

## Gymnetini of the Indonesian Molucca Islands (Coleoptera: Scarabaeoidea: Cetoniinae)

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**Abstract.** *Clinteria* Burmeister, 1842 species occurring in the Molucca Islands (Indonesia) are studied. All together five species are illustrated and six species are compared. *Clinteria babarica* sp. nov. from Babar Island is described, illustrated and compared with its closest congeners. The female of *Clinteria porloyi* Jákl, 2020 is pictured for the first time and a short description with differential diagnosis is given. Characters differentiating species from the Lesser Sunda Islands and species from the Molucca Islands are briefly discussed. *Clinteria moae* Jákl, 2007 syn. nov., is here synonymised with Schurhoff's species described as *Clinteria imperialis* subsp. *moae* Schurhoff, 1942 and this subspecies is raised to species level.

### INTRODUCTION

The tribe Gymnetini in the Oriental and Australian Regions is represented only by one genus, *Clinteria* Burmeister, 1842 which is very rich in species. The genus is separated into two subgenera, nominotypical with 63 currently described species and monotypical subgenus *Paraclinteria* Legrand & Chew Kea Foo, 2010. Many species have wide distributions and seem easy to subspeciate. Thirty six subspecies is currently recognised in several species with wide distributional areas.

The distribution area of *Clinteria* Burmeister, 1842 is large, encompassing the southern parts of the Palearctic region (Pakistan, N India, Bhutan, China, Nepal, Taiwan), India (including Sri Lanka) and SE Asia. It also occurs in Indonesia and the Philippines. In Indonesia, the genus occurs throughout the Greater and Lesser Sunda Islands and southern part of the Moluccan Archipelago. Interestingly no species are reported from Sulawesi.

This study concentrates on species from remote parts of the Molucca Islands. Currently five species are known, all from the southern part of the Archipelago. Two species are endemic to the Bharat Daya Islands in the southwestern part of the Molucca Islands, three species from the south and southeastern part, respectively from the Tanimbar and Key Archipelagos. Due to the remoteness of this area all the species have been described in 20th century, excluding only *Clinteria* (s.str.) *nigra* Kraatz, 1899. The species can be separated into two groups, one with velutinous dorsum, opaque appearance and rich ornamentation, the second without velutinous derm, shining and costate elytra. Four species can be attributed to the first species group, with velutinous dorsum and rich dorsal ornamentation: *Clinteria moae* Schurhoff, 1942 endemic to Moa Island; *Clinteria dimorpha* Arrow, 1916

from Tanimbar Archipelago (Yamdena and Larat); *Clinteria porloyi* Jákl, 2020 known from Molu island (Tanimbar Archipelago) and *Clinteria alboguttata* Moser, 1905 from Key Archipelago. The second species group contains a single species *Clinteria nigra* Kraatz, 1999, a species without velutinous dorsum, no ornamentation, with elytral costae and strongly shining appearance. This complex of mentioned characters is very unique among all representatives of the genus.

The Moluccan Archipelago belongs to the transitional zone between the Oriental and Australian Regions. Only a few genera of flower beetles with a predominantly Indomalayan model of distribution crossed Wallace's line between Bali and Lombok Islands, see Jákl (2018), but only *Clinteria* Burmeister, 1842 doesn't stop in Timor (easternmost distribution of several genera or subgenera with predominantly Indomalayan origin), but goes far to the east.

Study of morphological characters (including male aedeagi) between species from Lesser Sundas and species from southern part of Moluccas revealed, that there are no strong characters separating species occurring in both geographic areas. Species from both areas differ mainly in the composition of dorsal and ventral ornamentation, body size, structure of punctation, shape of head, shape of mesometasternal process and usually structure of male aedeagus. However, there are some morphological characters which can't be found in species from the Lesser Sunda Islands, such as. *Clinteria nigra* Kraatz, 1899 occurring on Dammar Island and *Clinteria babarica* new species, from Babar Island. Both species are black, shining, completely lacking velutinous tomentum and ornamentation. The elytra of both are costate. Both mentioned characters can't be found in any other representatives of *Clinteria* Burmeister, 1842. Second, a very interesting character is the rather extreme sexual dimorphism in *Clinteria dimorpha* Arrow, 1916, *Clinteria porloyi* Jákl, 2020 and *Clinteria alboguttata* Moser, 1905. All three species occurring in the Tanimbar and Key Archipelagos, and males are always with abundant pronotal and elytral, yellowish ornamentation, which is very sparse or nearly missing in females.

