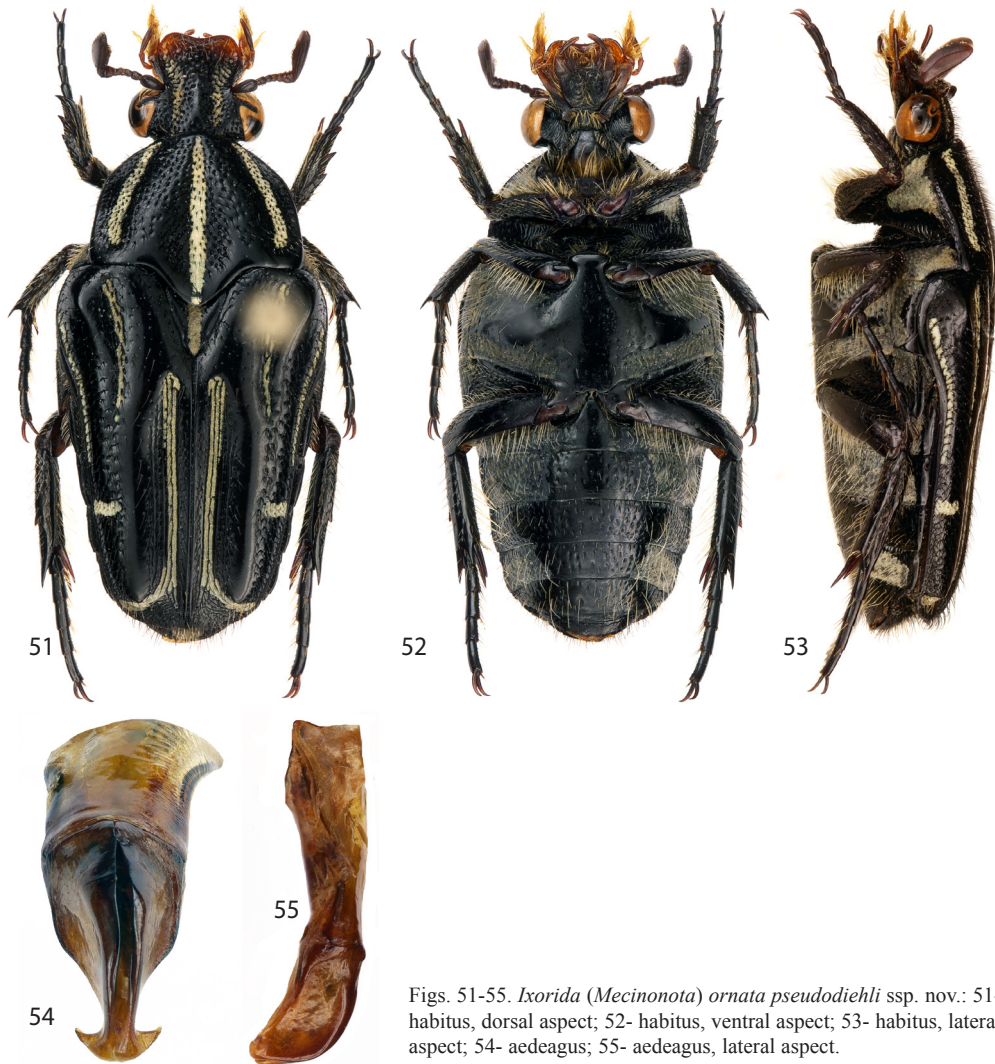
Ventrum. Black, sides with light yellow to beige ornament. Abdomen arched, finely punctured, metasternal plate impunctate. Sides of abdomen, metasternum and prosternum with white ornament. Mesepimeron completely covered with white ornament. Mesometasternal process twice wider than long, its apex nearly straight.

Legs. Coloration black with brownish coxae. Tibia and femurs with yellowish to whitish setation, mainly on inner sides. Protibia tridentate, teeth equidistant. Meso- and metatibia with carina in posterior half.

Genitalia. Similar with other subspecies (Figs. 54-55).

**Variability.** Only holotype male is hitherto known.

**Sexual dimorphism.** Size of females 12.5-13 mm (excluding pygidium). Protibia tridentate, but wider and more robust. Antennal club slightly shorter than in male. Punctation, white pattern and other characters similar or same as in male.



Figs. 51-55. *Ixorida (Mecinonota) ornata pseudodiehli* ssp. nov.: 51- habitus, dorsal aspect; 52- habitus, ventral aspect; 53- habitus, lateral aspect; 54- aedeagus; 55- aedeagus, lateral aspect.

**Differential diagnosis.** Newly described subspecies *Ixorida (Mecinonota) ornata pseudodiehli* ssp. nov. resembles *Ixorida (Mecinonota) ornata diehli* Antoine, described from Mentawai Islands (Siberut Island). In newly described subspecies coloration of dorsal and ventral ornament light yellowish, but white in its congener. Ornamental pattern slightly more expressed in insect from Belitung Island. Femur and tibia brown in insect from Siberut, but black in new subspecies. Punctation of dorsal side distinctly denser in newly described subspecies. Apical half of clypeus in males brownish in new subspecies, but only with brownish clypeal margin in its congener. In females apex of clypeus usually completely black in population from Siberut. Average size smaller in newly described subspecies.

**Etymology.** Name is derived from the Latin *pseudo-* and species name *diehli*.

**Distribution.** INDONESIA: Great Sundas, Belitung Island.

ACKNOWLEDGEMENT. My thanks go to Arnošt Kudrna (Rudolfovo, Czech Republic) for his never ending support with digital photography and to Jiří Háva (Praha, Czech Republic) for technical help with the manuscript.

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*Received: 9.6.2020*

*Accepted: 20.7.2020*

*Printed: 5.10.2020*