

New cetoniine beetles from Enggano and Simeuleu islands west of Sumatra (Coleoptera: Scarabaeidae: Cetoniinae)

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Taxonomy, new species, Coleoptera, Cetoniinae, Oriental region, Great Sunda Islands, Simeuleu Island, Enggano Island

Abstract. New Cetoniinae species *Agestrata ultramarina* sp. n. and *Taeniodera pentapunctata* sp. n. from Simeuleu Island and *Protaetia (Pachyprotaetia) hamidi* sp. n. and *Ixorida (Mecinonota) regia engganica* ssp. n. from Enggano Island are described, illustrated and compared with related taxa.

INTRODUCTION

During several previous years I had a chance to study some cetoniine beetles from the chain of islands west of Sumatra coast (from Simeuleu Island in the far north via Nias and Mentawai islands in the center down to Enggano Island in the south). This research confirmed again the high proportion of endemic taxa on these islands, due to their long separation from mainland Sumatra. During examination of the material from Simeuleu and Enggano islands I found four unknown taxa, which are described below. The new taxa belonged to the genera *Agestrata* Eschscholtz, 1829 (contains 17 known taxa), *Taeniodera* Burmeister, 1842 (contains known 83 taxa), *Protaetia* Burmeister, 1842 (contains known 390 taxa) and *Ixorida* J. Thomson, 1880 (contains known 76 taxa) and the present article supplemented by the recently published works about the genera (Antoine, 1994, Allard, 1995, Jákl & Krajčák, 2004, 2006, Krajčák, 1998, 1999, Mikšič, 1973, 1976, 1977 and Nagai & Sakai, 1998).

MATERIAL AND METHODS

Specimens were measured from the anterior margin of pronotum to the apex of elytra. Genitalia of most available males were dissected, aedeagus glued and pinned underneath the specimen. All type specimens bear red labels with printed species name and specification of the type - HOLOTYPE or PARATYPE, Jákl 2007. Each paratype has its own number and sex symbol.

DESCRIPTIONS

Agestrata ultramarina sp. n. (Figs 1-5)

Type material. Holotype (♂): Indonesia, N. Sumatra, Simeuleu isl., 2.2006, local collector

lgt. Paratype: (1 ♀): Indonesia, Simeuleu isl., 5.1995, native collectors. Holotype and paratype deposited in the author's collection.

Description of holotype. Body (Figs 1-3). Length (excluding head and pygidium) 46.5 mm, maximum humeral width 25.5 mm. Dorsum broad, robust, dark bluish green, glabrous.

Head dark bluish green. Frons indistinctly granulated, narrowing toward clypeus. Granulation of clypeus more distinct, lateral carinae very obtuse. Antennae black, antennal club as long as stalk.

Pronotum flat, smooth except fine granulation at posterolateral margin.

Scutellum very small, sharply pointed.

Elytra with fine microsculpture, near posterolateral margin finely striolate. Punctuation lines reduced to two very fine, short lines below humeral calli. Elytral suture anteriorly flat, in posterior half elevated. Apical calli striolated. Epimeron black with dark green hue, finely striolated.

Pygidium black with dark green hue, densely striolated.

Abdomen smooth, with very fine microsculpture and few small punctures at each sternite. Metasternum granulated, near lateral margins striolate. Mesometasternal process small, blackish, smooth, extending briefly forward. Anterior margins of each abdominal segment, basal margin of metasternum and mesometasternal suture with violet reflections. Metepisternum granulated, prosternum and mentum with few striolae. Mentum with brown hairs.

Legs black. Protibia tridentate, mesotibia and metatibia not carinated.

Aedeagus (Figs 4-5) of characteristic shape. Lamina exterior very wide and almost reaching apex of lamina interior.

Sexual dimorphism. Female darker, especially on pronotum. Protibia shorter and more robust. Metatibia with one transverse carina. Border of pronotum more developed in posterior half of lateral margin.

Differential diagnosis. Four species of *Agestrata* Eschscholtz, 1829 inhabit the region: *A. orichalca* (Linnaeus, 1769), *A. dehaan* Gory-Percheron, 1833, *A. belitungana* (Mikšić, 1973) and *A. amakerei* Jákl & Krajčák, 2006. *A. ultramarina* sp. n. differs from all of them in shape (broad and robust) and dorsal as well as ventral coloration (uniformly dark bluish green). All other representatives are dorsally green with metallic reflections and ventrally golden green or metallic green, always with strong reflections. Other differences are the absence of metatibial lateral carina in males and the unique shape of parameres.