Recently, the author of this article obtained several specimens of flower beetles from virtually unexplored Babar Island laying between the Bharat Daya Islands chain and the Tanimbar Archipelago. All together three Cetoniinae species have been identified. Beside *Poecilopharis babarica* Jákl, 2010 and *Protaetia (Pseudourbania) guttulata* Burmeister, 1842, several black, shining specimens of *Clinteria* Burmeister, 1842 have been found. At the first glance species looks like *Clinteria nigra* Kraatz, 1899 from Dammar Island. Examination of both sexes revealed that species differs in several morphological characters and will be described in this work.

The author of this paper described *Clinteria moae* Jákl, 2007 from tiny Moa Island. Kuntzen (1929) in his catalogue of *Clinteria* Burmeister, 1842 listed the name "moae" but did not describe the species. Schurhoff (1942) noticed that and published a short description of species from Moa island under the name *Clinteria imperialis* subsp. *moae* Schurhoff, 1942. His description was based on one male and one female. This paper was unfortunately overlooked by author of this work. The morphology and also distributional areas of species from the Molucca Islands are completely different than the Indian species *Clinteria imperialis* Paykull, 1817 and it should be considered as valid species, probably endemic only

to Moa Island in Molucca Islands. Therefore *Clinteria moae* Jákl, 2007 is here proposed as a junior synonym of *Clinteria imperialis moae* Schurhoff, 1942.

## MATERIAL AND METHODS

Specimens of newly described species 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 paratypes (in paratype label) and the 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 (/).

Specimens are deposited in following institutional or private collections:  
BMNH British Museum Natural History, London, England;  
DEIC Deutsches Entomologisches Institut, Eberswalde, Germany;  
SJCP Stanislav Jákl private collection, Praha, Czech Republic;  
ZMHB Museum für Naturkunde, Leibniz-Gemeinschaft, Berlin, Germany.

## TAXONOMY

### tribe Gymnetini Kirby, 1827 subtribe Gymnetina Kirby, 1827 Genus *Clinteria* Burmeister, 1842

*Clinteria* Burmeister, 1842: 299 (original description); Lacordaire 1856: 497, 501 (generical catalogue); Wallace 1868: 530 (catalogue); Mohnike 1871: 19 (Cetoniidae of Sunda islands and Moluccas); Kraatz 1880: 210 (generical catalogue of Australian Region); Schoch 1894: 202; Schoch 1895: 32,61; Schoch 1898: 112; Arrow 1910: 173, 176 (monograph); Schenkling 1921: 103 (catalogue); Kuntzen 1929: 166 (catalogue); Schurhoff 1942: 287 (descriptions); Paulian 1960: 80 (216) (Cetoniidae of Indochina); Mikšič 1977: 39 (monograph); Krikken 1984: 60 (supragenerical catalogue); Sakai & Nagai 1998: 318 (iconography); Krajčák 1998: 71 (catalogue); Legrand & Chew Kea Foo 2010: 38 (Cetoniinae of Sabah); Krajčák 2011: 50 (Cetoniidae of China); Bezděk in Löbl I. & Löbl D. 2016: 399 (palearctical catalogue); Jákl 2018: 309 (Cetoniinae of Lesser Sundas).  
*Tinclirea* Thomson, 1880: 268 (original description); Heyne & Taschenberg 1908: 109; Arrow 1910: 176 (= *Clinteria* Burmeister, 1842). Type species *Clinteria hillaris* Burmeister, 1842 (= *Cetonia klugi* Hope, 1831).  
*Triclirea* Schoch, 1895: 61 (original description); Heyne-Taschenberg 1908: 109; Arrow 1910: 176 (= *Clinteria* Burmeister, 1842). Type species *Cetonia pumila* Swartz, 1819.  
Type species *Cetonia guttifera* Burmeister, 1842 (= *Gymnetis auronotata*, Blanchard, 1842).

### *Clinteria* (s. str.) *alboguttata* Moser, 1905

*Clinteria alboguttata* Moser, 1905: 213 (original description); Schenkling 1921: 103 (catalogue); Krajčák 1998: 71 (catalogue).  
*Clinteria imperialis* subsp. *alboguttata* Moser: Kuntzen 1929: 181 (catalogue).

**Type locality.** “Key Inseln“ (= Indonesia, SE Molucca Islands, Key Islands).

**Type material.** Several syntypes of both sexes (ZMHB).

**Additional material examined.** None.

**Distribution.** Indonesia: SE Molucca Islands, Key Islands.

**Note.** The author examined all syntypes deposited in ZMHB and confirm the status of this species. The species is close to *Clinteria dimorpha* Arrow, 1916 and *Clinteria porloyi* Jákl, 2020 from the Tanimbar Archipelago.

