

## Revision of the subgenus *Gelaeus* of *Chrysodema* (Coleoptera: Buprestidae: Chrysochroinae)

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**Abstract.** The subgenus *Gelaeus* Waterhouse, 1905 of *Chrysodema* Laporte & Gory, 1835 is revised based on comparative study of extensive material including types of all described taxa. The subgenus is restricted to the Lesser Sunda Islands and Selayar Islands, Indonesia. Three new species and six subspecies are described: *Chrysodema (Gelaeus) katka* sp. nov. from Timor Island, *C. (G.) oborili oborili* sp. nov. from Yamdena Islands, *C. (G.) oborili laratensis* subsp. nov. from Larat Island, *C. (G.) sara* sp. nov. from Babar Island, *C. (G.) walkeri bilyi* subsp. nov. from Selaru Island, *C. (G.) walkeri horaki* subsp. nov. from Leti Island, *C. (G.) walkeri kubani* subsp. nov. from Romang Island, *C. (G.) walkeri nigriventris* subsp. nov. from Moa Island, and *C. (G.) walkeri rejzeki* subsp. nov. from Alor Island. *Chrysodema (G.) wetteriana* (Théry, 1935) stat. nov. is raised to species rank (formerly subspecies of *C. (G.) walkeri* (Waterhouse, 1892)). *Chrysodema moluensis* Novak, 2010 is assigned to *Gelaeus* and downgraded to subspecies *C. (G.) iris moluensis* Novak, 2010, stat. nov. *Chrysodema (G.) cupriventris* (Kerremans, 1898), stat. restit. is removed from synonymy of *C. (G.) walkeri*. *Chrysodema (G.) florensis* Lansberge, 1880, assign. nov. and *C. (G.) cyanicollis* Kerremans, 1900, assign. nov. are transferred from the nominotypical subgenus to *Gelaeus*. Lectotypes are designated for following taxa to ensure their correct application and recognition in future: *Chrysodema (G.) florensis* Lansberge, 1880, *C. (G.) foraminifera* Lansberge, 1879, *C. (G.) iris* (Kerremans, 1898), *C. (G.) walkeri* (Waterhouse, 1892), and *C. (G.) wetteriana* (Théry, 1935). All herein included taxa are illustrated with colour habitus photographs as is the male aedeagus when available. A key to all taxa is given.

**Key words.** Coleoptera, Buprestidae, *Chrysodema*, *Gelaeus*, new species, new subspecies, new assignment, new status, restored status, lectotype designation, taxonomy, Lesser Sunda Islands, Selayar Islands, Indonesia, Oriental Region

## Introduction

WATERHOUSE (1905) established the genus *Gelaeus* for *Pseudochrysodema walkeri* Waterhouse, 1892 based on the sharply cut basal impressions on the pronotum, yellow tarsi and angulate elytra below humeri, and stated that the genus is most similar to *Chrysodema* Laporte & Gory, 1835. However, already in the description of *P. walkeri* WATERHOUSE (1892) pointed out that no other species of *Chrysodema* or *Pseudochrysodema* Saunders, 1874 known to him have such sharply cut basal impressions on the pronotum.

KERREMANS (1909) downgraded *Gelaeus* to subgenus of *Chrysodema* but most subsequent authors did not accept this act and listed *Gelaeus* as valid genus (e.g. OBERBERGER 1926; THÉRY 1935; BELLAMY 1985, 2003; VOLKOVITSH 2001). By contrast KUROSAWA (1982) synonymized *Gelaeus* with *Chrysodema* but this synonymy was not accepted by workers on Buprestidae. Subsequently, HOLYŃSKI (1994) downgraded *Gelaeus* again to a subgenus of *Chrysodema* and this point of view is currently accepted (LANDER 2003, BELLAMY 2008, HOLYŃSKI 2014).

WATERHOUSE (1905), when establishing *Gelaeus*, also synonymized *Pseudochrysodema cupriventris* Kerremans, 1898 with his *P. walkeri*. KERREMANS (1909) accepted the synonymy and assigned *Pseudochrysodema iris* Kerremans, 1898 to *Gelaeus*. THÉRY (1935) revised *Gelaeus* and transferred *Chrysodema florensis* Lansberge, 1880 and *Chrysodema foraminifera* Lansberge, 1879 to it, and described the subspecies *Gelaeus walkeri wetteriana* Théry, 1935 as well as two infrasubspecific entities (*G. iris* var. *cupripennis* and *G. walkeri* var. *nigriventris*). Subsequent authors merely noted *Gelaeus* in papers dealing with higher classification of Buprestidae (e.g. BELLAMY 1985, 2003; VOLKOVITSH 2001). HOLYŃSKI (1994) divided *Chrysodema* into seven subgenera, proposed a key to them and revised *Tamamushia* Miwa & Chûjô, 1935 and *Thymedes* Waterhouse, 1905 but did not assign any species to other subgenera except for the respective type species. LANDER (2003) ignored the subgeneric taxa described by Holyński and recognized only three subgenera of *Chrysodema* (*Chrysodema* s. str., *Gelaeus*, and *Pseudochrysodema*) and revised the nominotypical subgenus. He included *C. florensis* in the nominotypical subgenus and noted that *C. (G.) foraminifera* is perhaps only a variety of *C. (G.) walkeri*. In the most recent catalogue BELAMY (2008) listed three species and one subspecies in *Gelaeus*: *Chrysodema (G.) foraminifera*, *C. (G.) iris*, *C. (G.) walkeri*, *C. (G.) walkeri wetteriana*. Probably due to a typographic error he listed *C. (G.) cupriventris* as synonym of the latter subspecies and not of nominotypical *C. (G.) walkeri*.

Since *Gelaeus* has never been revised in detail and specimens were often misidentified we decided to work on a complete revision of the subgenus based on type material as well as extensive additional material. In the present work we include 17 valid species-group taxa in *Gelaeus*, including descriptions of three new species and six new subspecies. Unfortunately many taxa of *Gelaeus* are only known from a few historical specimens without precise locality data thus the overall distribution of the subgenus is still poorly known.

## Material and methods

The subgeneric system of *Chrysodema* used here follows that of LANDER (2003) and we consider *Chrysodema* s. str. as broadly defined. HOLYŃSKI (1994, 2014) divided *Chrysodema* s. str. in several subgenera but did not assign species to them (with exception of type spe-

cies), hence we cannot adopt his system. Moreover, the availability of at least one subgenus proposed by Holyński is questionable (V. Kubáň 2016, pers. comm.).

The revision is based on the study of type material and additional specimens available to us. Specimens were compared using methods of standard comparative morphology. Since many species and subspecies of *Gelaeus* are quite similar we provide detailed general re-description of the subgenus *Gelaeus* and redescriptions of species-group taxa are shortened to relevant characters.

The pronotum of *Gelaeus* has four pairs of major impressions (Figs 1–2) and we recognize them as: a) the basal impressions situated approximately at 1/7 width of the pronotum from each side, at base; b) the principal impression is the largest oval to elongate impression on the pronotum situated approximately in the middle of each lateral margin; c) the medial impression situated laterally to the medial line on both sides; and d) the lateral impression situated along middle of the lateral pronotal carina.

Length of body was measured as distance between anterior margin of the head and the apex of elytra. Width of body was measured at widest point across elytra. Length of aedeagus was measured as distance between its base and apex of the paramere. Width of aedeagus was measured at widest point. Values in brackets indicate unusual minimum or maximum values present in one or two specimens of respective taxon.

The names of colours mentioned in descriptions are according to Wikipedia (en.wikipedia.org).

Exact label data are cited for all type specimens; a double slash (//) divides the data on different labels and a single slash (/) divides the data in different rows. Type localities are cited in the original spelling. Other comments and remarks are placed in square brackets: [p] – preceding data are printed, [h] – preceding data are handwritten, [w] – white label, [r] – red label, [b] – blue label, [y] – yellow label, [g] – green label.

We have tried to extract DNA from recent specimens in order to obtain additional data, unfortunately the extractions were unsuccessful. Fresh material is needed but unfortunately many localities are difficult to access.

Studied specimens are deposited in following collections:

- BMNH Natural History Museum, London, United Kingdom (Maxwell V. L. Barclay, Michael Geiser);
- DFPC David Frank collection, Prague, Czech Republic;
- HMMG Hans Mühle collection, Munich, Germany;
- IRSN Institut Royal des Sciences Naturelles, Brussels, Belgium (Alain Drumont);
- LSPC Lukáš Sekerka collection, Prague, Czech Republic;
- MFNB Museum für Naturkunde, Berlin, Germany (Johannes Frisch);
- MHNG Muséum d'Histoire Naturelle, Geneve, Switzerland (Giulio Cuccodoro);
- MNHN Muséum National d'Histoire Naturelle, Paris, France (Antoine Mantilleri);
- MOOC Martin Obořil collection, Olbramovice, Czech Republic;
- NHMB Naturhistorisches Museum, Basel, Switzerland (Eva Sprecher-Uebersax, Matthias Borer);
- NMPC National Museum, Prague, Czech Republic (Vítězslav Kubáň, Jiří Hájek);
- RMNH Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands (Hans Huijbregts);
- SJPC Stanislav Jákl collection, Prague, Czech Republic;
- SGBG Stephan Gottwald collection, Berlin, Germany;
- SVVC Svatoslav Vrabec collection, Vrchlabí, Czech Republic;
- VKSC Vítězslav Kubáň collection, Šlapanice u Brna, Czech Republic (deposited in NMPC);
- WBWA Wolfgang Barries collection, Vienna, Austria.
- ZMAN Zoological Museum, University of Amsterdam, Amsterdam, the Netherlands (currently deposited in RMNH).

## Taxonomy

### *Chrysodema* Laporte & Gory, 1835

#### Subgenus *Gelaeus* Waterhouse, 1905

*Gelaeus* Waterhouse, 1905: 584 (original description). OBENBERGER (1926): 129 (catalogue); THÉRY (1935): 247 (key to species), 248 (catalogue); KUROSAWA (1982): 190 (as synonym of *Chrysodema*); BELLAMY (1985): 415 (catalogue); AKIYAMA & OHMOMO (2000): Pl. 42, Figs 445 1–4 (iconography); VOLKOVITSH (2001): 65, 95 (noted); BELLAMY (2003): 35 (catalogue).

*Chrysodema* (*Gelaeus*): KERREMANS (1909): 504 (key to subgenera), 509–511 (key to species, monograph); HOLYŃSKI (1994): 69–71 (key to subgenera); LANDER (2003): 9 (noted); BELLAMY (2008): 526 (catalogue); HOLYŃSKI (2014): 373–375 (key to subgenera).

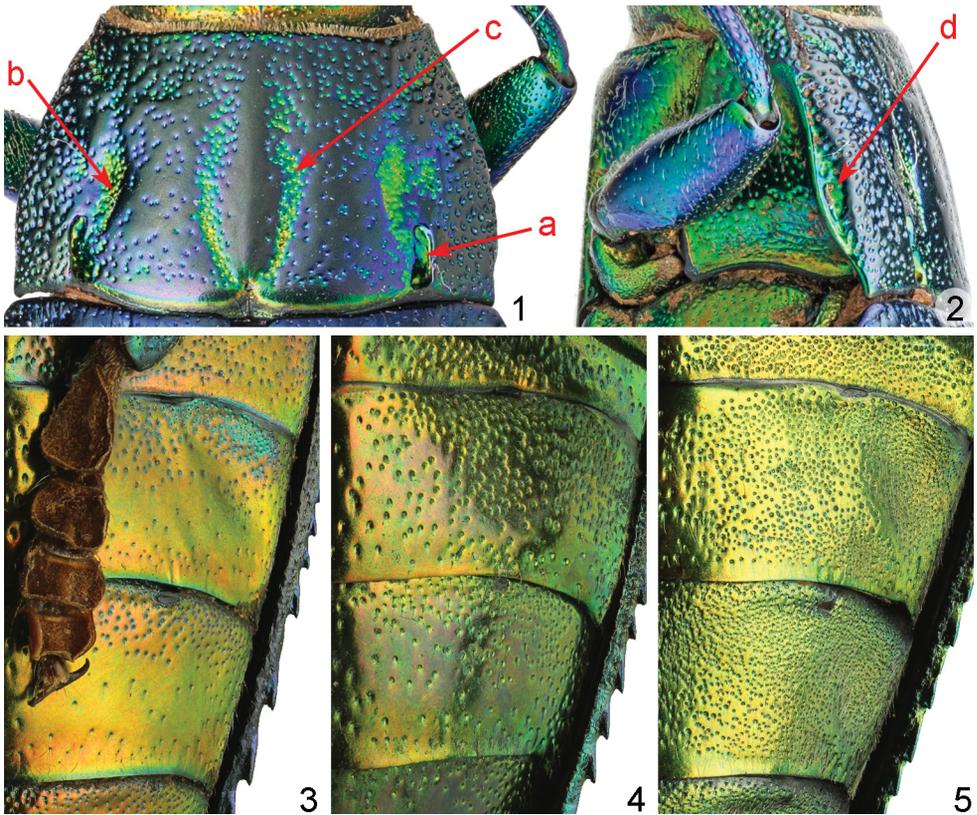
**Type species.** *Pseudochrysodema walkeri* Waterhouse, 1892, by monotypy.

**Differential diagnosis.** The subgenus *Gelaeus* can be immediately recognized by the subtriangular, deep and sharply cut basal impression on each side of pronotum situated approximately at 1/7 width, while other subgenera of *Chrysodema* do not have this impression. Additionally *Gelaeus* also has the aedeagus with broad and parallel-sided parameres separated by a deep cleft, while species of the other subgenera have mostly narrow parameres with shallow cleft, or broad parameres converging from the middle towards apices.

**Redescription.** **Body** large (17) 24–34 (38) mm long, metallic coloured, oval, widest in basal 1/5 length of elytra, then parallel-sided and approximately in posterior half strongly tapering apically.

**Head** slightly narrower than anterior margin of pronotum, metallic coloured with labrum, labium, maxillae and antennal insertions yellow to brownish. Base of scape and antennomeres III–XI yellow to brown, antennomeres I–II metallic coloured. Antennae serrate from antennomere IV. Scape and pedicel sparsely but coarsely punctate. Antennomere III smooth and shiny, IV–XI smooth and shiny with densely punctate dilated parts. All antennomeres elongate, longer than wide. Antennomere III ca. 3× longer than II, antennomeres III and IV subequal, antennomeres gradually shorter from IV except of XI which is distinctly longer than any of VIII–X, VIII–X subequal and ca. 0.6× as long as III. Mandibles metallic coloured and densely and coarsely punctate with smooth cutting edge. Labrum slightly wider than long, deeply emarginate. Eyes large covering approximately lateral 1/4 of head. Genae obvious, densely and coarsely punctate. Frons approximately 2× as wide as diameter of eye, impressed with medial sulcus; coarsely and densely punctate along lower margin and lateral sides, central part sparsely finely to coarsely punctate. Vertex sparsely and coarsely punctate. Whole head with short to moderately long pubescence.

**Pronotum** trapezoidal, narrowing anteriorly, approximately 1.5–1.7× as wide as long. Anterior angles moderately protruding anteriorly, obtuse, anterior margin parabolic and densely pubescent. Basal corners angulate, basal margin barely bisinuate. Lateral pronotal carina in form of smooth and impunctate carina interrupted below anterior corners. Disc of pronotum weakly convex with moderately wide medial line and four pairs of impressions (Figs 1–2): a) subtriangular deep and sharply cut basal impression on basal margin situated approximately at 1/7 width of pronotum at base, b) oval shallow to deep principal impression situated approximately at 1/4 width of disc, c) narrow and shallow medial impression situated immediately



Figs 1–5. Morphological details of the subgenus *Gelaeus* Waterhouse, 1905. 1–2 – dorsal and lateral aspects of pronotum of *Chrysodema* (*G.*) *walkeri bilyi* subsp. nov. (holotype); a – basal impression, b – principal impression, c – medial impression, d – lateral impression. 3–5 – abdominal ventrites II–III. 3 – *C. (G.) cupriventris* (Kerremans, 1898), 4 – *C. (G.) walkeri nigriventris* subsp. nov., 5 – *C. (G.) florensis* Lansberge, 1880.

next to medial line. More or less defined oval lateral impression (d) situated along midlength of lateral pronotal carina. Pronotum with micro- and macropunctuation. Micropunctuation covers interspaces between macropunctuation on whole disc and is visible at magnifications 15–30 $\times$ . Macropunctuation gradually larger and denser from centre to lateral and anterior margins, medial line impunctate. Medial and principal impressions densely punctate but punctures with smaller diameter. Lateral impression usually rugose without separate punctures. Pronotum sparsely and more or less distinctly pubescent. Basically all macropunctures with short seta; setae in anterior corners and principal and medial impressions longer and more obvious.

**Scutellum** variable in shape, smooth and impunctate.

**Elytra** weakly convex, in lateral view sinuate with postscutellar area slightly humped, apex somewhat bent upwards. Elytra at base as wide as base of pronotum with several irregular shallow impressions. Basal margin smooth, and not thickened. Lateral margins thickened

smooth and nearly impunctate, with more or less distinct angulation below humeral calli. Lateral margins strongly and gradually serrate from the middle to apex, with ca. 12–16 serrations on average. Humeral calli moderately convex and irregularly punctate. Punctuation moderate-sized to coarse, closely arranged in more or less distinct striae; inner rows more or less regular, outer ones gradually irregular with multiple punctures. Punctures foveolate, laterally and apically gradually coarser and denser. Intervals at centre nearly impunctate, more or less convex, laterally and apically vanishing. Sometimes intervals and puncture rows interrupted by impressions of small densely arranged punctures with long pubescence (e.g. Figs 8, 11, 32): one situated in basal fourth and one in basal half near lateral margin. In a few taxa there are additional two impressions situated along midline of elytron in basal fourth or half respectively. Whole surface of elytra with sparse very short and recumbent pubescence, laterobasally somewhat longer. Epipleura horizontal, in basal half moderately densely punctate.