Distribution. Indonesia, N. Sumatra, Aceh province, Simeuleu Island.

Etymology. Named for coloration of the dorsum.

Taeniodera pentapunctata sp. n.

(Figs 6-13)

Type material. Holotype (♂): Simeuleu isl., Aceh prov., Indonesia, Dec. 1990. Paratype: (no. 1, ♂) the same data as holotype; (no. 2, ♀): Indonesia, Simeuleu isl., v.1995, native collectors; (nos 3-7, ♂♂): Simeuleu Is., May 1991; (nos 8-10, ♀♀): the same data as paratypes nos 3-7;



Figs 1-5. *Agestrata ultramarina* sp. n.: 1- habitus dorsal aspect; 2- habitus lateral aspect; 3- habitus ventral aspect; 4- aedeagus; 5- aedeagus lateral aspect.

(nos 11-16, ♂♂): Simeulue Is., Dec.1990; (no.17, ♀): the same data as paratypes nos. 11-16. Holotype and paratypes nos 1-2 deposited in the author's collection, paratypes nos 3-17 in coll. K. Sakai, Japan.

Description of holotype. Body (Figs 6-8). Length (excluding head and pygidium) 18.0 mm, maximum humeral width 10.5 mm.

Head. Frons laterally coarsely punctate, basal margin bears long reddish hairs. Medial longitudinal ridge well developed. Clypeus deeply bilobed and reflexed. Lateral margins longitudinally striolated, distal part deeply punctate. Antennal club brownish, rest of antenna black. With yellow hairs. Mentum with long reddish pilosity.

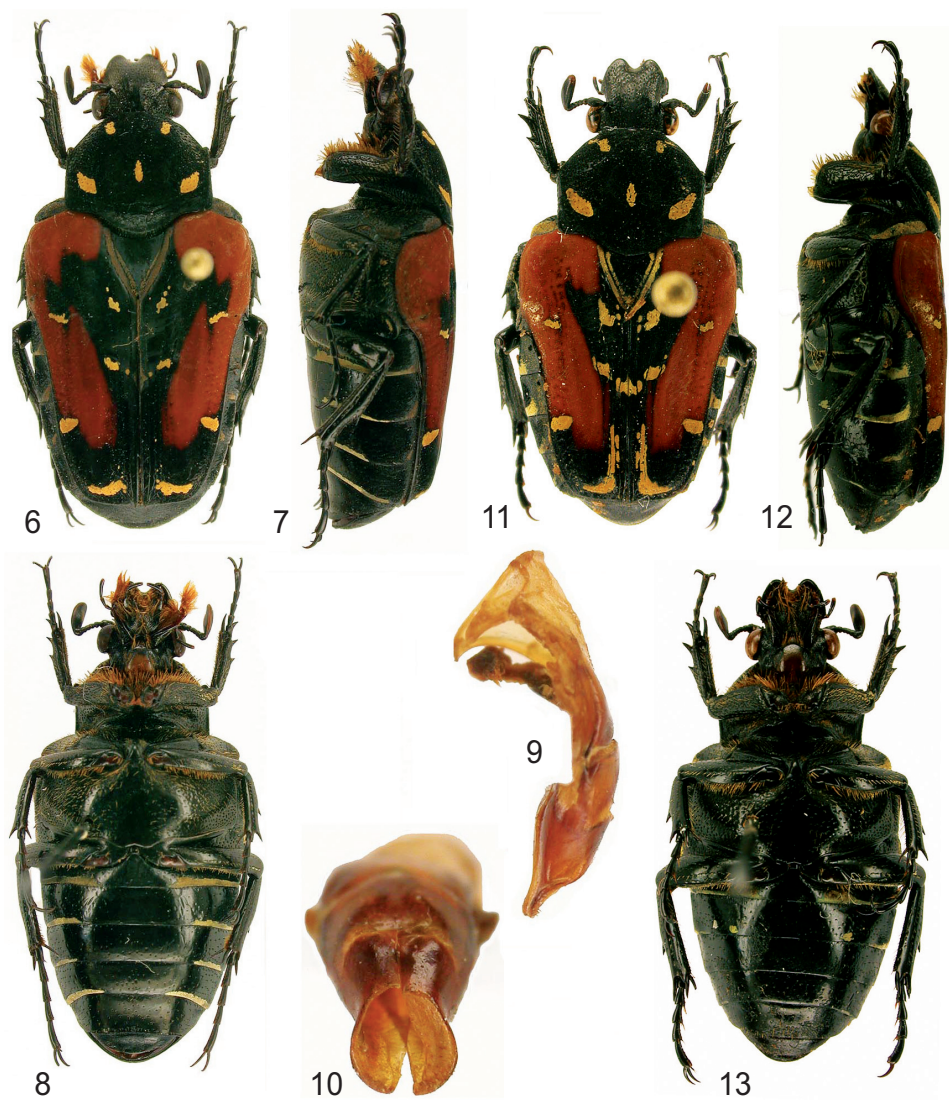
Pronotum black, matte, punctate. Each puncture rather large, bearing one reddish seta. Punctuation much denser near anterior and lateral margins. Anterior parts of lateral margins entirely bordered. Ornament consists of five yellow tomentose spots, one pair near anterolateral margins, another pair near posterolateral margins, and one spot in discal part of the pronotum. Basal lobe matte, impunctate, not bordered.