***Clinteria* (s. str.) *babarica* sp. nov.**

(Figs. 1-5)

**Type locality.** Indonesia, S Moluccas, Bharat Daya Islands, Babar Island.

**Type material.** Holotype (♂) (SJCP) labelled: INDONESIA, S Molucca Islands / BABAR IS ./ VI. 2022 / local collector leg. Paratypes: (Nos. 1-11 ♂♂, 12-31 ♀♀ (SJCP) labelled: same as holotype.

**Description of holotype.** Black, shining, lacking any velutinous tomentum and yellowish ornamentation. Elytra costate. Body size 14.5 mm (excluding pygidium).

Head. Black, shining. Punctuation dense, diameters of punctures larger than interspaces. Clypeus in apex bilobed, nearly vertically elevated. Antennae brownish, length of club and pedicle approximately same.

Pronotum. Black, strongly shining. Punctuation sparser than in head with diameters of punctures usually smaller than interspaces. Most of punctures horse-shoe shaped, but some, specially on disc simply developed. Lateral border running throughout total length, anterolateral angles very obtuse. Apex of basal lobe rounded.

Scutellum. Small, black, triangular, impunctate.

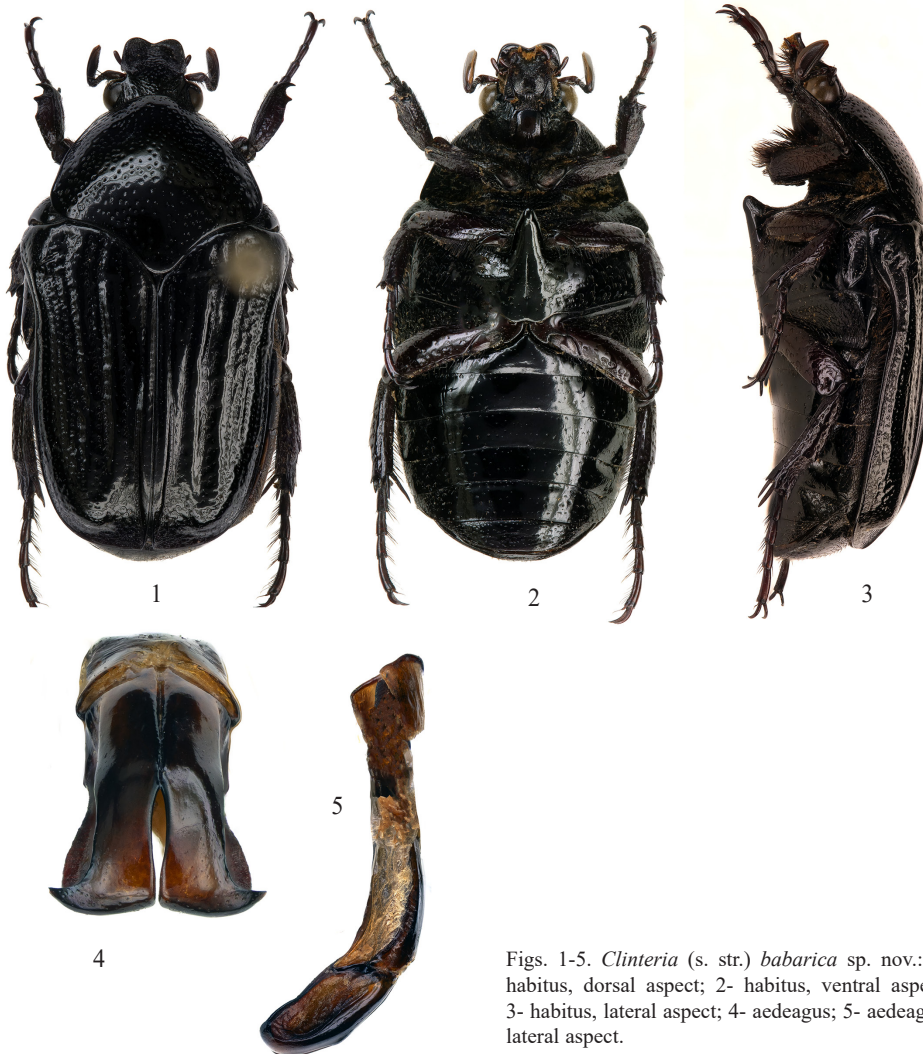
Elytra. Black, strongly shining. Same as on head and pronotum, velutinous tomentum and yellowish ornamentation completely absent. Each elytron with two, very distinctly developed costae running nearly throughout total length, adjoining in level of apical calli. Sutural ridge elevated on three fourths of posterior length. Interspaces with rows of horse-shoe shaped punctures running longitudinally. Lateral ridge with mixture of short striolae lines and horse-shoe shaped punctures. Subhumeral emargination moderately emarginated. Apical and humeral calli obtuse.

Pygidium. Black, medially shining, glabrous. Striation present throughout total length, but not dense.