**Thorax ventrally.** Hypomeron densely and coarsely punctate, punctures smaller in basal part. Prosternum distinctly shinier than hypomeron. Basal part of prosternum moderately densely and coarsely punctate, punctures sometimes forming transverse striae. Prosternal process subparallel-sided, narrow, as wide as length of trochanter, sparser but more coarsely punctate, its punctures ca. 2× as coarse as those on base and concentrated at its base and along midline, apex and sides smooth, polished and nearly impunctate, midline more or less impressed. Mesepimeron, and meso- and metanepisterna densely and coarsely punctate. Meso- and metaventrite laterally densely and coarsely punctate, punctures gradually larger but sparser towards midline. Middle parts nearly impunctate. Whole of underside of thorax sparsely pubescent.

**Legs.** Whole of legs moderately dense and coarsely punctate and pubescent. Femora with two apical ventral teeth, without carinae. Tarsal claws divergent and simple. Legs metallic, only base of trochanter and often tarsi yellow. Sometimes tarsi yellow with more or less metallic ultimate tarsomere, sometimes only claws metallic. Abdominal ventrites laterally densely punctate, centrally and apically very sparsely punctate but punctures much coarser.

**Sexual dimorphism** distinct in formation of abdominal ventrite V. Males with deep and acute notch, females with shallow notch. Also males on average slimmer than females.

**Male genitalia.** Aedeagus distinctly longer than wide. Parameres widely separated by deep cleft reaching beyond midlength, often to basal fourth; apices sparsely pubescent, obliquely truncate, exceptionally rounded. Penis from elongate and subparallel-sided to more or less oval and laterally rounded, exceptionally stout-oval; apex acuminate, ventral side with deep central impression nearly for whole length, surface of impression striate.

**Distribution.** Indonesia: Lesser Sunda Islands and Selayar Islands; ?East Timor.

*Gelaeus* is found all over Lesser Sunda Islands (ca. 6°–11°S a 116°–132°E, Fig. 72), however it has not been recorded so far from several larger islands of the archipelago (i.e. Bali, Sumba, Sumbawa, Sawu, and Rote). Nevertheless these islands are poorly explored regarding their insect fauna and some species of *Gelaeus* might be found there in the future. East Timor is mentioned with a question mark as we mostly have only historical material localized as just Timor without precise locality data.

**Remarks.** WATERHOUSE (1905: 584) stated the following about *Gelaeus*: ‘Closely allied to *Chrysodema*, but differs from all the species of that genus in having two sharply cut impressions at the base of the thorax. Just below the shoulders the elytra are acutely angular. The tarsi are yellow.’ However, only the sharp cut basal impression on the pronotum is diagnostic as the two other characters are present also in other species of *Chrysodema*. The acutely angular elytra below humeral calli are also present e.g. in *C. (C.) mniszewski* Deyrolle, 1864 or *C. (C.) aurofoveata* (Guérin-Méneville, 1830), the latter being currently considered a junior synonym of *C. (C.) radians* (Guérin-Méneville, 1830). It is true that all species of *Gelaeus* have an acute subhumeral protuberance, however, it displays also great intraspecific variation and is often very small. Most species of *Gelaeus* have yellow tarsi but some have metallic tarsi (e.g. *C. (G.) iris moluensis* Novak, 2010). Additionally two other species, *C. (G.) florensis* Lansberge, 1880 and *C. (G.) cyanicollis* Kerremans, 1900 here assigned to *Gelaeus*, were placed among *Chrysodema* s. str. but some authors pointed that they have typical characters of *Gelaeus*, however retained them in the nominotypical subgenus (KERREMANS 1909: 527; LANDER 2003: 17–18).

#### Key to species of *Gelaeus* Waterhouse, 1905

- 1 Pronotum and elytra monochromatic. .... 2
- Dorsum dichromatic, pronotum paler and brighter coloured than elytra. .... 4
- 2 Dorsum green or golden-green. Elytra weakly sulcate, striae gently impressed and intervals gently elevated. Lateral impressions distinct. .... 3
- Dorsum black, only pronotum partly with barely perceptible metallic blue reflections. Elytra profoundly sulcate with deep striae and elevated intervals, without lateral impressions. Endemic to Wetar Is. Figs 54–56, 71. .... *C. (G.) wetteriana* (Théry, 1935)
- 3 Whole of tarsi metallic green. At least posterior lateral impressions of elytra large and round. Nearly whole lateral sides of abdominal ventrites II–III very densely punctate (Fig. 5). Flores Is., Sangeang Is., and Lombok Is. Figs 6–8, 56. ....
- ..... *C. (G.) florensis* Lansberge, 1880
- Tarsi pale brown, only last tarsomere metallic green. Lateral impressions of elytra small and oval. Lateral sides of abdominal ventrites II–III basally densely punctate and apically sparsely punctate with large impunctate areas (Fig. 4). Flores Is. and Timor Is. Figs 9–11, 57. .... *C. (G.) foraminifera* Lansberge, 1879
- 4 Elytra metallic brown, bronze or copper. Pronotum fern green with dark violet tint. ... 5
- Elytra in tones of blue or green. Pronotum bright green with variable tint or blue, exceptionally metallic purple. .... 8
- 5 Elytra with iridescent pattern. .... 6
- Elytra bronze, copper or dark brown-grey without iridescent pattern. .... 7
- 6 Tarsi pale brown, only ultimate tarsomere metallic green. Iridescent pattern of elytra begins laterally from base. Tenimbar Is. Figs 12–14, 58. ....
- ..... *C. (G.) iris iris* (Kerremans, 1898)
- Whole of tarsi metallic green. Iridescent pattern only in apical half of elytra. Molu Is. Figs 15–17, 59. .... *C. (G.) iris moluensis* Novak, 2010

- 7 Elytra moderately convex in lateral view. Body narrower on average, markedly in males; body length/width ratio in males: 2.97–3.22. Elytra dark metallic brown-violet with more or less bronze intervals. Yamdena Is. Figs 18–20, 60. ....  
 ..... *C. (G.) oborili oborili* sp. nov.
- Elytra strongly convex in lateral view. Body stouter on average; body length/width ratio in males: 2.79–2.86. Elytra bright bronze to copper. Larat Is. Figs 21–23, 61. ....  
 ..... *C. (G.) oborili laratensis* subsp. nov.
- 8 Colouration of elytra in tones of green. .... 9
- Colouration of elytra in tones of blue. .... 10
- 9 Lateral sides of abdominal ventrites II–V very sparsely and finely punctate (Fig. 3). Elytra with lighter tone (fern green). Ventral side of body overall with finer and sparser punctation, bright copper-red or copper-golden. Principal impression on pronotum always elongate and shallow. Wetar Is. Figs 48–50, 69. ....  
 ..... *C. (G.) cupriventris* (Kerremans, 1898)
- Lateral sides of abdominal ventrites II–V laterobasally densely and coarsely punctate, apically sparsely but coarsely punctate (Fig. 4). Elytra darker (pine green, exceptionally blue-green or nearly black). Ventral side of body coarsely and densely punctate, dark green with golden or copper reflections. Principal impression on pronotum oval to round and deep. Timor Is. Figs 51–53, 70. .... *C. (G.) katka* sp. nov.
- 10 Tarsi pale brown or only ultimate tarsomere metallic green. .... 11
- Whole of tarsi metallic green. Jampea Is., Selayar Is., and Lembata Is. Figs 42–44. ....  
 ..... *C. (G.) cyanicollis* Kerremans, 1900
- 11 Elytra distinctly sulcate (striae impressed and intervals elevated) at least in apical half, punctures medium sized. Pronotum densely and coarsely punctate thus appearing subrugose. Penis elongate subparallel-sided. .... 12
- Elytra smooth without elevated ribs or impressed rows of punctures, latter fine and sparse. Pronotum sparsely punctate and thus appears polished. Penis stout-oval and short. Babar Is. and Wetang Is. Figs 45–47, 68. .... *C. (G.) sara* sp. nov.
- 12 Ventral side of body bright green with golden lustre. .... 13
- Ventral side of body dark green or blue. .... 15
- 13 Whole of tarsi pale brown. .... 14
- Ultimate tarsomere metallic green. Elytra deep blue-violet, apex with purple reflections. Elytra laterally with nearly regular rows of punctures and wide intervals but latter not forming elevated reticulation. Damar Is. Figs 24–26, 62. ....  
 ..... *C. (G.) walkeri walkeri* (Waterhouse, 1892)
- 14 Elytra uniformly blue without lateral impressions; laterally and apically very densely and irregularly punctate; intervals apically vanishing and punctation not forming distinct rows. Leti Is. Figs 27–29, 63. .... *C. (G.) walkeri horaki* subsp. nov.
- Elytra blue with lateral impressions, suture and outer margin green; moderately densely punctate, punctures also apically forming distinct rows separated by intervals. Alor Is. Figs 30–32, 64. .... *C. (G.) walkeri rejzeki* subsp. nov.
- 15 Elytra in tones of blue. Apices of parameres obliquely truncate. .... 16

- Elytra dark viridian with purple reflections on apical half. Apices of parameres rounded. Moa Is. Figs 33–35, 65. .... *C. (G.) walkeri nigriventris* subsp. nov.
- 16 Elytra dark bluish-black; punctation in rows V–VIII partly irregular. In general elytra more sulcate (striae deeper and intervals more elevated) with coarser punctation. Romang Is. Figs 39–41, 67. .... *C. (G.) walkeri kubani* subsp. nov.
- Elytra dark blue; punctation in rows V–VIII forming regular rows. In general elytra less sulcate (striae shallower and intervals less elevated) with finer punctation. Selaru Is. Figs 36–38, 66. .... *C. (G.) walkeri bilyi* subsp. nov.

***Chrysodema (Gelaeus) cupriventris* (Kerremans, 1898), stat. restit.**

(Figs 3, 48–50, 69)

*Pseudochrysodema cupriventris* Kerremans, 1898: 114 (original description).

*Chrysodema cupriventris*: KERREMANS (1903): 74 (catalogue); WATERHOUSE (1905): 584 (as syn. of *Gelaeus walkeri*); KERREMANS (1909): 510 (catalogue, in synonymy of *C. (G.) walkeri*); OBENBERGER (1926): 29 (catalogue, in synonymy of *G. walkeri*); BELLAMY (2008): 542 (listed as synonym of *C. (G.) walkeri wetteriana*).

*Gelaeus walkeri* var. *cupriventris*: THÉRY (1935): 248 (key, catalogue).

*Gelaeus walkeri* ssp. *cupriventris*: AKIYAMA & OHMOMO (2000): Pl. 42, Figs 445-4 [sic!] (iconography).

**Type locality.** ‘Macassar’ (see Remarks).

**Type material examined.** SYNTYPES (2 ♀♀): ♀, ‘Macassar / Meyer D. [w, h] // cupriventris / Kerr. / Type [w, h] // SYN- / TYPE [b, p] // Kerremans / 1903—59. [w, p]’ (BMNH); ♀, ‘Macassar / Meyer D. [w, h] // cupriventris / Kerr. / Type [w, h] // MUSEUM PARIS / COLL CH. KERREMANS / 1923 [y, p] // TYPE [r, p] // C. cuprive- / ntris Kerr. / Macassar Type [w, h]’ (MNHN). Both specimens were provided with an additional red printed label: ‘SYNTYPE ♀ / *Chrysodema (Gelaeus) / cupriventris* / (KERREMANS, 1898) / David Frank & / Lukáš Sekerka labeled 2016’.

**Additional material examined.** INDONESIA: MALUKU PROV.: Wetter Ins. [= Wetar Island], 5 ♀♀ (MFNB), 1 ♀ (DFPC), 3 ♀♀, C. Schädler [Igt.?] (2 RMNH, 1 MNHN; two specimens labelled as types of unpublished manuscript name ‘*C. wetteriana* var. *igniventris* Théry’); Wetar Island, iii.2002, 1 ♀ (SGBG), v.2004, 1 ♂ (DFPC), iii.2006, 1 ♀ (DFPC).

**Redescription of syntype (BMNH).** Unusually small ♀ specimen, missing left antenna and with partly cracked elytra and somewhat distorted left elytron in apical third. Length 21.50 mm, width 7.75 mm, length/width ratio: 2.77.

Head, pronotum and scutellum bright green with golden reflections. Elytra fern green with blue lateroapical margins without any reflections (Fig. 48). Ventral side bright green with strong copper and golden reflections. Abdominal ventrite I mostly green while II–V mostly copper (Fig 49). Legs bright green partly with golden reflections, tarsi yellow, last tarsomere and claws metallic green.

Pronotum in general coarsely and moderately densely punctate. Medial line well marked, impunctate. Medial impressions shallow, distinctly impressed along medial line, densely punctate, punctures anteriorly coarse and large, basally smaller than those lateral to them. Principal impressions moderately deep, elongate, densely punctate with small punctures, not connected with basal impression. Lateral impressions deep and rugose. Basal impressions deep, oval.

Elytra moderately punctate, without lateral impressions. Puncture rows visible from base to apex, barely impressed on apical 1/4 length, more or less regularly arranged, and irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra quite irregularly and

sparsely arranged, not grouped, internally forming more or less distinct rows with intervals 1–3× as broad as diameter of punctures, flat not reticulate (Fig. 50). Intervals basally flat, not elevated, broad, approximately 3–4× as wide as rows of punctures, impunctate; apically barely elevated and distinctly punctate.

Mid femora in central part strongly shiny, sparsely punctate, punctures large, on sides punctures smaller but coarser and moderately densely arranged.

Ventral side of body (Fig. 49) moderately punctate, abdominal ventrites and central parts of thoracic ventrites sparsely and finely punctate. Lateral side of abdominal ventrite I moderately densely punctate; ventrites II–V with narrow irregular line of dense punctures along basal margin otherwise very sparsely punctate (Fig. 3).

**Variation.** Body ♂ (n = 1) length: 22.50 mm, width: 8.00 mm, length/width ratio: 2.81; ♀♀ (n = 13) length: (21.50)24.25–30.00 mm, width: (7.75)9.00–11.00 mm, length/width ratio: 2.62–2.77(2.97). Punctuation of pronotum variable. Medial impression shallow to moderately impressed. Principal impression variously impressed but always elongate. Pronotum from mostly green to mostly golden or copper. Colouration of elytra quite constant only one specimen with golden tint. Ventral side always extensively copper or copper-red on abdomen, thoracic ventrites centrally green and laterally variously copper; some specimens with nearly whole underside copper-red. All specimens except syntypes with uniformly brown tarsi. Aedeagus (Fig. 69) (n = 1) length: 6.12 mm, width 1.28 mm, length/width ratio: 4.78. Apices of parameres obliquely truncate. Penis wedge-shaped, narrowed basally.

**Differential diagnosis.** This species can be easily distinguished by very sparsely and finely punctate abdominal ventrites II–V (Fig. 3). All other taxa have coarser and denser punctuation (Figs 4–5). *Chrysodema (G.) katka* sp. nov. is dorsally most similar, see its diagnosis for additional characters.

**Distribution.** Indonesia: Maluku Prov.: Wetar Is.

**Remarks.** KERREMANS (1898) gave ‘Macassar’ as the type locality of *C. (G.) cupriventris* and did not mention how many specimens he had at his disposal, however, he gave a range of lengths: ‘Long., 21–28; larg., 7–9 mill.’ thus he must have had at least two specimens. Later on, KERREMANS (1903) mentioned ‘Iles Alor et Dammer’ as distribution of *C. (G.) cupriventris*.

We have located two specimens labelled as types with Kerremans original label in BMNH. One has the locality Alor, measures 30.75 × 11.25 mm and does not agree at all with the primary description therefore we exclude it from the type series of *C. (G.) cupriventris*. The specimen is here included as paratype of *C. (G.) walkeri rejzeki* subsp. nov., see remarks under that taxon. We believe that it is a voucher specimen for the record published by KERREMANS (1903). The other specimen is curiously small female with somewhat distorted elytra but agrees well with the primary description as well as with the type locality. We found one more specimen from Macassar labelled as type of *C. (G.) cupriventris* in the collection of Kerremans (MNHN). The specimen perfectly agrees with the primary description therefore we consider the two specimens from Macassar syntypes.

The type locality given by Kerremans is peculiar because Macassar is usually understood to be the city in southern Sulawesi. However, in our opinion it is very unlikely that the species lives on Sulawesi as no other species of *Gelaeus* is known from that island. There is also Pante Macassar in the Oecusse exclave of East Timor in the Indonesian (West) Timor which is a

more likely explanation of the type locality. However, as we have not seen any other specimen of *C. (G.) cupriventris* from Timor mainland we think that the type locality is erroneous. We have examined a series of specimens from the Wetar Island, which perfectly matches syntypes, with exception of uniformly brown tarsi (last tarsomere metallic in syntypes). On the other hand, *C. (G.) cupriventris* is morphologically most similar to *C. (G.) katka* sp. nov., which has about half of specimens with metallic tarsi and half with brown tarsi. Therefore we assume that this character is subject to intraspecific variation in these two taxa. *Chrysodema (G.) katka* is endemic to Timor and all specimens have densely punctate lateral sides of abdominal ventrites II–V while all specimens of *C. (G.) cupriventris* have them very sparsely and finely punctate. This character is constant in the series of specimens from Wetar and thus we think this species is maybe restricted to the Wetar Island and was given the locality Macassar because the original type specimens were received through the relatively nearby Pante Macassar, which served as an important port.