Scutellum black, matte, with few striolae near apex, otherwise impunctate. Bordered laterally with yellow tomentation.

Elytra: prescutellar, sutural and apical areas black, other parts reddish. Each elytron decorated with five small, yellow, tomentose spots (Fig. 6). Four striolate lines run along suture. Apex and apical calli wrinkled. Epimeron black, with short setae, basally covered by yellow tomentation.

Pygidium black, reflexed, uniformly wrinkled, densely covered with short, whitish pilosity.

Ventrum black, very convex. Each abdominal sternite anteriorly with a narrow stripe of silky tomentation interrupted only in midsection. Abdomen laterally striolated, in discal part coarsely punctate. Metasternum (except midsection) very densely punctate. Each puncture



Figs 6-13. *Taeniodera pentapunctata* sp. n. (male): 6- habitus dorsal aspect; 7- habitus lateral aspect; 8- habitus ventral aspect; 9- aedeagus lateral aspect; 10- aedeagus; (female): 11- habitus dorsal aspect; 12- habitus lateral aspect; 13- habitus ventral aspect.

bears one long, whitish seta. Mesometasternal process short, punctate, anteriorly with a glabrous, keel-shaped declivity. Mesepimeron wrinkled, metepisternum coarsely punctate.

Legs black, protibia tridentate, all tibiae with yellowish setae.

Parameres simple, with rounded apex and no apical hook (Figs 9-10).

Variation. The males differ only in size, paratype no. 1 being shorter (16.5 mm).

Sexual dimorphism. Female (Figs. 11-13). Paratype no. 2 is shorter (15 mm) and 9 mm in

maximum width. The black area at suturo-discal part is narrower, the posterior pair of yellow tomentose spots extends into the sutural area (males have the spots placed near the apex), and the protibia is shorter and more robust.

Differential diagnosis. *Taeniodera* Burmeister, 1842 has been so far not known from Simeuleu Island. By the coloration and paramere morphology the new species is close to *T. beaudouini* Pavicevic, 1984 from Malaysia and Sumatra, *T. sikerei* Jákl & Krajčák, 2006 from Siberut Island, and *T. niasana* Schoch, 1898 from Nias Island. It differs from those species in the tomentose pattern and morphology of the parameres.

Distribution. Indonesia, N. Sumatra, Aceh province, Simeuleu Island.

Etymology. Named for the pattern of pronotal tomentation, which appears to be constant and characteristic for the species.

***Protaetia (Pachyprotaetia) hamidi* sp. n.**

(Figs 14-18)

Type material. Holotype (♂): Indonesia, ENGGANO ISL., cca 120 km W of S. Sumatra, v.2005, local collectors lgt. Paratypes: (nos. 1-2, ♂♂), same data as holotype; (nos. 3-7, ♀♀), same data as holotype; (no. 8, ♀): Indonesia, Enggano isl., viii.1995, native collectors. Holotype and all paratypes deposited in the author's collection.

Description of holotype. Body (Figs 14-16). Length (excluding head and pygidium) 10.7 mm, maximum humeral width 9.1 mm. Bronze green, shining, dorsum and ventrum with fine yellowish tomentation.