Ventrum. All parts black with metallic lustre, specially on abdomen. Abdomen moderately constricted, without central impression. Punctuation of abdomen and metasternum sparse, abdomen with very fine, simple punctures, metasternum with sparse, but large horse-shoe shaped punctures. Metacoxae and prosternum with rather dense striolation. Mesometasternal process simple, short, apex obtusely rounded.

Legs. Legs dark brown. Posterior margins of femora with dark brown setation. Protibia bidentate. Meso- and metatibia with carina in posterior half and brown setation on inner sides.

Genitalia. Aedeagus similarly developed as in other representatives occurring in the Australian Region, but outer rim of paramere very broad on its apex (Figs. 4-5).



Figs. 1-5. *Clinteria* (s. str.) *barbarica* sp. nov.: 1- habitus, dorsal aspect; 2- habitus, ventral aspect; 3- habitus, lateral aspect; 4- aedeagus; 5- aedeagus, lateral aspect.

**Variability.** Size of males ranging between 14.0-15.5 mm. In other morphological aspects completely similar.

**Sexual dimorphism.** Females with tridentate protibiae, apical margin of clypeus not as elevated as in males. Abdomen arched. Dorsal and ventral punctation and striolation slightly denser. Size 13.5-15.0 mm.

**Differential diagnosis.** The newly described species is a sister species with *Clinteria nigra* Kraatz, 1899 from Dammar Island. The morphology of both is very different than all

other representatives of *Clinteria* Burmeister, 1842. Both sides of the body are completely black and shining, lacking any velutinous tomentum and ornamentation. The elytra of both species are costate. *Clinteria babarica* new species differs from its congener in the following characters: I. apex of clypeus in both species deeply emarginated but in new species with lobes nearly vertically elevated, but almost straight in Kraatz's species; II. the elytral disc and subscutellar area nearly impunctate in *Clinteria nigra* Kraatz, 1899, but with rows of horse-shoe shaped punctures in the newly described species; III. all parts of legs in the historically described species black, but brown in the new species; IV. male parameres in the new species (Figs. 4-5) with a sharply developed hook on each paramere and broad outer rim, but with rounded apex of each paramere and nearly invisible outer rim in Kraatz's species.

**Etymology.** Named after Babar Island, type locality of new species.

**Distribution.** Indonesia: S Molucca Islands, Babar Island.

***Clinteria* (s. str.) *dimorpha* Arrow, 1916**  
(Figs. 6-10)

*Clinteria dimorpha* Arrow, 1916: 497 (original description); Schenkling 1921: 103 (catalogue); Jákl 2020: 125 (differential diagnosis).

*Clinteria imperialis* subsp. *dimorpha* Arrow: Kuntzen 1929: 181 (catalogue).

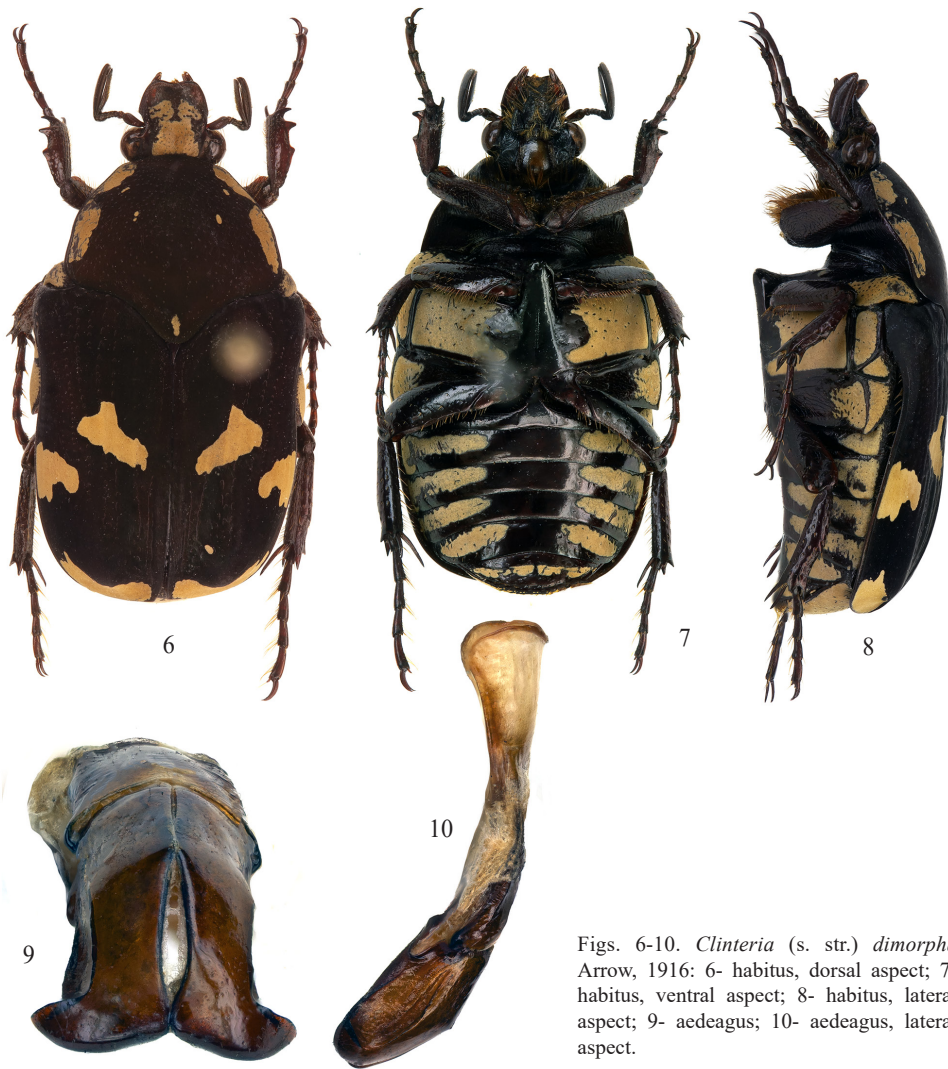
**Type locality.** „Larat Insel“ (= Indonesia, S Molucca Islands, Tanimbar Archipelago, Larat Island).