***Chrysodema (Gelaesus) cyanicollis* Kerremans, 1900, assign. nov.**

(Figs 42–44)

*Chrysodema cyanicollis* Kerremans, 1900: 62 (original description). KERREMANS (1903): 75 (catalogue); OBENBERGER (1926): 131 (catalogue).

*Chrysodema (Chrysodema) cyanicollis*: KERREMANS (1909): 518 (key), 567 (redescription); LANDER (2003): 13 (key), 17 (redescription), Fig. 7 (colour photograph); BELLAMY (2008): 529 (catalogue).

**Type locality.** Indonesia, South Sulawesi Province, Selayar Islands, Tanahjampea (or Jampea or Djampea) Island.

**Type material examined.** HOLOTYPE (by monotypy): ♀, 'DJAMPEA, / Dec 95. / A. Everett [w, p] // *Chrysodema / cyanicollis / Kerr. Type [w, h] // cyanicollis Kerr. [w, h] // Coll. / Jul. Moser // Chrysodema / cyanicollis / Kerr. / Det. T. LANDER 2000*' (MFNB). Specimen provided with an additional red printed label: 'HOLOTYPE (by monotypy) / *Chrysodema (Gelaesus) / cyanicollis / KERREMANS, 1900 ♀ / David Frank & / Lukáš Sekerka labeled 2016 [year handwritten]*'.

**Additional material examined.** INDONESIA: SOUTH SULAWESI PROV.: 'Celebes, Somarisi' [probably Somarisi on Selayar Island 16 km S offshore of Sulawesi], 1 ♀ (MHNG), 1 ♀ (DFPC). EAST NUSA TENGGARA PROV.: Lembata [or Lomblen] Island, 1 ♀ (MHNG).

**Redescription of holotype.** Preserved ♀ specimen with all tarsi partly broken. Length 27.00 mm, width 9.50 mm, length/width ratio: 2.84.

Head green with slight golden and bluish reflections. Pronotum brightly bluish-green, gradually more bluish towards base, punctuation in impressions green. Scutellum bright bluish-green. Elytra bluish-black, only lateral impressions and two outer rows of punctures dark copper-green (Fig. 42). Ventral side bright green gold, legs green, femora with bluish tint, tarsi metallic green with bluish tint (Fig. 43).

Pronotum in general coarsely and moderately densely punctate. Medial line well marked, impunctate. Medial impressions barely impressed, moderately densely punctate, punctures slightly smaller than those lateral to them. Principal impressions moderately deep, elongate, not connected to basal impressions, apparently impunctate only with row of very fine punctures. Lateral impressions shallow and punctate. Basal impressions moderately deep, subtriangular.

Elytra moderately and quite densely punctate, with shallow lateral impressions present as round groups of coarser and paler coloured punctures. Posterior impression larger than anterior and somewhat more impressed (Fig. 44). Puncture rows visible from base to apex,

distinctly impressed on apical 2/3, more or less regularly arranged, and irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra more or less regularly arranged, not grouped, inner rows somewhat less regular; spaces 1–2× as broad as diameter of punctures, flat not reticulate. Intervals basally flat, not elevated, broad, approximately 3–4× as wide as rows of punctures, impunctate; apically and laterally slightly elevated and punctate.

Mid femora in central part strongly shiny, sparsely punctate with fine punctures, on sides punctures smaller but coarser and densely arranged.

Ventral side of body (Fig. 43) overall coarsely and quite densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Lateral side of abdominal ventrite I moderately dense and coarsely punctate; ventrites II to V gradually more sparsely punctate in apical half.

**Variation.** Body ♀♀ (n = 4) length: 25.50–27.50 mm, width: 8.75–9.75 mm, length/width ratio: 2.82–3.00. Known only from female specimens. Pronotum metallic green, green with purple tint or bluish-green. Elytra from bluish-black to dark blue or green. Ventral side metallic green to golden-green. Structure of pronotum and elytra quite uniform in examined specimens, only one specimen with denser and coarser punctation and moderately deep medial impression.

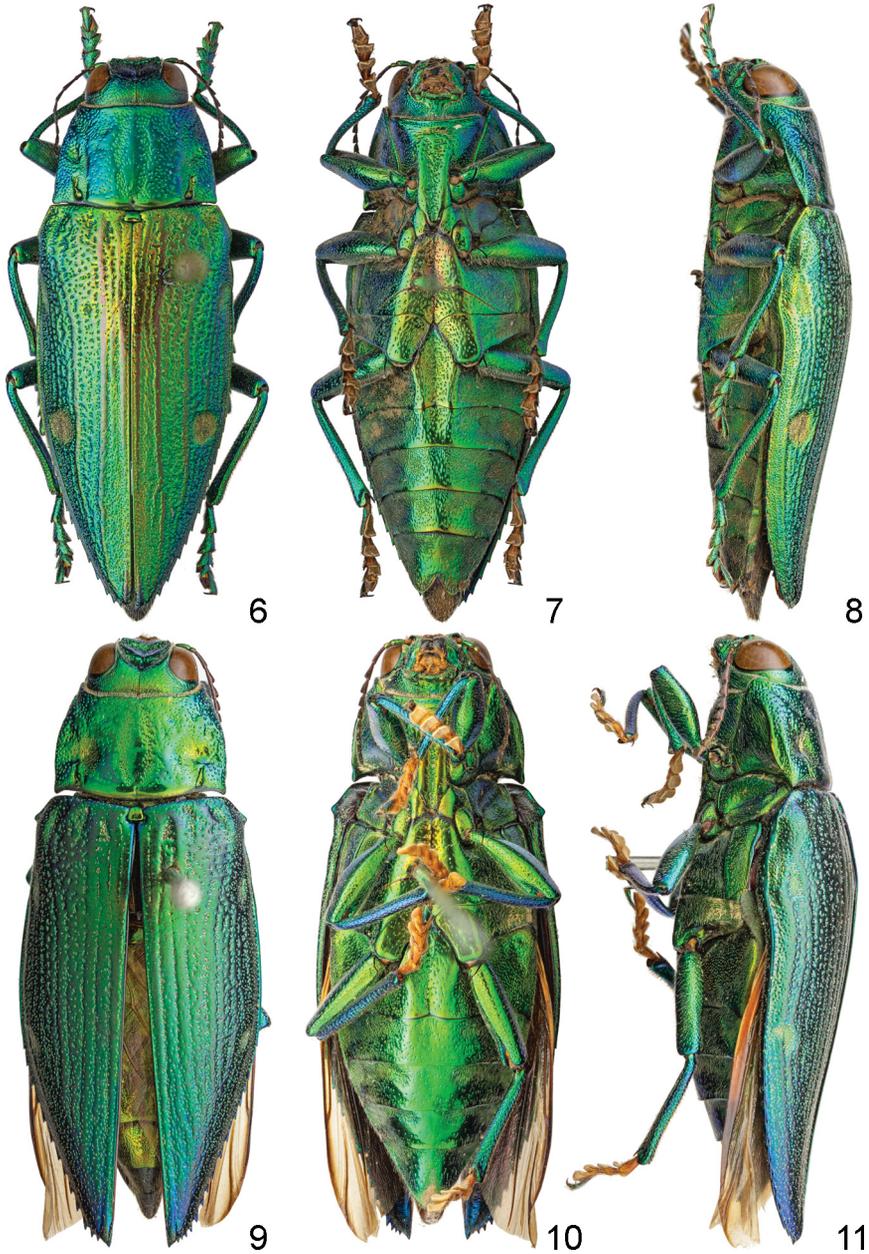
**Differential diagnosis.** *Chrysodema* (*G.*) *cyanicollis* belongs among species with distinctly dichromatic dorsal side having pronotum brighter coloured than elytra, latter in tones of green or blue. All similar taxa (*C. (G.) walkeri*, *C. (G.) sara* sp. nov., *C. (G.) katka* sp. nov. and *C. (G.) cupriventris*) differ in pale coloured tarsi, at most with terminal tarsomere metallic while *C. (G.) cyanicollis* has tarsi uniformly metallic green. The uniformly green specimen (from Lembata Is.) of *C. (G.) cyanicollis* is also very similar to *C. (G.) florensis* as both have metallic tarsi and distinct lateral impressions on elytra. It can be distinguished by lateral sides of abdominal ventrites II–III variously punctate with large impunctate areas (Fig. 4) while *C. (G.) florensis* has them densely and uniformly punctate without impunctate areas (Fig. 5).

**Distribution.** Indonesia: South Sulawesi Prov.: Tanahjampea (or Jampea) Is., Selayar Is. and East Nusa Tenggara Prov.: Lembata Is.

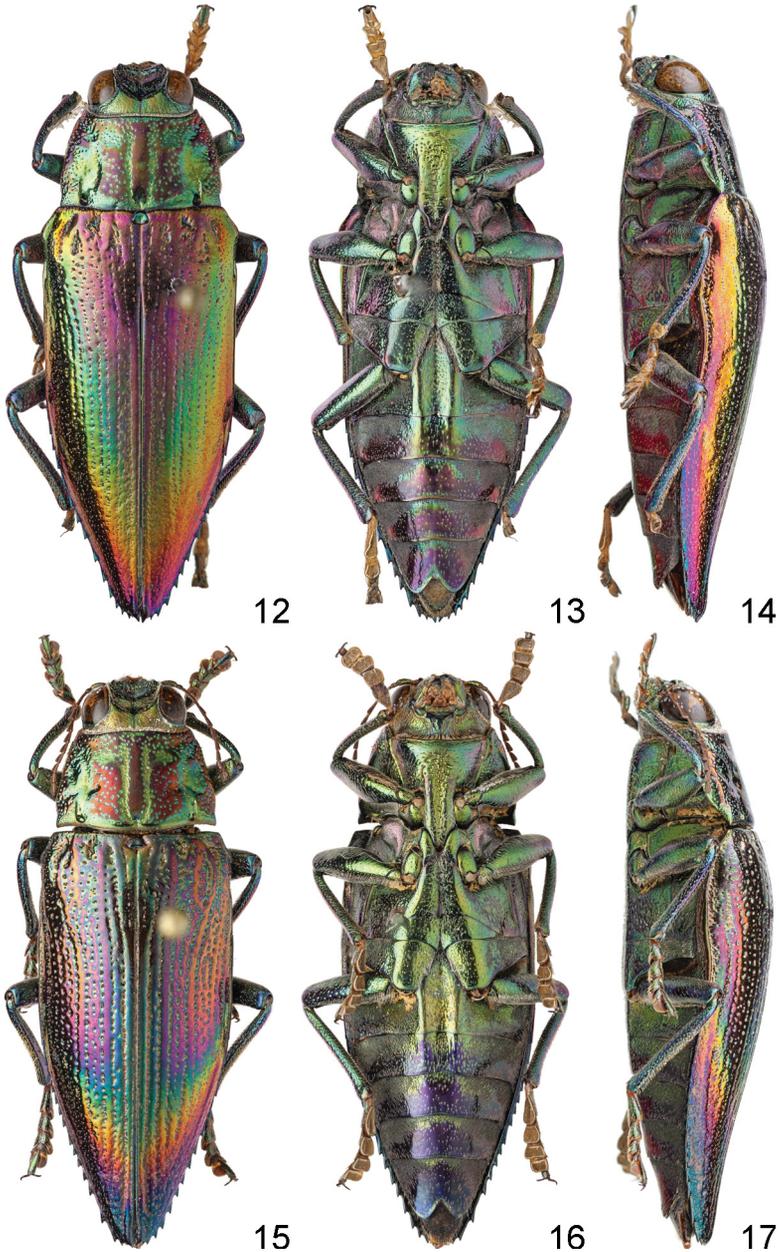
**Remarks.** KERREMANS (1900) described *Chrysodema cyanicollis* from the collection of Meyer Darcis and explicitly mentioned only a single female specimen with size ‘Long., 26; larg., 8,5 mill.’. The latter collection was purchased by Julius Moser and is nowadays deposited in MFNB. The holotype is however somewhat larger (27.0 × 9.5 mm) than indicated in the original description. Nevertheless, we consider it as a mistake as the specimens otherwise perfectly fits the original description.

*Chrysodema* (*G.*) *cyanicollis* was until now placed in the nominotypical subgenus, however, it posses deep triangular basal impression of the pronotum typical for *Gelaeus* and therefore we assign it to the latter subgenus.

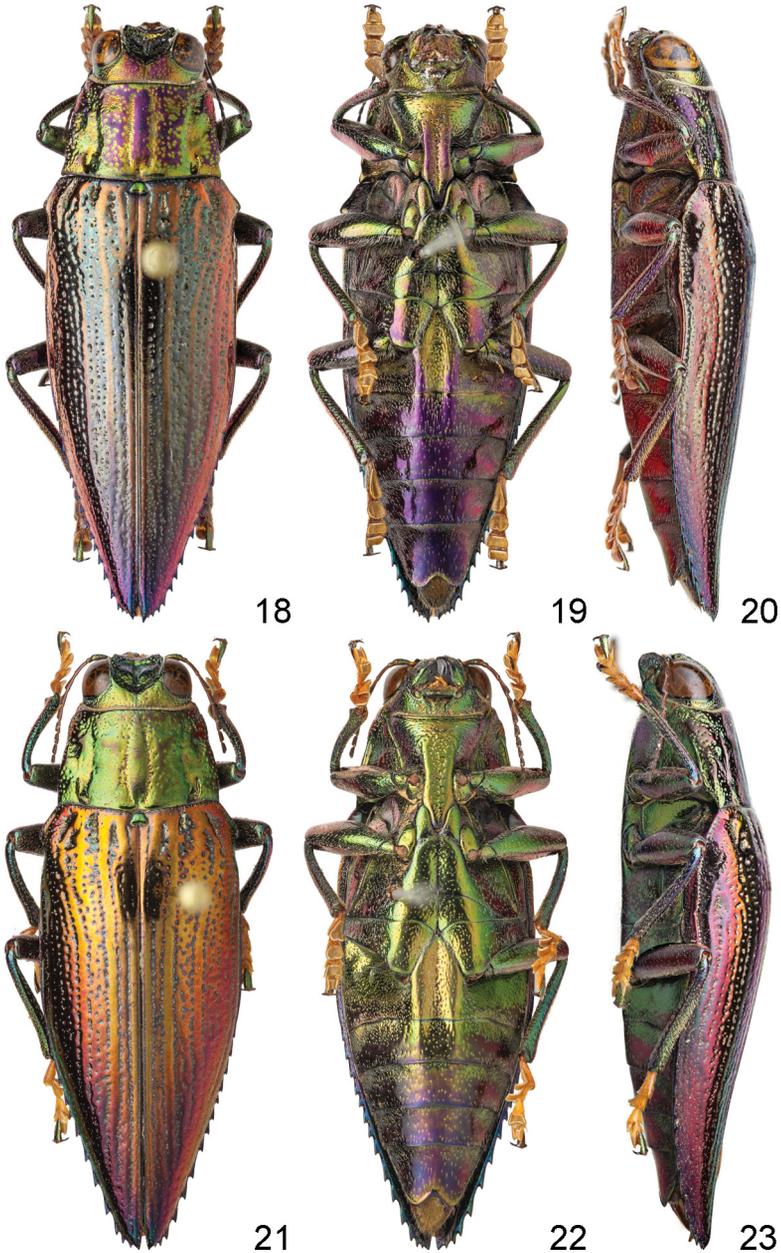
The uniformly green specimen from Lembata resembles *C. (G.) florensis*, however, in our opinion it is morphologically more similar to *C. (G.) cyanicollis* despite considerable geographic separation. More specimens from Selayar Islands and Lembata Island are necessary to verify its identity.