Head. Frons and clypeus densely punctate, punctures circular, bear yellowish-white tomentation. Punctuation and tomentation laterally more dense, almost confluent. Anterior margin of clypeus sharply elevated, bilobed. Frons covered with short yellow hairs. Clypeus, especially its anterior part, with longer hairs. Antennae brown with few yellowish hairs.



Figs 14-18. *Protaetia (Pachyprotaetia) hamidi* sp. n.: 14- habitus dorsal aspect; 15- habitus lateral aspect; 16- habitus ventral aspect; 17- aedeagus; 18- aedeagus lateral aspect.

Antennal club shorter than flagellum and pedicel combined.

Pronotum. Grass green, reflexed, punctate. Punctures circular, more densely spaced near anterior and lateral margins. Punctures near lateral margins larger, covered with tomentation, other punctures smaller, some covered with tomentation. Lateral margins along whole length covered with yellowish-white band of tomentation that reaches basal margin. Few punctures bear short whitish setae.

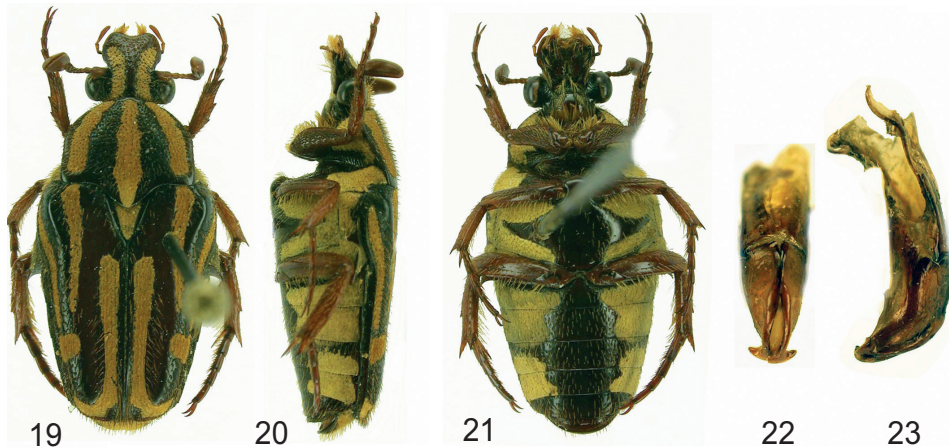
Scutellum triangular, apically rounded, grass green, shining, impunctate.

Elytra. Base, humeral calli and lateral margins brownish. Depressed postscutellar area, lateral ridge, elytral suture and apex dark bronze green. Discal area, elytral suture and lateral ridge with metallic green lustre. Punctuation rather dense, punctures at base and postscutellar area circular, elsewhere semicircular. Most of punctures bear whitish tomentation. Tomentation of lateral margins composed of numerous tiny spots almost confluent in anterior half of elytron and more discrete in posterior half. Four transverse spots occupy posterior half of elytras, two near suture, one near lateral margin at about two-thirds of length, and one between apical callus and lateral margin. Apex completely tomentose. Suture posteriorly prolonged, its apex rounded. Epimeron dark green, coarsely punctate, punctae tomentose and pilose.

Pygidium dark bronze green, uniformly covered with ochre tomentation and short yellowish hairs.

Abdomen metallic grassy green. Distinct, wide abdominal impression thinly punctate, punctures bear ochre tomentation and short setae. Lateral parts of all segments with abundant transverse stripes of tomentation. Metasternum metallic green, smooth along medial line, with rugose punctuation and striolation laterally, covered by tomentation. Pilosity longer than abdominal. Mesosternal process small, obtusely triangular, extending briefly downwards, behind transverse furrow covered by long hairs. Prosternum and mentum also covered by abundant ochre tomentation and long hairs.

Legs metallic green, with brushes of long and dense pilosity on inner sides. Protibia



Figs 19-23. *Ixorida (Mecinonota) regia engganica* ssp. n.: 19- habitus dorsal aspect; 20- habitus lateral aspect; 21- habitus ventral aspect; 22- aedeagus; 23- aedeagus lateral aspect.

unidentate, its surface coarsely punctate, with longitudinal central furrow covered by ochre tomentation. Meso- and metatibia coarsely punctate, bearing ochre tomentation and setae. Parameres (Figs 17-18) resemble those of *P. (Pachyprotaetia) ciliata* Olivier, 1785.

Variation. Colour and tomentation constant, length varies from 14.5 to 15.7 mm.