**Type material.** This species was described from 3 ♂♂, 2 ♀♀ (BMNH).

**Additional material examined:** 20 ♂♂, 5 ♀♀ (SJCP) labelled: Indonesia, Tanimbar Isl. / S. Yamdena isl., MAM'S VILL. / 21 km NE of SAUMLAKI, 150 m / 27.11.-11.12.2005, St. Jákl leg; 29 ♂♂, 10 ♀♀ (SJCP) labelled: Indonesia, S Moluccas, 150 m / Tanimbar Isls., 16.-23.12. / Yamdena Is., 21 km NE of / Saumlaki, LORULUN env. / St. Jákl lgt; 2 ♀♀ (SJCP) labelled: Indonesia, S. Moluccas / Tanimbar archipelago/ LARAT IS., XII. 2006/ local collector lgt.

**Distribution.** Indonesia: S Molucca Islands, Tanimbar Archipelago: Yamdena and Larat Islands.





Figs. 6-10. *Clinteria* (s. str.) *dimorpha* Arrow, 1916: 6- habitus, dorsal aspect; 7- habitus, ventral aspect; 8- habitus, lateral aspect; 9- aedeagus; 10- aedeagus, lateral aspect.

***Clinteria* (s. str.) *moae* Schurhoff, 1942 stat. nov.  
(Figs. 11-15)**

*Clinteria imperialis* subsp. *moae* Schurhoff, 1942: 288 (original description); Kuntzen 1929: 181 (catalogue, nomen nudum).