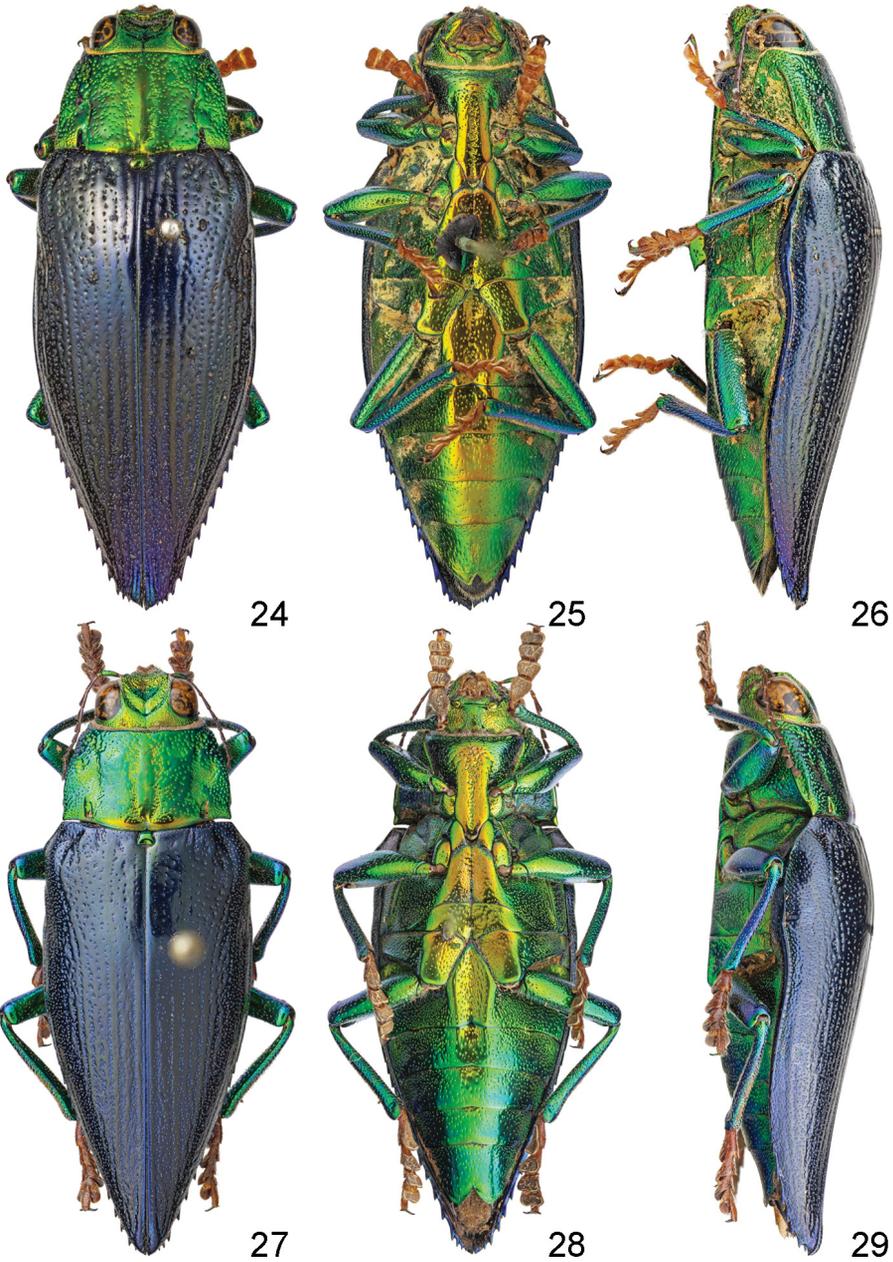
Figs 6–11. 6–8 – *Chrysodema (Gelaeus) florensis* Lansberge, 1880 (lectotype ♂, 25.75 mm). 9–11 – *C. (G.) foraminifera* Lansberge, 1879 (lectotype ♀, 25.25 mm). 6, 9 – dorsal view; 7, 10 – ventral view; 8, 11 – lateral view.



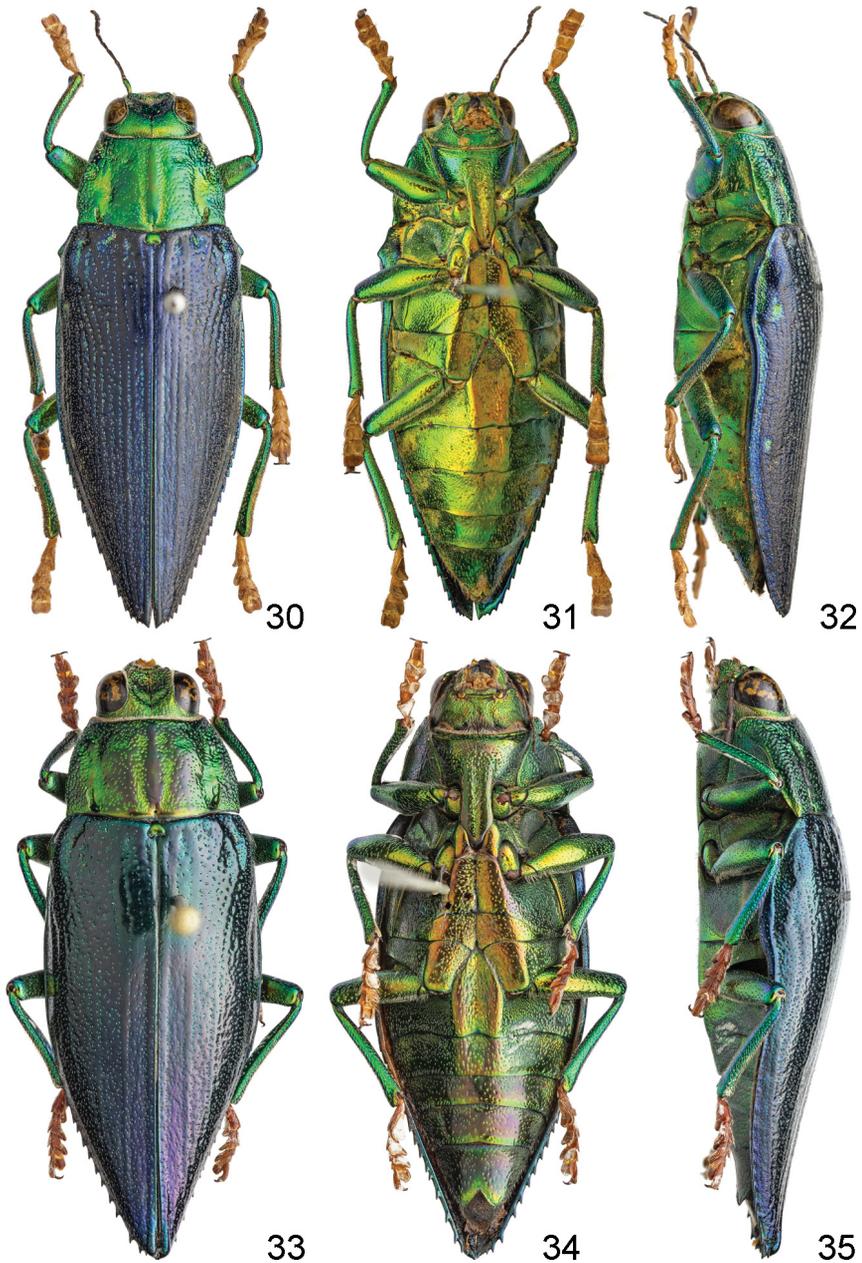
Figs 12–17. 12–14 – *Chrysodema (Gelaeus) iris iris* (Kerremans, 1898) (lectotype ♂, 28.00 mm). 15–17 – *C. (G.) iris moluensis* Novak, 2010 (topotype ♂, 25.00 mm). 12, 15 – dorsal view; 13, 16 – ventral view; 14, 17 – lateral view.



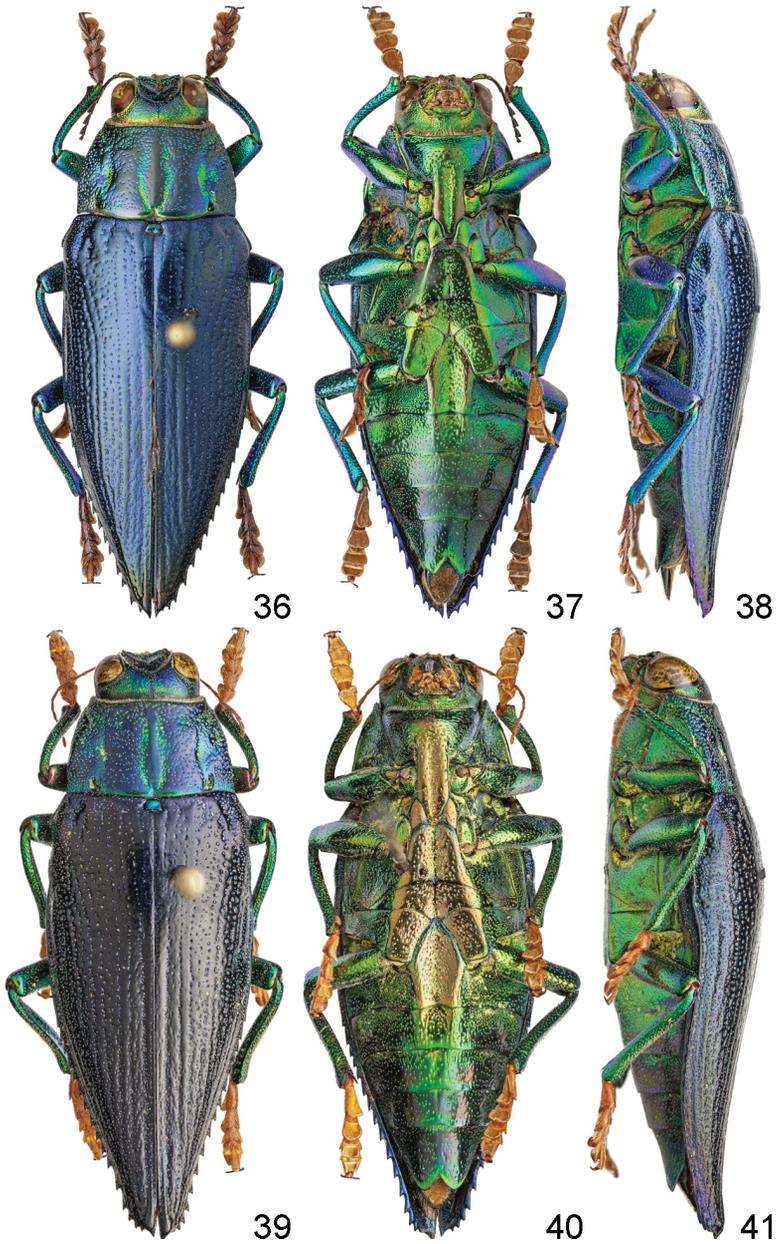
Figs 18–23. 18–20 – *Chrysodema (Gelaeus) oborili oborili* sp. nov. (holotype ♂, 28.25 mm). 21–23 – *C. (G.) oborili laratensis* subsp. nov. (holotype ♂, 27.00 mm). 18, 21 – dorsal view; 19, 22 – ventral view; 20, 23 – lateral view.



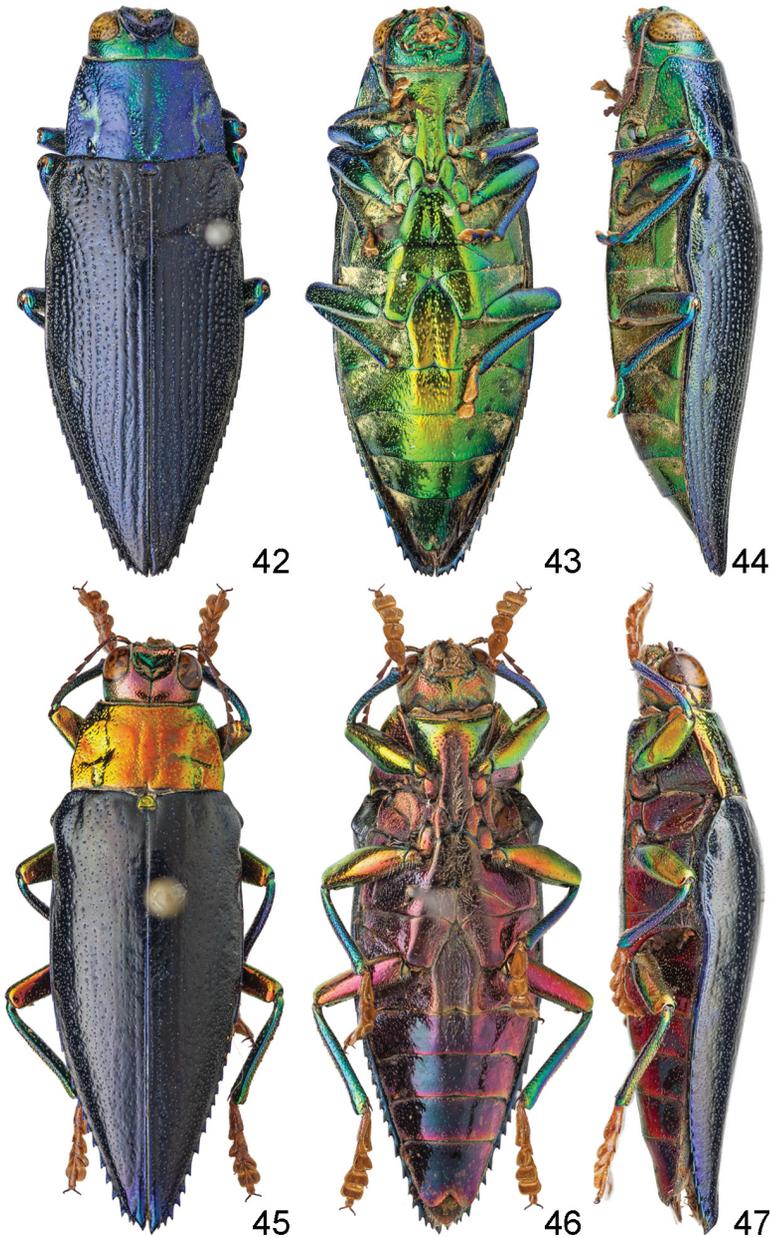
Figs 24–29. 24–26 – *Chrysodema (Gelaeus) walkeri walkeri* (Waterhouse, 1892) (lectotype ♀, 31.75 mm). 25–29 – *C. (G.) walkeri horaki* subsp. nov. (holotype ♂, 26.00 mm). 24, 27 – dorsal view; 25 28 – ventral view; 26, 29 – lateral view.



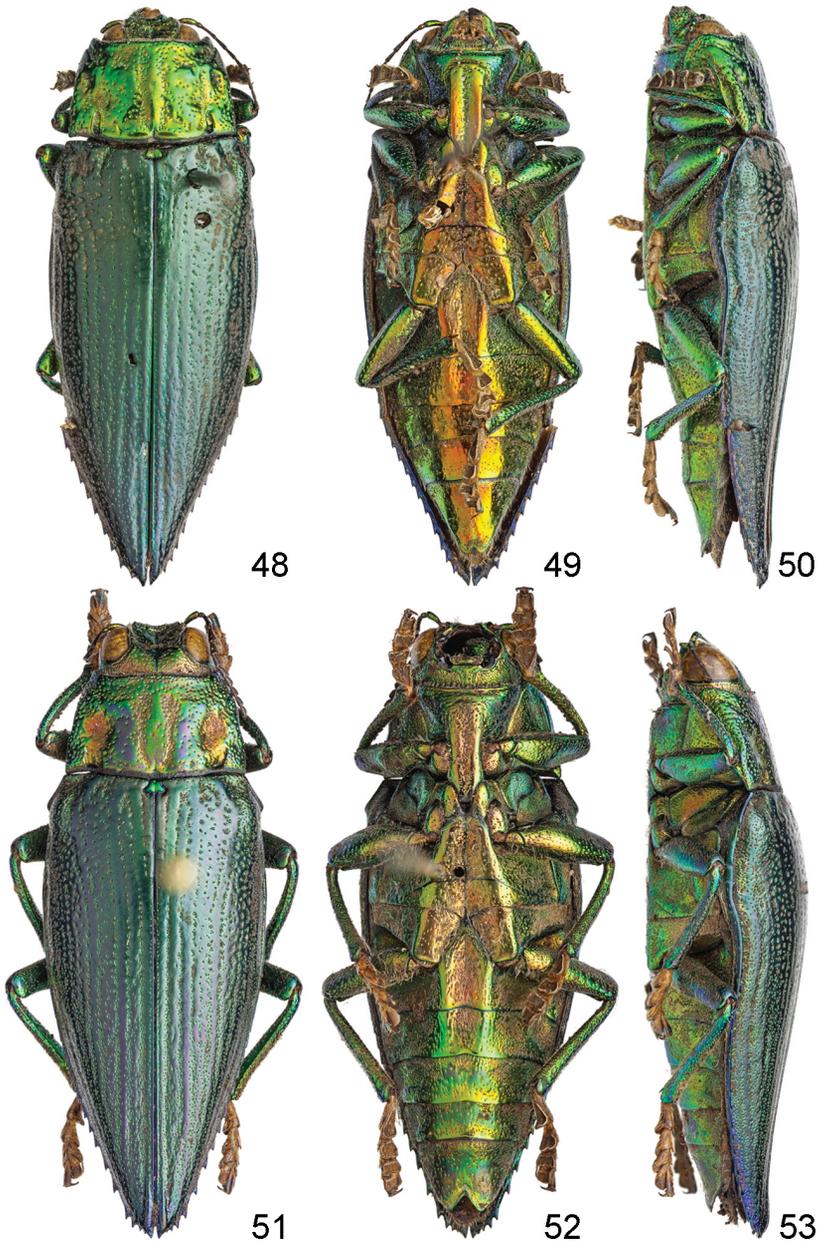
Figs 30–35. 30–32 – *Chrysodema (Gelaeus) walkeri rejzeki* subsp. nov. (holotype ♀, 30.25 mm). 33–35 – *C. (G.) walkeri nigriventris* subsp. nov. (holotype ♂, 29.50 mm). 30, 33 – dorsal view; 31, 34 – ventral view; 32, 35 – lateral view.