Sexual dimorphism. Females are more robust and wider, their pronotal, elytral and abdominal punctation is more dense and coarser, clypeus is not as sharply elevated and bilobed, abdominal and metasternal tomentation is reduced, and antennal club is shorter. Length varies from 14.6 to 15.5 mm.

Differential diagnosis. The closest allied species is *P. (Pachyprotaetia) ciliata* Olivier, 1785, which occurs in Sumatra, Kalimantan, Nias, Java and Bali (a recent record). It differs from the new species in the following characters:

<i>P. (Pachyprotaetia) hamidi</i> sp. n.	<i>P. (Pachyprotaetia) ciliata</i> Olivier, 1785
Grassy green, entirely brownish, shining	Reddish brown to greenish brown or blackish brown, matte
Yellowish-white tomentation more abundant	Yellowish-white tomentations thinner
Elytral lateral ridge distinct, sharp near apex	Elytral lateral ridge obtuse
Pronotal and elytral punctation coarse and dense	Pronotal and elytral punctation finer

Distribution. Indonesia, Great Sunda Islands, Enggano Island ca. 120 km W of S. Sumatra (Bengkulu province).

Etymology. Named after my friend Mr. Abdul Hamid (Java, Indonesia), a very experienced collector and organiser of many expeditions throughout Indonesia.

Ixorida (Mecinotha) regia engganica ssp. n.

(Figs 19-23)

Type material. Holotype (♂): Indonesia, ENGGANO ISL., 1.1995, native collectors. Paratypes: (nos. 1-20, ♂♂): same data as holotype; (nos. 21-38, ♀♀): same data as holotype; (nos. 39-58, ♂♂): Indonesia, Bengkulu prov., ENGGANO ISL., 0-100 m, cca 120 km W of Sumatra, 4.2005, local collectors lgt.; (nos. 59-65, ♀♀): same data as paratypes nos. 39-58. Holotype and all paratypes deposited in the author's collection.

Description of holotype. Body (Figs 19-21). Length from apex of pronotum to apex of elytra 9.7 mm, maximum humeral width 5.5 mm.

Head reddish black, laterally with two bands of yellow tomentation, base of frons black. Clypeus emarginate, entirely bordered, punctate, uniformly covered with yellow pilosity. Antenna reddish brown, stalk shorter than club. Laterally with two bands of yellow tomentation.

Pronotum black, punctate, glossy. Anterolateral margin bordered. Decorated with three transverse bands of yellow tomentation. Basal lobe and lateral margins impunctate.

Scutellum black, except for lateral margins covered with yellow tomentation.

Elytra bicolorous. Between elytral ridge and suture reddish brown (suture blackish), between elytral ridge and lateral margins black, shining. Each elytron decorated with three longitudinal bands of yellow tomentation and one oval spot situated at three-quarters of

length near lateral margin. Lateral part black and finely wrinkled, discal part brown and finely punctate. Elytras covered with yellow-brownish setae.

Pygidium black except for apex that bears yellow tomentation and yellow hairs.

Abdomen brown, punctate, medial furrow very fine. Except for midsection covered with golden yellow tomentation. Yellow pilosity present also on untomented midsection.

Metasternum black, impunctate, lateral margins with abundant golden yellow tomentation. Yellow pilosity thinner than on abdomen. Mesometasternal process reddish brown, wide and blunt. Prosternum and mentum brown, covered with hairs, lateral margins with yellow tomentation.

Legs. All coxae, tibia and tarsi completely reddish. Protibia tridentate, proximal tooth very small. Tarsi long, with short setae.

Parameres similar to other subspecies, terminal hook more obtuse.

Variation. Colour and pronotal tomentation constant. Bicolourous elytra also with pattern constant, in a few specimens entire apical third is black and depressed sutural part brown to dark brown (not reddish).

Sexual dimorphism. Females are very similar to males, slightly more robust, with protibia thicker and body slightly shorter.

Differential diagnosis. *Ixorida (Mecinotha) regia engganica* ssp. n. is unique among the subspecies its small size, robust and wide body and bicolourous elytra. It differs from *I. (Mecinotha) regia* ssp. *bicolor* Kraatz, 1899 and *I. (Mecinotha) regia* ssp. *sumatrana* Mikšić, 1972 in size, wider and yellow bands of tomentation and shorter, more obtuse paramere termination (Figs 22-23).

Distribution. Indonesia, Bengkulu province, Enggano Island.

Etymology. Named after the island.

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