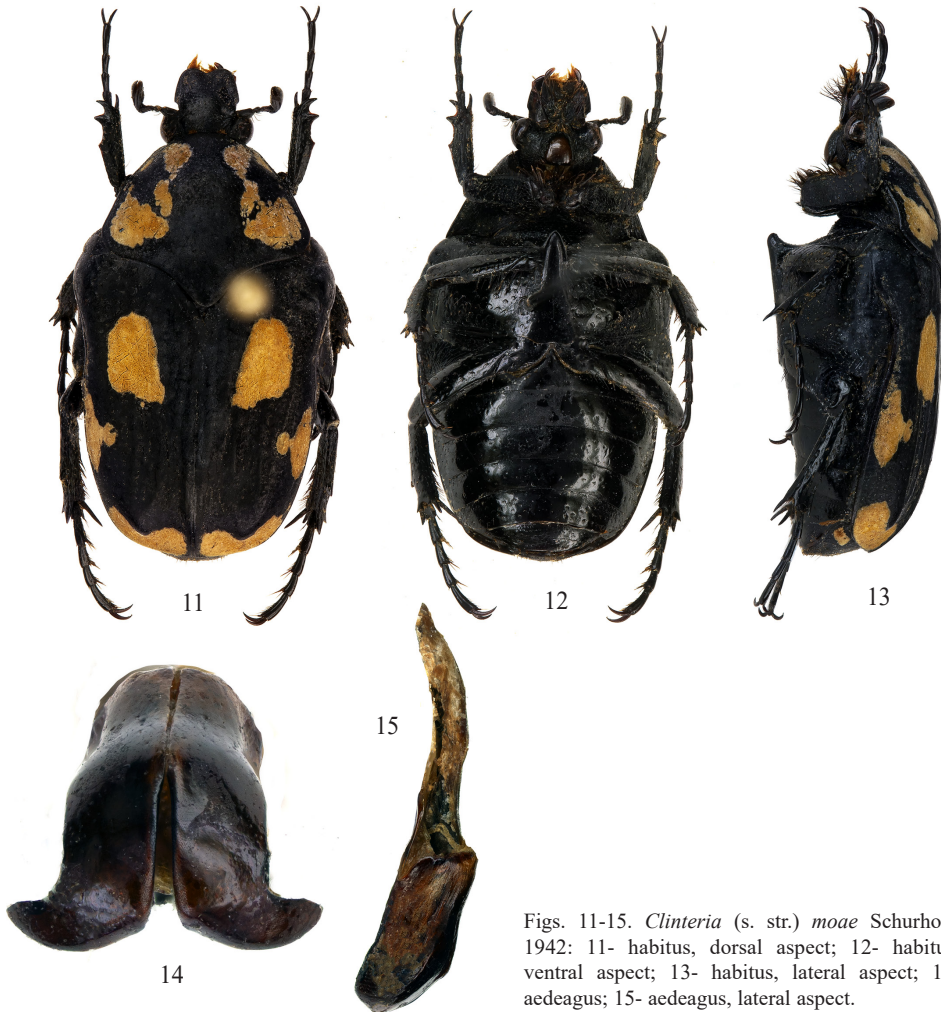
*Clinteria moae* Jákl, 2007: 97, figs. 19-24 (original description). Type locality. "Moa Is., Indonesia" (= Indonesia, Bharat Daya Islands, Moa Island). Type material. Holotype ♂ (SJCP) labelled: Moa Is. INDONESIA MAR. 2003; Paratypes 3 ♀♀ (SJCP) labelled: Indonesia, SW Moluccas MOA ISLAND, cca 100 km NEE, 3. 2006/ local collectors lgt; Paratype 1 ♀ labelled: same as other paratypes, but 2. 2006; **syn. nov.**

**Type locality.** “Insel Moa (bei Timor)” (= Indonesia, SW Moluccas, Bharat Daya Islands, Moa Island).

**Type material.** Holotype (♂), Allotype (♀) (ZMHB).

**Additional material examined.** None (excepting type material of *Clinteria moae* Jákl, 2007).

**Distribution.** Indonesia, SW Molucca Islands, Bharat Daya Islands, Moa Island.



Figs. 11-15. *Clinteria* (s. str.) *moae* Schurhoff, 1942: 11- habitus, dorsal aspect; 12- habitus, ventral aspect; 13- habitus, lateral aspect; 14- aedeagus; 15- aedeagus, lateral aspect.



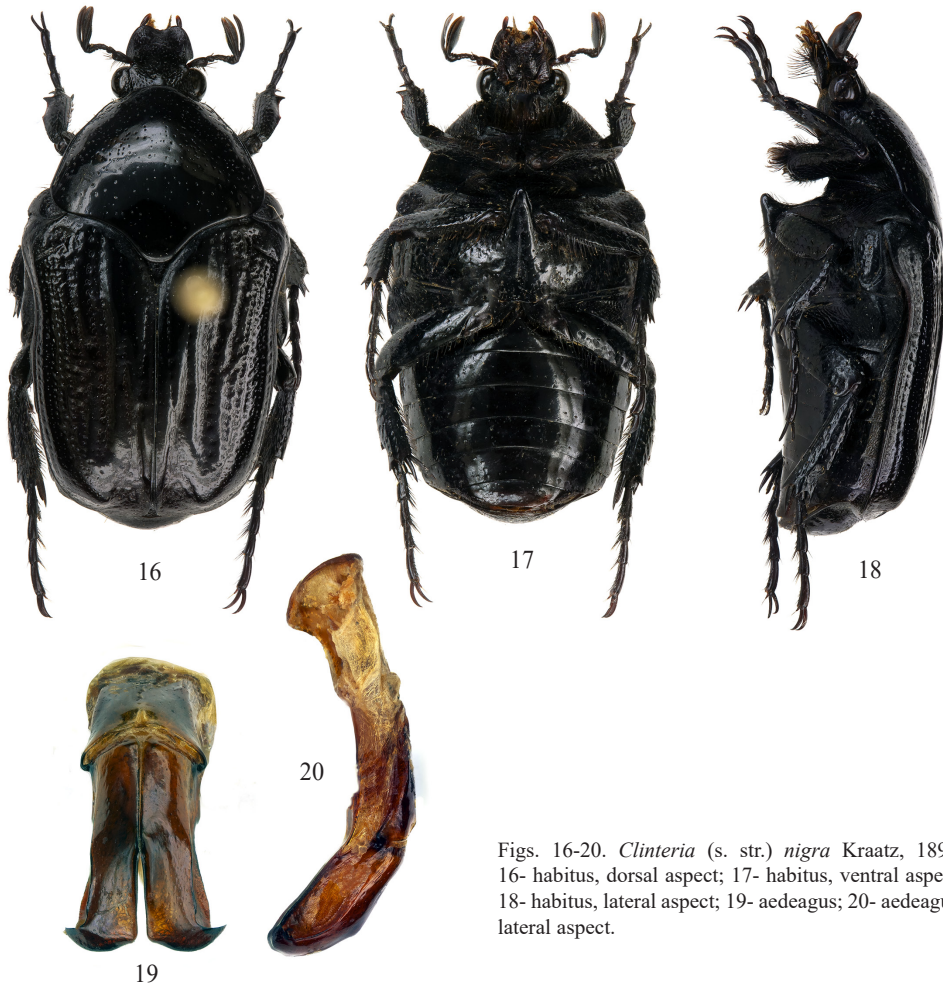
***Clinteria* (s. str.) *nigra* Kraatz, 1899**  
(Figs. 16-20)