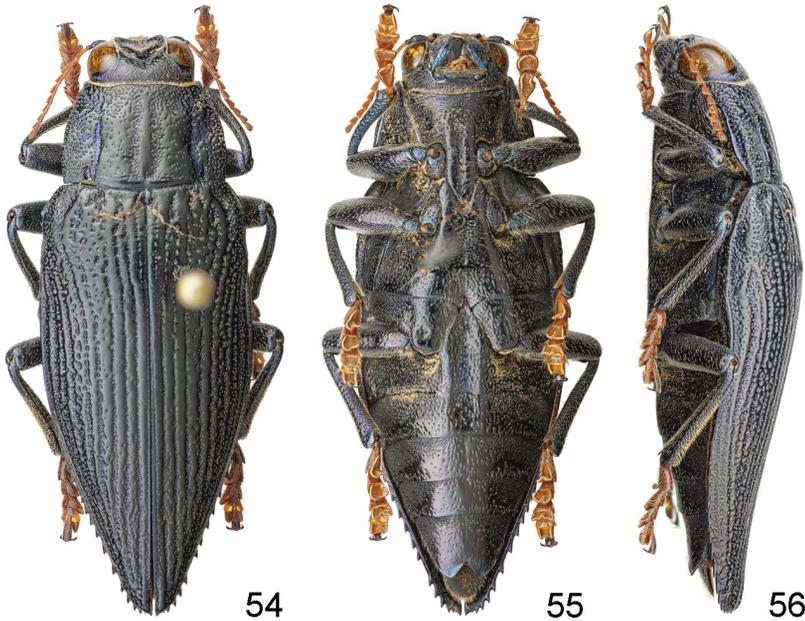
Figs 36–41. 36–38 – *Chrysodema (Gelaeus) walkeri bilyi* subsp. nov. (holotype ♂, 28.50 mm). 39–41 – *C. (G.) walkeri kubani* subsp. nov. (holotype ♂, 27.50 mm). 36, 39 – dorsal view; 37, 40 – ventral view; 38, 41 – lateral view.



Figs 42–47. 42–44 – *Chrysodema (Gelaeus) cyanicollis* Kerremans, 1900 (holotype ♀, 27.00 mm). 45–47 – *C. (G.) sara* sp. nov. (holotype ♂, 24.00 mm). 42, 45 – dorsal view; 43, 46 – ventral view; 44, 47 – lateral view.



Figs 48–53. 48–50 – *Chrysodema (Gelaeus) cupriventris* (Kerremans, 1898) (syntype BMNH, ♀, 21.50 mm). 51–53 – *C. (G.) katha* sp. nov. (holotype ♂, 23.00 mm). 48, 51 – dorsal view; 49, 52 – ventral view; 50, 53 – lateral view.



Figs 54–56. *Chrysodema (Gelaeus) wetteriana* (Théry, 1935) (lectotype ♂, 27.00 mm): 54 – dorsal view; 55 – ventral view; 56 – lateral view.

***Chrysodema (Gelaeus) florensis* Lansberge, 1880, assign. nov.**

(Figs 5–8, 56)

*Chrysodema Florensis* Lansberge, 1880: cxxxii (original description). KERREMANS (1903): 75 (catalogue); OBENBERGER (1926): 131 (catalogue).

*Chalcophora florensis*: KERREMANS (1885): 126 (catalogue).

*Chrysodema (Chrysodema) florensis*: KERREMANS (1909): 514 (key), 527 (redescription); LANDER (2003): 13 (key), 18 (redescription), Figs 8–9 (colour photograph); BELLAMY (2008): 531 (catalogue).

*Gelaeus foraminifera*? var. *florensis*: THÉRY (1935): 248 (catalogue).

**Type locality.** Indonesia, East Nusa Tenggara Province, Flores Island.

**Type material examined.** LECTOTYPE (present designation): ♂, 'Florensis / Lansbge / Flores / Type [w, h] // Flores. [w, p] // TYPE [r, p] // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR [y, p] // SYNTYPE [r, p] // MNHN / EC4802 // *Chrysodema / florensis / Lansb / Dét. T. LANDER 2000 [w, h/p]* (MNHN). PARALECTOTYPE: ♀, 'Flores. [w, p] // TYPE [r, p] // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR [y, p] // SYNTYPE [r, p] // MNHN / EC4803 // SYNTYPE / *Chrysodema / (Chrysodema) / florensis* Lansberge, 1880' (MNHN). Both specimens provided with an additional red printed label: 'LECTOTYPE [or PARALECTOTYPE respectively] [sex] / *Chrysodema (Gelaeus) / florensis / LANSBERGE, 1880 / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]*'.

**Additional material examined.** INDONESIA: EAST NUSA TENGGARA PROV.: Flores Island, 1 ♀ (MHNG; the locality label is identical to the type specimens), x.1896, 1 ♀, Everett lgt. (MFNB). WEST NUSA TENGGARA PROV.: Sangeang Island, iii. 2008, 1 ♀ (DFCP); Lombok Island, xii. 2000, 1 ♂ (MHNG).

**Redescription of lectotype.** Well preserved ♂ specimen with all appendages intact. Length 25.75 mm, width 9.00 mm, length/width ratio: 2.86.

Body generally metallic green. Pronotum green with slight bluish reflections (in lateral

or apical view), basal impressions golden. Elytra green with centre and first two elevated ribs golden-copper, anterior lateral impressions golden and posterior ones copper (Figs 6, 8). Ventral parts with slight golden reflections laterally (Fig. 7). Legs including tarsi and base of claws metallic green.

Pronotum densely (laterally) to moderately dense (centrally) and coarsely punctate. Punctures on lateral sides foveolate, more deeply impressed. Medial line well visible, impunctate but not elevated. Medial impressions hardly impressed basically on same level as medial line and visible as stripe of moderately coarse punctures. Principal impressions weak and hardly separated from disc, sloping and present as elongate groups of small coarse densely arranged punctures with long setae. Surface between medial and principal impressions with sparsely dispersed punctures without larger impunctate areas. Lateral impressions moderately deep with several large punctures. Basal impressions large, oval.

Elytra with broad (ca. 5× wider than puncture rows), nearly impunctate and strongly elevated sutural, 2nd and 4th intervals. Puncture rows impressed from base to apex, in apical half irregularly double and in apical third gradually coalesced, particularly between suture and 2nd interval. Punctuation of elytra overall moderately coarse and very dense (except on intervals), distance between punctures mostly smaller than puncture diameter. Puncture rows V–VIII in mid third of elytra arranged in small groups of 2–4 punctures separated by more or less elevated impunctate folds forming weak reticulation. Each elytron with three impressions: 1) small, elongate situated between weakly visible 6th and 8th interval in basal third length, 2) very small, round, situated centrally between 2nd and 4th interval in basal third length, and 3) large, round, occupying whole width between 4th and 8th interval situated in apical third length (Figs 6, 8).

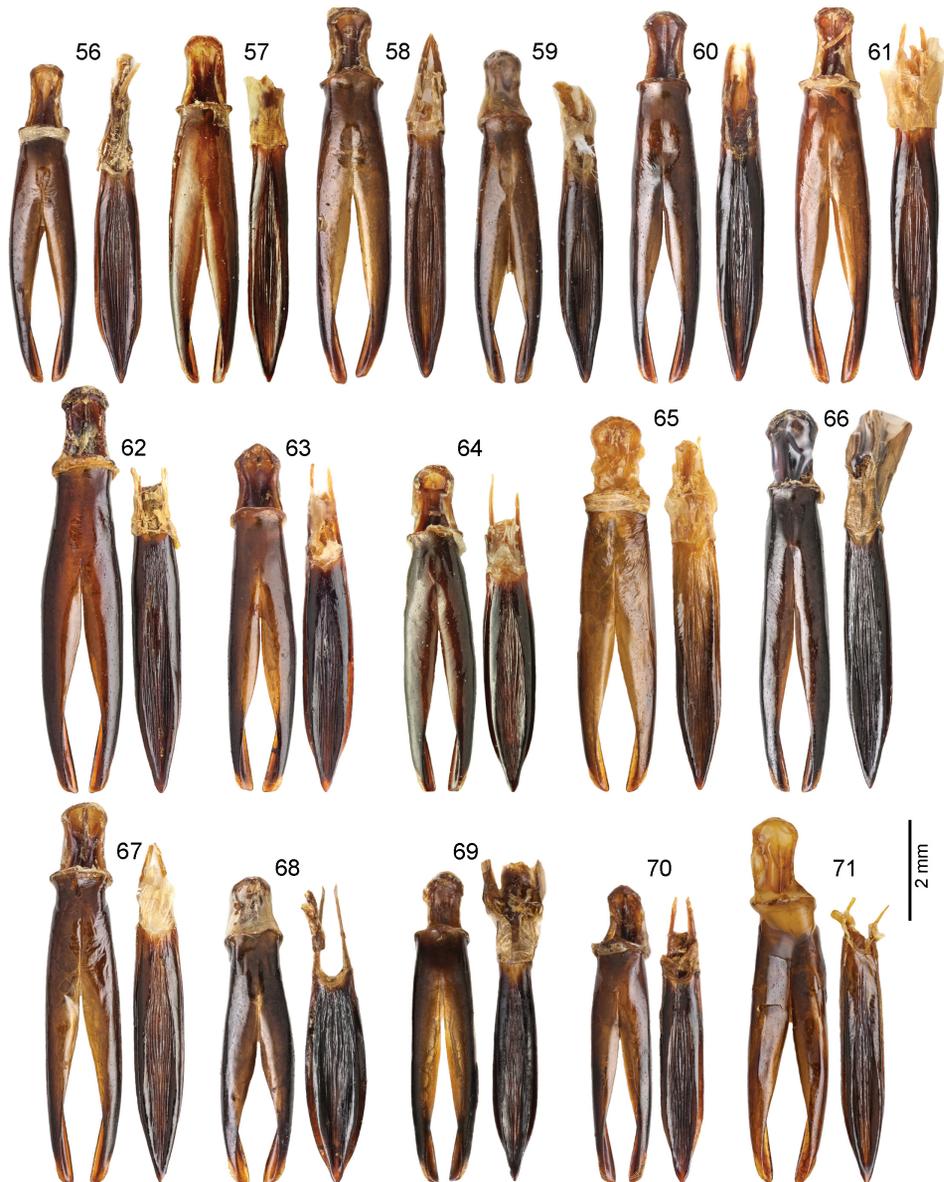
Femora in central part not strongly shiny, moderately densely punctate, punctures large; on sides with very densely arranged punctures.

Ventral side of body (Fig. 7) overall coarsely and very densely punctate, only central parts of thoracic ventrites sparsely punctate. All of lateral sides of all abdominal ventrites densely and coarsely punctate (Fig. 5), only last two with faint impunctate line apically.

Aedeagus (Fig. 56) length: 6.32 mm, width 1.33 mm, length/width ratio: 4.75. Apices of parameres obliquely truncate. Penis stout-oval.

**Variation.** Body ♂♂ (n = 2) length: 25.50–25.75 mm, width: 9.00 mm, length/width ratio: 2.83–2.86; ♀♀ (n = 4): length: 26.00–30.50 mm, width: 9.25–11.00 mm, length/width ratio: 2.63–2.81. Body colouration always green in background in some specimens with strong copper sheen on most of body. Lateral impressions on elytra present in all examined specimens and of constant size, anterior one always elongate and posterior always round. Central impression variable in size or absent. Structure of pronotum in all specimens quite similar or punctuation only slightly sparser. Aedeagus (n = 2) length: 6.32–6.73 mm, width 1.33–1.43 mm, length/width ratio: 4.71–4.75.

**Differential diagnosis.** *Chrysodema* (*G.*) *florensis* can be easily separated from the other taxa by elytra with large lateral impressions in combination with dense punctuation of elytra. The only similar species is *C. (G.) foraminifera*, which however differs in the mostly yellow tarsi with only last tarsomere metallic (completely metallic in *C. (G.) florensis*) and posterior lateral impression elongate or if round then divided into two. Other taxa of *Gelaeus* have either the lateral impressions of elytra barely indicated or they are absent entirely. However



Figs 56–71. Parameres and penis. 56 – *Chrysodema (Gelaeus) florensis* Lansberge, 1880 (lectotype); 57 – *C. (G.) foraminifera* Lansberge, 1879 (Timor Is., RMNH); 58 – *C. (G.) iris iris* (Kerremans, 1898) (lectotype); 59 – *C. (G.) iris moluensis* Novak, 2010 (topotype); 60 – *C. (G.) oborili oborili* sp. nov. (holotype); 61 – *C. (G.) oborili laratensis* subsp. nov. (holotype); 62 – *C. (G.) walkeri walkeri* (Waterhouse, 1892) (Damar Is.); 63 – *C. (G.) walkeri horaki* subsp. nov. (holotype); 64 – *C. (G.) walkeri rejzeki* subsp. nov. (paratype); 65 – *C. (G.) walkeri nigriventris* subsp. nov. (holotype); 66 – *C. (G.) walkeri bilyi* subsp. nov. (holotype); 67 – *C. (G.) walkeri kubani* subsp. nov. (holotype); 68 – *C. (G.) sara* sp. nov. (holotype); 69 – *C. (G.) cupriventris* (Kerremans, 1898) (Wetar Is., DFPC); 70 – *C. (G.) katka* sp. nov. (holotype); 71 – *C. (G.) wetteriana* (Théry, 1935) (lectotype).

we have examined a single uniformly green specimen of *C. (G.) cyanicollis*, which has small but distinct lateral impressions on elytra and green tarsi and thus is superficially very similar to *C. (G.) florensis*. However, it can be separated at once by lateral portion of abdominal ventrites II–III variously punctate with large impunctate areas while *C. (G.) florensis* has lateral portions of respective ventrites densely and uniformly punctate without impunctate areas.

**Distribution.** Indonesia: East Nusa Tenggara Prov.: Flores Is., Lombok Is. and West Nusa Tenggara Prov.: Sangeang Is.

**Remarks.** LANSBERGE (1880) described *Chrysodema florensis* but did not mention the number of specimens he had at his disposal or where they were deposited. However, he gave range of lengths and mentioned male and female, therefore he must have had at least two specimens. The collection of Lansberge was purchased by R. Oberthür (nowadays in MNHN) and some duplicate specimens are also deposited in IRSN, collection of J. Neervoort van de Poll (purchased by A. Théry and nowadays in MNHN), and Museo Civico di Storia Naturale Giacomo Doria, Genova (HORN & KAHLE 1935, 1936). We consulted the respective museums and have located two specimens in MNHN (ex coll. R. Oberthür), one having original identification label by Lansberge. LANSBERGE (1880) stated: ‘Long. 12–15, lat. 5–6 mill.’, however, the actual size of the specimens is 25 mm in male and 30 in female. As both fit well the original description except of the size of body we consider them syntypes and suppose that the small size printed in description is the result of an error.

We designate the male specimen a lectotype to conserve the status of this species for the purpose of this revision and avoid any further misinterpretation as additional specimens might exist.

### *Chrysodema (Gelaeus) foraminifera* Lansberge, 1879

(Figs 9–11, 57)

*Chrysodema foraminifera* Lansberge, 1879: cxlviii (original description). LANSBERGE (1880): cxxxii (comparative note); KERREMANS (1903): 76 (catalogue); OBENBERGER (1926): 131 (catalogue).

*Chalcophora foraminifera*: KERREMANS (1885): 126 (catalogue).

*Chrysodema (Chrysodema) foraminifera*: KERREMANS (1909): 514 (key), 527 (redescription).

*Gelaeus foraminifera*: THÉRY (1935): 247 (key), 248 (catalogue).

*Chrysodema (Gelaeus) foraminifera*: LANDER (2003): 70 (noted), Figs 150–151 (colour photo); BELLAMY (2008): 531 (catalogue).

**Type locality.** Indonesia, East Nusa Tenggara Province, Flores Island (see Remarks).

**Type material examined.** LECTOTYPE (present designation): ♀, ‘v Lansb. / Flores [w, h] // *Chrysodema* / *Foraminifera* / Flores Lansb [w, h] // Type [r, p]’ (RMNH). Specimen provided with an additional red printed label: ‘LECTOTYPE ♀ / *Chrysodema (Gelaeus) / foraminifera* / LANSBERGE, 1879 / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]’.

**Additional material examined.** INDONESIA: EAST NUSA TENGGARA PROV.: Timor Island, 1 ♂ 1 ♀, Macklot Igt. (RMNH), 1 ♂ 2 ♀♀ (MNHN), 3 ♀♀ (MHNG), 1 ♀ (DFPC), viii. 1935, 1 ♀ (MHNG); Timor Island, Buraen env., 60 km SE of Kupang, 350 m, 10.–21.ii.2006, 2 ♀♀, St. Jákl Igt. (DFPC); Semau Island ? (see Remarks), 1 ♀ (RMNH).

**Redescription of lectotype.** Well preserved ♀ specimen missing only mid last tarsomeres with claws and slightly open elytra with exposed wings. Length 25.25 mm, width 9.50 mm, length/width ratio: 2.66.

Body generally metallic green. Pronotum slightly lighter green and somewhat shinier than elytra, basal and principal impressions golden with slight traces of copper. Elytra including elevated ribs uniformly dark green, lateral impressions slightly paler and with slight copper reflections (Fig. 9). Ventral parts bright metallic green with golden reflections (Fig. 10). Legs bright metallic green, tarsi brown, last tarsomere including claws metallic green.

Pronotum laterally densely and coarsely punctate, centrally sparsely punctate. Punctures on lateral sides foveolate, more deeply impressed. Medial line well defined, impunctate but not elevated. Medial impressions hardly impressed, basically on same level as medial line and visible as stripes of moderately coarse punctures, more densely arranged in basal half. Principal impressions round, moderately deep, more or less distinctly separated from disc, densely punctate. Surface between medial and principal impressions with sparsely dispersed punctures basally with larger impunctate areas. Lateral impressions moderate with several large punctures. Basal impressions moderate, oval.

Elytra distinctly punctate-striate, puncture rows posteriorly irregularly double or triple. Intervals basally slightly elevated, ca. 4× wider than puncture rows, impunctate; apically partly obscured due to punctation. Punctation of elytra overall moderate and dense (except on intervals), distance between punctures mostly larger than diameter of the punctures. Puncture rows V–VIII in mid third of elytra arranged in small groups of 2–4 separated by impunctate spaces not forming elevated reticulations. Each elytron with two oval lateral impressions situated between weakly visible 6th and 8th intervals in basal third and two thirds respectively (Fig. 11).