*Clinteria nigra* Kraatz, 1899: 238 (original description); Schenkling 1921: 107 (catalogue); Krajčik 1998: 72 (catalogue).

*Clinteria imperialis* subsp. *nigra* Kraatz: Kuntzen 1929: 181 (catalogue).

**Type locality.** “Molukkeninsel Dammer“ (= Indonesia, SW Molucca Islands, Bharat Daya Islands, Dammar Island).

**Type material.** Kraatz described this species from both sexes (DEIC). The author did not examine the type material, but the species is morphologically unique and probably inhabiting only Dammar Island, the same as other Cetoniidae species known from this remote island.



Figs. 16-20. *Clinteria* (s. str.) *nigra* Kraatz, 1899: 16- habitus, dorsal aspect; 17- habitus, ventral aspect; 18- habitus, lateral aspect; 19- aedeagus; 20- aedeagus, lateral aspect.

**Additional material examined:** 3 ♂♂ (SJCP) labelled: Insel / Dammer.

**Distribution.** Indonesia: SW Molucca Islands, Bharat Daya Islands, Dammar Island.

***Clinteria* (s. str.) *porloyi* Jákl, 2020**  
(Figs. 21-28)

*Clinteria* (*Clinteria*) *porloyi* Jákl, 2020: 123, figs. 16-20 (original description).

**Type locality.** Indonesia, SE Molucca Islands, Tanimbar Archipelago, Molu Island, Tutunametal village env.

**Type material.** Holotype (♂), Paratypes 2 ♂♂, (SJCP).

**Additional material examined:** 1 ♀ (SJCP) labelled: INDONESIA, TANIMBAR / IS., MOLU I., N of / Yamdena), XII. 2018 / local collector leg.

**Description of female.** Completely black, except for a very tiny yellowish patch on disc of each elytron, yellowish ornamentation on elytral apex and tiny, lateral patches on first three ventrites. Dorsal derm velutinous. Body size 12.8 mm (excluding pygidium).

Head. Black, apical margin of clypeus brownish. Punctuation rather dense, diameters of punctures on frons slightly larger and punctuation denser. Apex of clypeus with shallow emargination. Antennae brownish, club shorter than pedicel.

Pronotum. Completely black, parts with lost velutinous cover moderately lustrous. Lateral border present nearly throughout total length, almost reaching posterolateral angles. Punctuation sparser than on pronotum, basal lobe impunctate.

Scutellum. Tiny, very sharp, coloration black.