Mid femora in central part strongly shiny, sparsely punctate, punctures large; on sides with densely arranged small punctures.

Ventral side of body (Fig. 10) overall coarsely and very densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Whole lateral side of abdominal ventrite I densely and coarsely punctate. Ventrites II–V gradually less punctate apically with small and dense punctation restricted to basal half.

**Variation.** Body ♂ (n = 2) length: 25.00–26.25 mm, width: 9.00–9.50 mm, length/width ratio: 2.76–2.78; ♀♀ (n = 12): length: (23.00)25.00–31.75 mm, width: (8.50)9.25–12.25 mm, length/width ratio: 2.55–2.77. Body colouration always basically green, in some specimens with strong copper or turquoise sheen on most of the body. Medial pronotal impressions in some specimens shallowly impressed, principal impressions from round to oval and variably deeply impressed, lateral impressions punctate to impunctate, basal impression oval to triangular. Lateral impressions on elytra present in all examined specimens and of rather constant size. Two specimens have posterior lateral impressions enlarged, occupying width between 4th and 8th interval, round and more or less divided into two impressions. One specimen has similarly enlarged posterior lateral impressions and additional oval impressions internally next to it and two small round impressions in centre of elytron in basal third length. Tarsi laterally with metallic spots in four specimens. Aedeagus (Fig. 57) (n = 2) length: 6.68–6.94 mm, width 1.43 mm, length/width ratio: 4.67–4.85. Apices of parameres rounded. Penis elongate, subparallel-sided.

**Differential diagnosis.** This species can be separated from similar *C. (G.) florensis* by pale colouration of tarsi (all tarsomeres green in the latter species) and by lateral portion of abdominal ventrites II–III variously punctate with large impunctate areas (Fig. 4) while *C. (G.) foraminifera* has lateral portions of respective ventrites densely and uniformly punctate without impunctate areas (Fig. 5). The curious uniformly green specimen of *C. (G.) cyanicollis* differs by the green tarsi and coarser sculpture of elytra. Some specimens of *C. (G.) foraminifera* with apparently differently coloured pronotum and elytra are quite similar to *C. (G.) cupriventris*, which differs in the elytra always lacking lateral impressions (with two impressions in *C. (G.) foraminifera*), red underside (predominantly green in *C. (G.) foraminifera*) and in lateral portions of abdominal ventrites II–IV with band of denser but yet sparse punctures along anterior margin while the rest is nearly impunctate (very densely punctate basally and sparsely apically in *C. (G.) foraminifera*).

**Distribution.** Indonesia: East Nusa Tenggara Prov.: Flores Is., Timor Is. and Semau Is. The species possibly also occurs in East Timor.

**Remarks.** LANSBERGE (1879) did not state how many specimens he had at his disposal when describing *Chrysodema foraminifera* nor mentioned any depository. However, he gave a range of lengths: ‘Long. 25–30 millim.’ thus he must have had at least two specimens. The collection of Lansberge was purchased by René Oberthür (nowadays in MNHN) and some duplicate specimens are also deposited in IRSN, collection of J. Neervoort van de Poll (purchased by A. Théry and nowadays in MNHN), and Museo Civico di Storia Naturale Giacomo Doria, Genova (HORN & KAHLE 1935, 1936). We have searched above mentioned museums as well as other collections and found only a single specimen labelled as type in RMNH. The specimen came from Lansberge’s collection, bears handwritten label, but not by Lansberge (H. Huijbregts, pers. comm.), with name and additional small red label ‘Type’. The specimen agrees with the primary description and thus we assume it is a part of the type series. Since there is possibility of existence of additional type specimens we designate the RMNH specimen the lectotype in order to fix the identity of this species. The lectotype is the only specimen of this species known to us from Flores. We have examined additional eleven specimens morphologically identical to the lectotype but these were collected on Timor. This is quite strange as collectors collected extensively in the past on both, Flores and Timor, but there is no other specimen of *C. (G.) foraminifera* from Flores. Therefore we assume that the type locality might be erroneous and the species is in fact restricted to Timor but this need to be verified by recent material from Flores.

One specimen bears locality data as ‘Macklot / Poeloe / Samoe’, however, we think it is very unlikely that the specimen was collected in Samoa as H. C. Macklot never visited Samoa but collected in New Guinea, Timor and surrounding islands (EFFERT 2008: 132). Poeloe is an old transcription of *pulau* which means island(s). Samoe in our opinion is most likely misspelled Semau Island situated at southwest end of Timor Island. Since we do not have actual proof whether the specimen was collected on the latter island or not we list Semau Island with a question mark and the record has to be verified by additional specimens.

LANDER (2003: 70) briefly mentioned *C. (G.) foraminifera* and noted that it appears to be a variety of *C. (G.) walkeri* with white spots but did not propose any synonymy.

***Chrysodema (Gelaesus) iris iris* (Kerremans, 1898)**

(Figs 12–14, 58)

*Pseudochrysodema Iris* Kerremans, 1898: 114 (original description).*Chrysodema Iris*: KERREMANS (1903): 76 (catalogue).*Chrysodema (Gelaesus) Iris*: KERREMANS (1909): 509 (key, redescription, incl. colour Fig. 4, Pl. 22); BELLAMY (2008): 532 (catalogue).*Gelaesus Iris*: OBENBERGER (1926): 129 (catalogue); THÉRY (1935): 248 (key, catalogue).**Type locality.** Original type locality 'Banda' here changed to: Indonesia, Maluku Province, Tanimbar Islands.**Type material examined.** LECTOTYPE (present designation): ♂, 'Banda Ins. [w, h] // Iris / Kerr / Type [w, h] // iris Kerr. [w, h] // Coll. / Jul. Moser // Chrysodema (Gelaesus) / iris / Kerr. / Det. T. LANDER 2000' (MFNB). Specimen provided with an additional red printed label: 'LECTOTYPE ♂ / *Chrysodema (Gelaesus) / iris / (KERREMANS, 1898) / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]*'.**Additional material examined.** INDONESIA: MALUKU Prov.: Banda Island [probably erroneous locality data], 1 ♀ (NMPC); Tanimber [= Tanimbar Islands], 1 ♂ 2 ♀♀ (RMNH, ex coll. ZMAN); Tenimber [= Tanimbar Islands], 1 ♀ (NHMB, coll. G. Frey), 1 ♀ (DFPC), 1 ♀ (RMNH), 1 ♀ (MHNG); Key [= Kai Islands; probably erroneous locality data], 1 ♀, J. M. Bedoc coll. (MHNG).**Redescription of lectotype.** Quite well preserved ♂ specimen missing both antennae, left fore and hind, and right middle tarsi. Length 28.00 mm, width 9.50 mm, length/width ratio: 2.95. Head, pronotum, ventral side and legs except tarsi fern green with purple reflections, the latter particularly obvious on impunctate parts of pronotum and abdomen (Fig. 13). Tarsi yellow, last tarsomere metallic green. Elytra iridescent, purple on top of disc and basally, changing laterally and apically to fern green, then golden, red, violet, blue and finally turquoise (Fig. 12).

Pronotum in general moderately strongly and sparsely punctate, only laterally punctures more densely arranged. Medial line well marked, impunctate, appearing slightly elevated. Medial impressions distinctly impressed, moderately deep, sparsely punctate, punctures in basal 2/3 smaller and arranged in an irregular row and partly grouped together, in anterior 1/3 impressions shallower with punctures almost equal in size to remaining punctures along anterior margin. Principal impressions large, round, bordered internally by row of very fine punctures, centrally and externally smooth with only a few larger punctures. Basal impressions large, oval, broadly open and connected with principal impression. Lateral impressions deep and impunctate.

Elytra without lateral impressions, moderately strongly punctate. Punctures small, shallowly impressed basally, and moderately impressed laterally. Rows visible from base to apex, weakly impressed, generally regularly arranged, and irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra quite regularly and sparsely arranged, forming distinct rows not isolated groups, laterally somewhat less regular; spaces much broader than puncture diameter, flat not reticulate (Fig. 14). Intervals basally flat, not elevated, broad, approximately 5–6× as wide as rows of punctures, impunctate; apically and laterally barely elevated and nearly impunctate.

Mid femora in central part strongly shiny, sparsely punctate, punctures large, on sides punctures smaller and dense.

Ventral side of body (Fig. 13) overall coarsely and quite densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Almost whole lateral side of abdomi-

nal ventrite I densely and coarsely punctate, punctures small. Lateral sides of ventrites II–V densely and coarsely punctate basally and sparsely punctate with large punctures apically.

Aedeagus (Fig. 58) length 7.55 mm, width 1.53 mm, length/width ratio: 4.93. Apices of parameres truncate. Penis elongate, subparallel-sided.

**Variation.** Body ♀♀ (n = 6): length: 26.00–31.00 mm, width: 9.00–11.00 mm, length/width ratio: 2.82–2.95. In contrast to the other taxa this one seems to be rather constant in colouration. Only one specimen has more extensive purple colour on the disc of the elytra and the fern green colour is limited to a thin line.

**Differential diagnosis.** This species can be easily recognized from other species of *Gelaeus* by iridescent colouration of elytra. The subspecies *C. (G.) iris moluensis* differs in whole tarsi metallic coloured, much coarser punctation of elytra and iridescent pattern restricted to apical half of elytra while the nominotypical subspecies also has iridescent lateral sides.

**Distribution.** Indonesia: Maluku Prov.: Tanimbar Isls (see Remarks).

**Remarks.** KERREMANS (1898) did not mention explicitly how many specimens he had at his disposal just gave a single length and width measurement: ‘Long., 28; larg. 9 mill.’ and stated that the material is from collection of Meyer Darcis. The latter collection was purchased by Julius Moser and is nowadays deposited in MFNB. We have found a single specimen in the latter collection, however since Kerremans did not mention the number of specimens it is not certain that this is the only existing specimen used in making the description. Therefore we designate the MFNB specimen a lectotype in order to conserve status of this species and avoid any further misinterpretations.

KERREMANS (1898) gave ‘Banda’ as the type locality. There is only one other known specimen with the same locality data on handwritten label by J. Obenberger (deposited in NMPC). There is also one specimen with the label Kai Islands. The remaining seven studied specimens were collected on Tanimbar Islands, however, without more precise locality data. Nevertheless we assume that the type locality Banda Island as well as the record from Kai Island are erroneous and the species is restricted to Tanimbar Islands because all specimens are quite similar each to other, not displaying much variation and on the Tanimbar Islands also occurs *C. (G.) iris moluensis* the other subspecies of this taxon. Therefore we change the type locality to Tanimbar Islands. More accurately localized material is needed to confirm and clarify the distribution of this species.

***Chrysodema (Gelaeus) iris moluensis* Novak, 2010, stat. nov.**

(Figs 15–17, 59)

*Chrysodema moluensis* Novak, 2010: 107 (original description; partim).

**Type locality.** Indonesia, Maluku Province, Tanimbar Islands, Molu Island.

**Type material.** Not examined.

**Additional material examined.** INDONESIA: MALUKU PROV.: Molu Island, ii.2008, 2 ♀♀, local collectors Igt. (NMPC), iv.2009, 3 ♀♀ (DFPC); Molu Island, Tutunametal village env., xi.2008, 1 ♂, local collectors Igt. (DFPC), 1 ♀ (SJPC), 0–50 m a.s.l., xi.2012, 1 ♂ (DFPC); Tanimbar Islands, 11.i.2008, 1 ♂ 2 ♀♀, R. Geweiler [Igt.?] (SGBG).

**Redescription.** Well preserved ♂ specimen with all appendages, missing only right antennomere XI. Length 25.00 mm, width 8.50 mm, length/width ratio: 2.94.

Colouration as in nominotypical subspecies but whole tarsi metallic green and elytra iridescent only in apical third, basal two thirds purple and fern green (Fig. 15).

Pronotum in general as in nominotypical subspecies, medial impression densely punctate along whole length, basal impression triangular and not open to principal impression, latter elongate.

Elytra without clear lateral impressions, coarsely punctate. Punctures large, deeply impressed, with large fovea. Rows visible from base to apex, moderately impressed, generally regularly arranged, and barely double in apical half. Punctures in rows V–VIII in middle third of elytra quite regularly and densely arranged forming distinct rows not isolated groups, laterally somewhat less regular; spaces slightly broader than puncture diameter, flat not reticulate (Fig. 17). Intervals more or less convex from base to apex, moderately broad, approximately 3× as wide as rows of punctures, nearly impunctate, only with a few coarse punctures apically.

Mid femora and ventral side as in nominotypical subspecies (Fig. 16).

Aedeagus (Fig. 59) length 6.63 mm, width 1.38 mm, length/width ratio: 4.80. Apices of parameres truncate. Penis oval, distinctly rounded on sides.

**Variation.** Body ♂♂ (n = 3) length: 25.00–29.00 mm, width: 8.50–10.00 mm, length/width ratio: 2.90–3.03; ♀♀ (n = 7) length: 27.00–33.00 mm, width: 9.25–11.75 mm, length/width ratio: 2.64–2.92. In contrast to nominotypical subspecies elytral pattern more variable, basal 2/3 from completely purple or violet, sometimes partly with golden reflections, to mostly fern green with slight purple reflections. Colouration of underside nearly constant. Medial impressions on pronotum shallow to moderately deep, variously punctate, sometimes punctures grouped together and more numerous basally. Elytra in larger specimens appear slightly less sculptured. Four specimens have a more or less indicated posterior lateral impressions on elytra as a group of small dense punctures of olive-green colour, but distinctly impressed only in one specimen.

**Differential diagnosis.** This subspecies can be easily recognized from the nominotypical (characters of latter in brackets) by uniformly metallic tarsi (yellow with last tarsomere metallic), iridescent pattern limited to apical third of elytra (present on lateral slope from base to apex), and coarser and distinctly impressed punctation of elytra with larger punctures.

**Distribution.** Indonesia: Maluku Prov.: Tanimbar Isls.: Molu Is.

**Remarks.** NOVAK (2010) described *Chrysodema moluensis* from series of 24 specimens. Holotype, allotype and 16 paratypes were collected on Molu Island and six additional paratypes from Larat Island. Unfortunately, G. Novak (Vienna, Austria) has passed away and his collection is currently inaccessible. Nevertheless, he provided the description with photographs of both populations allowing us to recognize them with certainty. However, in our opinion the population from the Larat Island is so strikingly different that it deserves its own taxon and is here described as *C. (G.) oborili laratensis* subsp. nov. See further comments under the latter taxon.

The redescription of *C. (G.) iris moluensis* presented here is based on a topotypic male specimen collected on the same date and obtained from the same batch. NOVAK (2010) did not assign his species to any of the existing subgenera of *Chrysodema*. In our opinion this taxon represents a subspecies of *C. (G.) iris* as it has deep basal impression on pronotum (absent in other subgenera of *Chrysodema*) and has similar but different elytral pattern to *C. (G.) iris*.

***Chrysodema (Gelaeus) katka* sp. nov.**

(Figs 51–53, 70)

**Type locality.** Indonesia, East Nusa Tenggara Province, Timor Island, Soe.

**Type material.** HOLOTYPE: ♂, 'Soë (alt. 880m) / Timor central [w, p] // COLL ON LE MOULT / Naturaliste, Paris [w, p]' (IRSN). PARATYPES (72 ♂♂ 47 ♀♀): 1 ♂ 6 ♀♀, same data as holotype (1 ♂ 3 ♀♀ IRSN, 2 ♀♀ DFPC, 1 ♀ NMPC); 1 ♂ 1 ♀, same data as holotype plus additional labels 'R. Mus. Hist. Nat. / Belg. I. G. 12.595 [w, p] // J. De Walsche det., 1943: / Gelaeus / Walkeri Wat. [w, p/h]' (IRSN); 18 ♂♂ 2 ♀♀, same data as holotype plus additional labels 'R. Mus. Hist. Nat. / Belg. I. G. 12.595 [w, p] // J. De Walsche det., 1943: / GELAEUS / Walkeri (Wath.) [w, p]' (16 ♂♂ 2 ♀♀ IRSN, 2 ♂♂ DFPC); 9 ♂♂ 6 ♀♀, 'Soë-(880m.) / Timor central [w, p] // COLL ON LE MOULT / Naturaliste, Paris [w, p]' (7 ♂♂ 2 ♀♀ IRSN, 1 ♀ MHNG, 1 ♀ LSPC, 1 ♂ NMPC, 1 ♂ 2 ♀♀ DFPC); 2 ♂♂ 1 ♀, 'Soë-(880m.) / Timor central [w, p] // COLL ON LE MOULT / Naturaliste, Paris [w, p] // R. Mus. Hist. Nat. / Belg. I. G. 12.595 [w, p] // J. De Walsche det., 1943: / Gelaeus / Walkeri Wat. [w, p/h]' (IRSN); 38 ♂♂ 14 ♀♀, 'Soë-(880m.) / Timor central [w, p] // COLL ON LE MOULT / Naturaliste, Paris [w, p] // R. Mus. Hist. Nat. / Belg. I. G. 12.595 [w, p] // J. De Walsche det., 1943: / GELAEUS / Walkeri (Wath.) [w, p]' (32 ♂♂ 11 ♀♀ IRSN, 1 ♂ MFNB, 1 ♂ LSPC, 4 ♂♂ 3 ♀♀ DFPC); 1 ♂ 1 ♀, 'Soë (alt. 880m) / Timor central [w, p] // COLL ON LE MOULT / Naturaliste, Paris [w, p] // MUSÉUM PARIS / 1935 / Coll. A. THÉRY' (MNHN); 2 ♂♂ 10 ♀♀, 'INDONESIEN / Timor / Camplong NTT / XII. 1996 [w, h]' (1 ♂ 7 ♀♀ HMCM, 1 ♂ 1 ♀ MHNG, 2 ♀♀ DFPC); 1 ♀, 'INDONESIA, / TIMOR Isl., / Feb. 2005 [w, h]' (VKSC); 1 ♀, 'Indonesia, Lesser Sundas / TIMOR isl. 5.2005 / local collectors lgt [w, p] // CHRYSODEMA (Gelaeus) / walkeri Waterhouse 1892 / det Barries 2008 [w, p]' (WBWA); 1 ♀, 'INDONESIEN / WESTTIMOR / Mt. Mutis / 5/2005 [w, p/h] // Chrysodema / (Gelaeus) / walkeri (Waterh.) / det. S. Gottwald 2007 [w, p]' (SGBG); 3 ♀♀, 'Timor / Feb. 05 [w, p]' (2 ♀♀ DFPC, 1 ♀ MFNB). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) katka* sp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Quite well preserved ♂ specimen missing mouthparts and left antenna from antennomere V on. Length 23.00 mm, width 8.50 mm, length/width ratio: 2.71.