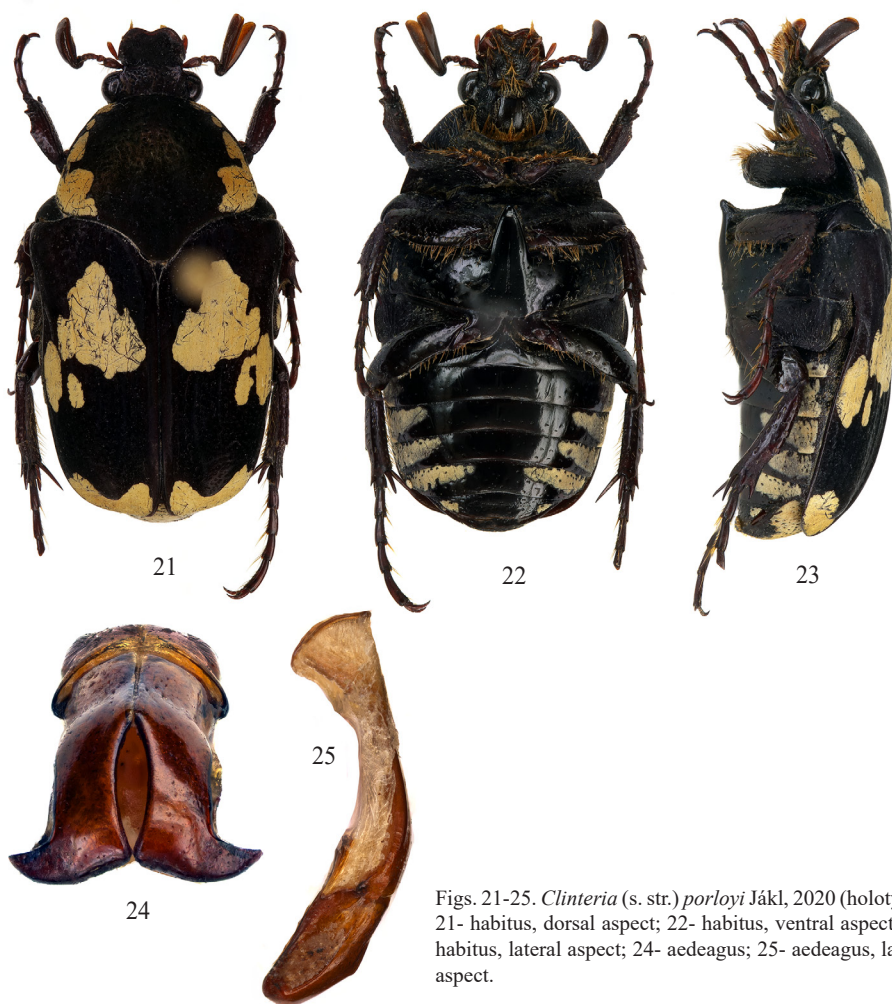
Elytra. Black, with cover of basalic tomentum. Each elytron with very minute yellowish patch on elytral disc and larger patch of yellowish ornamentation on elytral apex. Each elytron with four very obtuse costae and four lines of horse-shoe shaped punctures running longitudinally. Humeral calli very obtuse, apical calli more clearly developed. Sutural ridge obtusely elevated on posterior half.

Pygidium. Black, base with several yellowish patches, near apical margin with striolation.

Ventrum. Black, shining, except for minute patches of yellowish ornamentation on lateral sides of first three ventrites, completely immaculate. Punctuation of abdomen very fine and sparse, but anal segment with distinctly larger and denser punctuation. Metacoxae, metasternum and prosternum black, immaculate, striolated. Mesometasternal process rather short with sharply pointed apex heading downwards.

Legs. Short, brownish. Protibia tridentate, teeth equidistant. Meso- and metatibia carinate on posterior half.

**Sexual dimorphism.** Males with much more abundant yellowish dorsal and ventral ornamentation. Legs of males longer, protibia bidentate. Abdomen in males constricted.



Figs. 21-25. *Clinteria* (s. str.) *porloyi* Jákl, 2020 (holotype): 21- habitus, dorsal aspect; 22- habitus, ventral aspect; 23- habitus, lateral aspect; 24- aedeagus; 25- aedeagus, lateral aspect.

**Differential diagnosis.** The main difference with the closest congener *Clinteria dimorpha* Arrow, 1916 inhabiting same archipelago is in shape of mesometasternal process, which is sharply pointed and heading downwards in *Clinteria porloyi* Jákl, but more or less straight with rounded apex of mesometasternal process in *Clinteria dimorpha* Arrow.

**Distribution.** Indonesia, S Molucca Islands, Tanimbar Archipelago, Molu island.



Figs. 26-28. *Clinteria* (s. str.) *porloyi* Jákl, 2020 (♀): 26- habitus, dorsal aspect; 27- habitus, ventral aspect; 28- habitus, lateral aspect.

#### LIST OF MOLUCCAN *CLINTERIA* SPECIES

<i>Clinteria alboguttata</i> Moser, 1905	D: SE Moluccas: Key Archipelago
<i>Clinteria barbarica</i> sp. nov.	D: S Moluccas: Babar Island
<i>Clinteria dimorpha</i> Arrow, 1916	D: S Moluccas: Tanimbar Archipelago: Yamdena and Larat Islands
<i>Clinteria moae</i> Schurhoff, 1942	D: SW Moluccas: Bharat Daya Archipelago: Moa Island
<i>Clinteria nigra</i> Kraatz, 1899	D: SW Moluccas: Bharat Daya Archipelago: Dammar Island
<i>Clinteria porloyi</i> Jákl, 2020	D: S Moluccas: Tanimbar Archipelago: Molu Island

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