Head, pronotum and scutellum bright green with strong golden and copper reflections, impunctate areas of pronotum with violet reflections. Elytra pine green with slight purple reflection (Fig. 51), blue lateroapical margins and suture, and somewhat paler green lateral punctation with golden reflections (Fig. 53). Ventral side bright green with strong copper and golden reflections (Fig. 52). Legs bright green partly with golden and bluish reflections, tarsi yellow, only apical half of last tarsomere and claws metallic green.

Pronotum in general coarsely and moderately densely punctate. Medial line well marked, with a few moderately large punctures. Medial impressions very weak, more or less impressed only along medial line, densely punctate, punctures smaller than those lateral to them. Principal impressions deep, round, not connected to basal impressions, and with small dense punctures. Lateral impressions shallow and punctate. Basal impressions moderately deep, subtriangular.

Elytra moderately strongly and quite densely punctate, with slightly marked lateral impressions as round groups of coarser and paler coloured punctures (Fig. 53). Rows visible from base to apex, distinctly impressed on apical 2/3, more or less regularly arranged, but irregularly double or triple in apical 2/3 length. Punctures in rows V–VIII in middle third of elytra quite irregular and dense, and partly grouped, only internally forming more or less distinct rows; spaces 1–2× as broad as diameter of puncture, flat, not reticulate (Fig. 53). Intervals basally flat, not elevated, broad, approximately 3–4× as wide as rows of punctures, impunctate; apically and laterally somewhat elevated and punctate, first interval somewhat vanishing apically.

Mid femora in central part strongly shiny, sparsely punctate, punctures large, on sides punctures smaller but coarser and dense.

Ventral side of body (Fig. 52) overall coarsely and quite densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Lateral sides of abdominal ventrites densely and coarsely punctate with small punctures, latter on ventrites II to V gradually sparser in apical half and replaced with sparse larger punctures. Lateral side of ventrite V densely punctate only in basal third.

Aedeagus (Fig. 70) length 5.95 mm, width 1.22 mm, length/width ratio: 4.88. Apices of parameres obliquely truncate. Penis elongate, subparallel-sided.

**Variation.** Body ♂♂ (n = 49) length: 18.00–24.25(25.75) mm, width: 6.25–9.20 mm, length/width ratio: 2.60–2.85(2.96); ♀♀ (n = 42) length: 19.25–28.50(30.75) mm, width: 7.25–11.50 mm, length/width ratio: 2.51–2.78. Very variable taxon. Impressions on pronotum shallow to moderately deep and of variable size; punctation of pronotum, particularly in smaller specimens, coarser, punctures with larger fovea. Principal impressions round to elongate oval. Colouration of pronotum from mostly vivid green with bluish tint to mostly copper or violet, however majority of specimens with green background colour and golden/copper impressions and foveae of punctures; largely copper to violet pronotum is present only in specimens from Camplong. Colouration of elytra in series from Soë quite uniform, varying only in intensity of purple tint; only six specimens with bluish tint to mostly blue elytra and two with nearly black (? artificially) elytra. In series from Camplong five specimens with blue elytra and green pronotum and seven with pine green elytra and purple pronotum. Lateral impressions on elytra absent to variously present, if present posterior impression deeper and better indicated than anterior, which is only exceptionally truly impressed. Ventral side in most specimens green with variable extent of golden and copper reflections, sometimes nearly whole underside copper; exceptionally dark violet (five specimens with purple pronotum from Camplong). Specimens from Soë were badly damaged and about one quarter of them have missing tarsi. Of the remaining specimens 49 have last tarsomere metallic and 40 uniformly brown. Aedeagus (n = 7) length: 5.36–6.83 mm, width 1.12–1.43 mm, length/width ratio: (4.29)4.78–4.94(5.31).

**Differential diagnosis.** *Chrysodema (G.) katka* sp. nov. is most similar to *C. (G.) cupriventris* as both have similarly green elytra and paler pronotum with golden and copper reflections. They can be easily separated by punctation of abdomen, which is moderately strong and very sparse in *C. (G.) cupriventris* while dense and coarse in *C. (G.) katka*. Additionally, *C. (G.) cupriventris* has lighter tone of elytra (i.e. fern green) and brightly copper-red ventral side. At first glance *C. (G.) katka* is also similar to *C. (G.) foraminifera* (also known from Timor) but the latter differ in brightly green ventral side of body and uniformly equally coloured pronotum and elytra while *C. (G.) katka* has dark ventral side and elytra distinctly darker coloured than pronotum. *Chrysodema (G.) foraminifera* also differs in narrower and more elongate penis than *C. (G.) katka* (Figs 56 vs 70).

**Etymology.** This species is dedicated to Katka Štajerová for her support and love to the second author of this paper. The epithet is noun in apposition.

**Distribution.** Indonesia/East Timor: Timor Is. We have examined several specimens labelled just Timor and therefore we cannot be sure whether they were collected in the Indonesian part of the island or in the East Timor.

***Chrysodema (Gelaeus) oborili oborili* sp. nov.**

(Figs 18–20, 60)

**Type locality.** Indonesia, Maluku Province, Tanimbar Islands, Yamdena Island, 20 km NE of Saumlaki.**Type material.** HOLOTYPE: ♂, 'INDONESIA. Tanimbar is. / YAMDENA ISL. 20km NE / of Saumlaki. 150m / 1.-30.i.2007 M. Obořil lgt. [w, p]' (NMPC). PARATYPES (29 ♂♂ 17 ♀♀): 29 ♂♂ 16 ♀♀, same data as holotype (19 ♂♂ 10 ♀♀ MOOC, 7 ♂♂ 4 ♀♀ DFPC, 1 ♂ HMMG, 1 ♂ 1 ♀ MFNB, 1 ♂ 1 ♀ MHNG); 1 ♀, 'Tanimbar Is., Yamdena / Mams village / 21km N of Saumlaki / 27.11.-11.12.2005/ J. Horák leg. [w, p]' (NMPC). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / oborili / oborili* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.**Description of holotype.** Well preserved ♂ specimen with all appendages. Length 28.25 mm, width 9.00 mm, length/width ratio: 3.14.

Head and pronotum olive green with violet reflections, particularly on impunctate parts. Scutellum olive green. Elytra dark metallic brown-violet, intervals more or less bronze (Fig. 18), latero-apical slope dark violet, lateral serrations and apex dark teal (Fig. 20). Thoracic ventrites olive green with violet reflections, abdominal ventrites largely dark violet, only basally more or less olive green with some golden reflections (Fig. 19). Legs olive green with violet reflections, tarsi brown, last tarsomere metallic olive green.

Pronotum in general moderately strongly and sparsely punctate, only laterally punctures denser. Medial line well marked impunctate, appears slightly elevated. Medial impression distinctly impressed, moderately deep, irregularly and moderately densely punctate, punctures somewhat smaller than external ones. Principal impressions moderately deep, elongate, bordered internally by row of very fine punctures, centrally and externally smooth with only a few larger punctures. Basal impressions large, oval, broadly open and connected with principal impressions. Lateral impressions deep and impunctate.

Elytra without lateral impressions, moderately strongly punctate. Punctures moderately strong and moderately impressed. Rows visible from base to apex, weakly impressed, generally regularly arranged, internal ones irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra quite regular and moderately dense, forming distinct rows not isolated groups, laterally slightly less regular; spaces approximately as wide as puncture diameter, flat not reticulate (Fig. 20). Intervals basally flat, barely elevated, narrow, approximately 1–2× as wide as rows of punctures, with several punctures apically.

Mid femora in central part strongly shiny, very sparsely punctate, punctures large, on sides punctures smaller and dense.

Ventral side of body (Fig. 19) overall coarsely and quite densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Lateral sides of abdominal ventrites laterobasally with patch of dense small punctures, rest sparsely punctate with larger punctures.

Aedeagus (Fig. 60) length 7.40 mm, width 1.43 mm, length/width ratio: 5.17. Apices of parameres obliquely truncate. Penis elongate, subparallel-sided.

**Variation.** Body ♂♂ (n = 30) length: 24.75–29.75(32.00) mm, width: 7.75–10.25 mm, length/width ratio: (2.94)2.97–3.22; ♀♀ (n = 16) length: (24.00)27.00–34.00(36.00) mm, width: (8.00)9.25–11.75(12.25) mm, length/width ratio: (2.73)2.80–3.00. Structure of pronotum quite variable, principal and medial impressions from shallow to moderately deep, latter sometimes slightly more coarsely punctate, principal impressions always appear impunctate except for

inner row. Basal impressions always deep variously open and connected with principal impressions. Pronotum from nearly uniformly olive green to mostly violet but always impressions and punctures olive green; most specimens with extensive violet reflections. Intervals on elytra sometimes not differently coloured, mostly dark bronze or olive green-bronze. Elytra sometimes with very small apparent lateral impressions due to grouped small punctures. Sometimes also thoracic ventrites predominantly violet. Aedeagus (n = 5) length: 7.04–8.36 mm, width 1.38–1.53 mm, length/width ratio: 5.10–5.46.

**Differential diagnosis.** This species can be easily separated from other taxa of *Gelaeus* by brown or bronze violet colouration of elytra while remaining taxa are green, blue or black. It is similar only to *C. (G.) iris*, which however differs in the distinct iridescent pattern of the elytra. For distinguishing characters from *C. (G.) oborili laratensis* subsp. nov. see Differential diagnosis under the latter subspecies.

**Etymology.** This species is named after Martin Obořil (Olbramovice, Czech Republic), a specialist in Buprestidae and collector of most of the type series.

**Distribution.** Indonesia: Maluku Prov.: Tanimbar Isls.: Yamdena Is.

### *Chrysodema (Gelaeus) oborili laratensis* subsp. nov.

(Figs 21–23, 61)

*Gelaeus Iris* var. *cupripennis* Théry, 1935: 248 (unavailable infrasubspecific name). BELLAMY (2008): 532 (catalogue, listed as synonym of *C. iris*).

*Chrysodema moluensis* Novak, 2010: 107 (partim, incl. colour Figs 2–3).

**Type locality.** Indonesia, Maluku Province, Tanimbar Islands, Larat Island.

**Type material.** HOLOTYPE: ♂, 'Larat - Ins. / (Tenimber I.) [w, p]' (NMPC). PARATYPES (7 ♂♂ 19 ♀♀): 5 ♂♂ 15 ♀♀, 'Larat - Ins. / (Tenimber I.) [w, p] // Coll. / Jul. Moser [w, p]' (5 ♂♂ 14 ♀♀ MFNB, 1 ♀ DFPC); 2 ♂♂ 2 ♀♀, 'Indonesia, S MOLLUCAS / Tanimbar Isls, 0-50 M / LARAT ISLAND, 2.2008 / local collectors lgt. [w, p]' (2 ♂♂ 1 ♀ DFPC, 1 ♀ SJPC); 1 ♀, Tanimbar, feb. 2003 [w, p]' (DFPC); 1 ♀, Tanimbar, 03/ 2003 [w, h]' (DFPC). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / oborili / laratensis* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Well preserved ♂ specimen missing left two distal antennomeres and left hind leg. Length 27.00 mm, width 9.50 mm, length/width ratio: 2.84.

Head and pronotum olive green, latter with barely visible violet reflections along anterior margin and anterior corners. Scutellum olive green. Elytra bronze centrally, gradually changing laterally and apically to copper and dark violet (Fig. 21), lateral serrations and apex dark teal (Fig. 23). Ventral side and legs as in nominotypical subspecies (Fig. 22).

Pronotum as in nominotypical subspecies.

Elytra as in nominotypical subspecies, only intervals distinctly more elevated (Figs 21, 23).

Legs and ventral side as in nominotypical subspecies (Fig. 22).

Aedeagus (Fig. 61) length 7.55 mm, width 1.53 mm, length/width ratio: 4.93. Apices of parameres obliquely truncate. Penis elongate, subparallel-sided.

**Variation.** Body ♂♂ (n = 8) length: 26.25–28.25 mm, width: 9.00–10.00 mm, length/width ratio: 2.79–2.86(3.03); ♀♀ (n = 19) length: (21.00)25.25–34.25(36.50) mm, width: (7.50)9.00–13.00 mm, length/width ratio: 2.67–2.92. Structure of pronotum quite variable, principal and medial impressions from shallow to moderately deep, latter sometimes slightly

coarser punctate, principal impressions always appears impunctate except of inner row. Basal impressions always deep, variously open and connected with principal impression. Pronotum from uniformly olive green to partly violet; most specimens with green pronotum at most with slight violet reflections. Elytra from bronze to nearly copper, always with gradually darker lateroapical margins. Ventral side often with violet, purple or copper reflections. Aedeagus ( $n = 5$ ) length: 7.34–7.75 mm, width 1.38–1.53 mm, length/width ratio: 4.93–5.42.

**Differential diagnosis.** *Chrysodema* (*G.*) *oborili laratensis* subsp. nov. is on average narrower than the nominotypical subspecies (see body length/width ratios in Variation) and has much more convex elytra in lateral view (see Figs 20 vs 23). Additionally it has brighter colouration of elytra with whole central portion bronze to copper while the nominotypical subspecies is less shiny and has dark-violet body with only more or less bronze intervals.

**Etymology.** This subspecies is named after its type locality Larat Island, the subspecies epithet being an adjective.

**Distribution.** Indonesia, Maluku Prov.: Tanimbar Isls.: Larat Is.

**Remarks.** THÉRY (1935: 248) described *Gelaeus iris* var. *cupripennis*, however, in the same work he described also a subspecies *Gelaeus walkeri wetteriana* therefore the variety *cupripennis* is infrasubspecific name according to the Article 45.6.4 (ICZN 1999). Nor was it validated before 1985 (Article 45.6.4.1) and hence it is an unavailable name according to ICZN (1999).

THÉRY (1935: 248) separated his variety *cupripennis* based on uniformly copper coloured elytra while *C. (G.) iris* has iridescent pattern on elytra. He mentioned only ‘Tenimber’ in catalogue as the distribution of this variety. We were unable to locate any original ‘type’ specimens for this variety. However, the historical series from Larat (ex collection of J. Moser; MFNB) was loaned to us under the latter name. We presume that the var. *cupripennis* is the same as *C. (G.) oborili laratensis* subsp. nov. because most specimens have copper or bronze elytra, which are distinctly darker in *C. (G.) oborili oborili* and iridescent in *C. (G.) iris*.

### *Chrysodema (Gelaeus) sara* sp. nov.

(Figs 45–47, 68)

*Gelaeus walkeri walkeri* [misidentification]: AKIYAMA & OHMOMO (2000): Pl. 42, Figs 445-3.

**Type locality.** Indonesia, Maluku Province, Babar Island, Tapa.

**Type material.** HOLOTYPE: ♂, ‘Indonesia, S. Moluccas / BABAR ISL., 0–250 m alt / Tapa env., 7.2010 / local collection lgt’ (NMPC). PARATYPES (2 ♀♀): 1 ♀, same data as holotype (SGCB); 1 ♀, ‘Indonesia, S. Moluccas / WETANG ISL., 4.2009 / Rumalewan Besar vill env / Babar archipelago / local collectors lgt’ (DFPC). All specimens provided with an additional red printed label: ‘HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / oborili* sp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]’.

**Description of holotype.** Well preserved ♂ specimen with all appendages, only left two distal antennomeres missing. Length 24.00 mm, width 8.00 mm, length/width ratio: 3.00.

Head purple-green. Pronotum and scutellum copper-green. Elytra bluish-black with apico-lateral margins bright bluish-green and violet (Figs 45, 47). Ventral side dark violet laterally and purple-red centrally (Fig. 46). Legs copper-red with golden reflections on femora, violet-green tibiae, tarsi brown with metallic claws.

Pronotum in general coarsely but sparsely punctate, laterally punctures moderately dense. Medial line well marked impunctate. Medial impressions shallow, more impressed along

medial line, moderately densely punctate, punctures slightly smaller than remaining ones on disc. Principal impression, oval, moderately deep, not connected to basal impressions, variously punctate with several moderately large punctures and line of fine punctures. Lateral impressions shallow and rugose. Basal impressions oval, moderately deep.

Elytra without lateral impressions, finely punctate. Rows visible from base to apex, not impressed, basally regularly arranged, apically gradually irregular and irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra more or less regular and sparse forming distinct rows, not isolated groups; spaces much broader than puncture diameter, flat not reticulate (Fig. 47). Intervals flat, not elevated, broad, approximately 4–6× as wide as rows of punctures, basally impunctate, apically gradually narrowed and partly vanishing.

Mid femora in central part strongly shiny, very sparsely and finely punctate, on sides punctures slightly larger but still sparse.

Thoracic ventrites (Fig. 46) centrally nearly impunctate, laterally moderately densely punctate, punctures large. Abdominal ventrites sparsely punctate, only ventrite I laterally moderately densely punctate.

Aedeagus (Fig. 68) length 6.12 mm, width 1.53 mm, length/width ratio: 4.00. Apices of parameres obliquely truncate. Penis stout-oval and short in contrast to other taxa.

**Variation.** Body ♀♀ (n = 2): length: 26.75–34.00 mm, width: 9.50–12.75 mm, length/width ratio: 2.67–2.82. All three specimens quite similar, not showing much variation. Female from Babar Island appears more sparsely punctate due to larger size of its body.

**Differential diagnosis.** Readily recognizable species due to its smooth elytra with fine punctation. *Chrysodema (G.) sara* sp. nov. has the finest punctation of the elytra of all *Gelaeus* taxa. In general it is most similar to *C. (G.) walkeri walkeri*, which has quite smooth elytra in comparison to remaining taxa but still has distinctly impressed rows of punctures and slightly elevated intervals posteriorly while *C. (G.) sara* does not have impressed rows or elevated intervals. Additionally, *C. (G.) sara* has the shortest and stoutest penis of all *Gelaeus* species and is practically the only with a distinctly broadly oval penis.

**Etymology.** This species is named after Sára Franková, daughter of the first author of this paper. The species epithet is a noun in apposition.

**Distribution.** Indonesia: Maluku Prov.: Babar Is. and Wetang Is.

**Remarks.** Figure 445-3 published by AKIYAMA & OHMOMO (2000) as *C. (G.) walkeri walkeri* is in fact *C. (G.) sara* sp. nov.

### *Chrysodema (Gelaeus) walkeri walkeri* (Waterhouse, 1892)

(Figs 24–26, 62)

*Pseudochrysodema* (?) *Walkeri* Waterhouse, 1892: 411 (original description).

*Chrysodema Walkeri*: KERREMANS (1903): 76 (catalogue); KUROSAWA (1982): 190 (noted as type species of *Gelaeus*).

*Gelaeus Walkeri*: WATERHOUSE (1905): 584 (noted); OBENBERGER (1926): 129 (catalogue); THÉRY (1935): 248 (key, catalogue); VOLKOVITSH (2001): 46 (noted); BELLAMY (2003): 35 (catalogue).

*Chrysodema (Gelaeus) Walkeri*: KERREMANS (1909): 509 (key), 510 (redescription, incl. colour Fig. 5, Pl. 22); HOLYŃSKI (1994): 71 (noted as type species of *Gelaeus* in key to subgenera); LANDER (2003): Fig. 152 (colour photograph, not typical *C. (G.) walkeri*), BELLAMY (2008): 542 (catalogue).

**Type locality.** Indonesia, Maluku Province, Damar Island.

**Type material examined.** LECTOTYPE (present designation): ♀, 'Damma I. [6.–11. xi. 1891, J. J. Walker [gt.]/92—20. [w, p] / Pseudochrysodema ? / Walkeri / (Type) Waterh. [w, h] / Type [r, p] / 5766 [w, p]' (BMNH). The specimen

provided with an additional red printed label: 'LECTOTYPE ♀ / *Chrysodema (Gelaesus) / walkeri walkeri* / (WATERHOUSE, 1892) / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Additional material examined.** INDONESIA: MALUKU PROV.: Damar Island, 1 ♀ (NMPC), 1 ♀ (MNHN), 9 ♀♀ (MFNB), 2 ♀♀ (DFPC), 1 ♀ (RMNH), 1 ♂ 2 ♀♀ (RMNH, ex coll ZMAN), 6.–11. xi.1891, 1 ♀, J. J. Walker lgt. (BMNH).

**Redescription of lectotype.** Well preserved ♀ specimen missing only left fore ultimate tarsomere with claws. Length 31.75 mm, width 11.75 mm, length/width ratio: 2.70. Body strongly shiny.

Body generally bright green with golden and copper reflections, only tibiae with bluish-green reflections (Figs 24–26). Elytra deep blue-violet, apex with purple reflections (Figs 24, 26). Tarsi brown with metallic green distal half of last tarsomere and claws.

Table 1. Diagnostic characters of subspecies of *Chrysodema (Gelaesus) walkeri* (Waterhouse, 1892).

	<i>C. (G.) walkeri walkeri</i>	<i>C. (G.) walkeri bilyi</i>	<i>C. (G.) walkeri horaki</i>	<i>C. (G.) walkeri kubani</i>	<i>C. (G.) walkeri nigriventris</i>	<i>C. (G.) walkeri rejzeki</i>
<b>colouration of last tarsomere</b>	usually metallic; rarely brown	brown	brown	brown	brown	brown
<b>colouration of elytra</b>	deep blue-violet, apex with purple reflections	dark blue, apex with purple reflections	uniformly dark blue	dark bluish-black, apex with or without purple reflections	dark viridian with purple reflections on apical half	dark blue including apex, lateral sides and suture greenish
<b>brightness of ventral side of body</b>	strongly shiny	dull	strongly shiny	dull	dull	strongly shiny
<b>lateral impressions of elytra</b>	absent	absent	sometimes slightly indicated	absent	absent	obvious and deep
<b>elytra apically</b>	smooth; sparsely punctate; intervals not elevated	somewhat irregular; moderately densely punctate; intervals elevated	rugose; very densely punctate; intervals elevated	rugose; densely punctate; intervals elevated	somewhat irregular; moderately densely punctate; intervals elevated	somewhat irregular; moderately densely punctate; intervals elevated
<b>punctuation in rows V–VIII</b>	regular	regular	irregular	partly irregular	irregular	partly irregular
<b>intervals among rows V–VIII</b>	not elevated, 5–6× as broad as puncture diameter	slightly elevated, 1–2× as broad as puncture diameter	slightly elevated, as wide or narrower than puncture diameter	slightly elevated, 1–2× as broad as puncture diameter	slightly elevated, 2–3× as broad as puncture diameter	slightly elevated, 2–3× as broad as puncture diameter
<b>apices of parameres</b>	obliquely truncate	obliquely truncate	horizontally truncate	obliquely truncate	rounded	horizontally truncate
<b>distribution</b>	Damar Island	Selaru Island	Leti Island	Romang Island	Moa Island	Alor Island

Pronotum in general coarsely but sparsely punctate, only laterally punctures dense. Medial line well marked and impunctate. Medial impressions very weak, impressed only along medial line, basically present as rows of dense punctures, punctures slightly smaller than remaining ones on disc. Principal impressions present as narrow, moderately deep and sharply bordered line almost connected to basal impressions, with small dense punctures. Lateral impression shallow and punctate. Basal impressions large and triangular.

Elytra without lateral impressions, moderately punctate. Rows visible from base to apex, only apically weakly impressed, generally regularly arranged, and irregularly double in apical half. Punctures in rows V–VIII in middle third of elytra quite regular and sparse, forming distinct rows, not isolated groups; spaces much broader than puncture diameter, flat, not reticulate (Fig. 26). Intervals basally flat, not elevated, broad, approximately 4–6× as wide as rows of punctures, impunctate; apically and laterally somewhat elevated and punctate.

Mid femora in central part strongly shiny, sparsely punctate, punctures large, on sides punctures smaller and densely arranged.

Ventral side of body (Fig. 25) overall coarsely and quite densely punctate, only central parts of thoracic and abdominal ventrites sparsely punctate. Almost whole lateral sides of abdominal ventrite I densely and coarsely punctate, punctures small. Lateral sides of ventrite II mostly similarly punctate to ventrite I only basal line impunctate. Ventrites III–V largely smooth and sparsely punctate, dense punctation present as patch in lateroapical corners.

**Variation.** Body ♂ (n = 1) length: 31.25 mm, width: 11.00 mm, length/width ratio: 2.84; ♀♀ (n = 18) length: (26.50)29.25–35.00 mm, width: (9.50)10.50–12.75 mm, length/width ratio: (2.66)2.71–2.85. Medial impressions in some specimens more impressed thus medial line looks elevated. Pronotum a variable tone of green but mostly with more or less distinct bluish tint. Principal impressions variable but always with more or less deeply impressed furrow. Two specimens have tarsi brown except for metallic claws. Remaining 17 studied specimens have last tarsomere metallic green. Aedeagus (Fig. 62) (n = 1) length: 8.11 mm, width 1.63 mm, length/width ratio: 4.97. Apex of parameres rounded. Penis elongate, subparallel-sided.

**Differential diagnosis.** The nominotypical subspecies can be easily distinguished from others by usually metallic coloured ultimate tarsomere (brown in other subspecies) and has smoothest elytra with sparsest punctation of all the subspecies. For additional characters see Table 1.

*Chrysodema (G.) walkeri* can be distinguished from other species of *Gelaesus* by dichromatic dorsal side of body with green pronotum and blue elytra. Similar colour combination is also present in *C. (G.) cyanicollis* (differing in uniformly metallic green tarsi) and in *C. (G.) sara* sp. nov. (differing in smooth surface of elytra without impressed rows or elevated intervals).

**Distribution.** Indonesia: Maluku Prov.: Damar Is.

**Remarks.** WATERHOUSE (1892) did not state how many specimens he had at his disposal when describing *C. (G.) walkeri*. We have located two specimens in BMNH with identical locality label 'Damma I. / 92—20', however, only one is labelled as type and has the original label handwritten by C. O. Waterhouse. The latter specimen perfectly matches the original description and has identical size to that of mentioned in the original description hence we designate this specimen a lectotype in order to fix identity of this taxon. We do not consider the other specimen as part of the type series as it has larger size than mentioned in the original description and the specimen does not bear any proof that it was studied by Waterhouse when

describing *C. (G.) walkeri*. It is listed among Additional material examined with supplemented data according to the BMNH collection register. The number '[18]92—20' refers to the following entry in the register: '458 coleoptera, various localities presented by the Lords of the Admiralty: collected by Mr J. J. Walker during the cruise of HMS 'Penguin'; [Nos.] 5762–5988 (266 coleoptera) Damma Island Nov[ember] 6–11 [18]91' (M. Barclay, pers. comm.).

AKIYAMA & OHMOMO (2000: plate 42) illustrated three forms of *C. (G.) walkeri*, however, they belong to *C. (G.) walkeri nigriventris* subsp. nov. (Figs 445-1, 445-2) and *C. (G.) sara* sp. nov. (Fig. 445-3).

***Chrysodema (Gelaeus) walkeri bilyi* subsp. nov.**

(Figs 1–2, 36–38, 66)

**Type locality.** Indonesia, Maluku Province, Tanimbar Islands, Selaru Island.

**Type material.** HOLOTYPE: ♂, 'Selaru / Jan. 2010 [w, p]' (NMPC). PARATYPE: 1 ♀, same data as holotype (DFPC). Both specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / walkeri / bilyi* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Well preserved ♂ specimen, left antenna missing from antennomere VII, right from antennomere IV. Length 28.50 mm, width 9.75 mm, length/width ratio: 2.92. Body weakly shiny. Head, pronotum and scutellum bluish-green, elytra dark blue, apex with purple reflections (Fig. 36). Ventral side dark green with golden reflections (Fig. 37). Legs green with strong bluish luster, whole tarsi brown, only claws metallic.

Pronotum in general coarsely and densely punctate. Medial line well marked, impunctate and somewhat elevated. Medial impressions distinctly impressed on both sides, coarsely and densely punctate, punctures smaller than those on disc. Principal impressions elongate and shallow, not sharply bordered, well separated from basal impressions, with small dense punctures. Lateral impressions oval, shallow, punctate. Basal impressions large and oval.

Elytra without lateral impressions, moderately strongly punctate. Rows visible from base to apex, weakly impressed and irregularly double in apical half, internal rows more or less regularly arranged, external irregular. Punctures in rows V–VIII in middle third of elytra more or less regular, not forming isolated groups; spaces 2–3× as broad as puncture diameter, slightly elevated, not reticulate (Fig. 38). Intervals basally flat, not elevated, broad, approximately 5× as wide as rows of punctures, impunctate; apically and laterally strongly narrowed, slightly elevated and at most with a few additional punctures.

Ventral side (Fig. 37) including legs as in nominotypical subspecies. Only lateral sides of abdominal ventrites II–V densely punctate in basal half and very sparsely punctate in apical half; punctures moderately large, subequal in size.

Aedeagus (Fig. 66) length 7.60 mm, width 1.43 mm, length/width ratio: 5.32. Apex of parameres obliquely truncate. Penis elongate, parallel-sided.

**Variation.** Body ♀ (n = 1) length: 30.25 mm, width: 11.00 mm, length/width ratio: 2.75. Head, pronotum and scutellum with golden reflections in general and copper reflections in impressions. Elytra blue with slightly greenish shade. Underside with copper reflections, and abdomen with purple reflections. Pronotum with denser and more numerous punctures, particularly between medial and principal impressions. Internal rows of elytra slightly more impressed in basal 1/6 length.

**Differential diagnosis.** *Chrysodema* (*G.*) *walkeri bilyi* subsp. nov. do not possess any striking character like other subspecies but has the slimmest penis. It has dull underside of body like *C. (G.) walkeri kubani* subsp. nov. and *C. (G.) walkeri nigriventris* subsp. nov. and looks morphologically intermediate between them as it has less sculptured elytra with sparser punctuation than *C. (G.) walkeri kubani* but more than *C. (G.) walkeri nigriventris*. However, *C. (G.) walkeri bilyi* is widely separated geographically, the only taxon of the *C. (G.) walkeri* species-group occurring on Tanimbar Islands while the two latter occur on Moea and nearby Romang islands. For additional characters see Table 1.

**Etymology.** This species is dedicated to Svatopluk Bilý (Prague, Czech Republic), a well-known specialist in Buprestidae, particularly Anthaxiini.

**Distribution.** Indonesia: Maluku Prov.: Tanimbar Is.: Selaru Is.

### *Chrysodema (Gelaeus) walkeri horaki* subsp. nov.

(Figs 27–29, 63)

**Type locality.** Indonesia, Maluku Province, Leti Island.

**Type material.** HOLOTYPE: ♂, 'Indonesia, SW Molucas / LETI ISL, 3.2009 / TUTUWARU vill env. / local collectors lgt [w, p]' (NMPC). PARATYPES (63 ♂♂ 117 ♀♀): 53 ♂♂ 77 ♀♀, same data as holotype (3 ♀♀ NMPC, 1 ♂ HMMG, 1 ♂ 1 ♀ SGBG, 1 ♂ 1 ♀ VKSC, 1 ♂ 1 ♀ SVVC, 1 ♂ 1 ♀ MHNG, 1 ♂ 1 ♀ IRSN, 2 ♂♂ 2 ♀♀ MFNB, 1 ♂ 1 ♀ LSPC, 10 ♂♂ 11 ♀♀ DFPC, 34 ♂♂ 55 ♀♀ SJPC); 10 ♂♂ 40 ♀♀, 'LETI ISL. / 8-9.2010 / ALEX P' (3 ♂♂ 8 ♀♀ DFPC, 7 ♂♂ 32 ♀♀ SJPC). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / walkeri / horaki* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Well preserved ♂ specimen with all appendages. Length 26.00 mm, width 9.25 mm, length/width ratio: 2.81. Body strongly shiny. Body colouration as in the nominotypical subspecies but elytra dark blue including apex without purple reflections (Figs 27, 29). Whole tarsi brown, only claws metallic.

Pronotum in general coarsely and densely punctate. Medial line well marked, impunctate. Medial impressions distinctly impressed on both sides, coarsely and densely punctate, punctures subequal to those on disc. Principal impressions oval and shallow, not sharply bordered, well separated from basal impressions, with small dense punctuation. Lateral impressions oval, shallow, punctate. Basal impression large and triangular.

Elytra with slightly marked posterior lateral impressions, moderately strongly punctate. Rows visible from base to apex, weakly impressed and irregularly double in apical half, internal rows more or less regularly arranged, external irregular. Punctures in rows V–VIII in middle third of elytra quite densely and irregularly arranged, not forming isolated groups; spaces approximately as broad as puncture diameter, slightly elevated, not reticulate (Fig. 29). Intervals basally flat, not elevated, broad, approximately 4× as wide as rows of punctures, with several confused punctures; apically and laterally strongly narrowed, somewhat elevated and punctate.

Ventral side (Fig. 28) including legs as in nominotypical subspecies. Only lateral sides of abdominal ventrites II–V densely punctate in basal half and very sparsely punctate in apical half; punctures moderately large, subequal in size.

Aedeagus (Fig. 63) length 6.94 mm, width 1.38 mm, length/width ratio: 5.03. Apex of parameres horizontally truncate. Penis elongate, slightly rounded on sides.

**Variation.** Body ♂♂ (n = 47) length: (21.25)23.25–30.25(31.50) mm, width: (7.75)8.75–11.00(11.50) mm, length/width ratio: (2.56)2.65–2.84(2.88); ♀♀ (n = 86) length: (26.50)27.50–34.75(38.00) mm, width: 10.00–13.50(14.50) mm, length/width ratio: (2.43)2.52–2.83.

Pronotum green with golden or copper tint, exceptionally with more or less bluish tint. Medial impressions on pronotum variously impressed thus medial line in some specimens looks elevated. Lateral punctation on pronotum coarser in larger specimens. Lateral impressions on elytra variable, often absent, if present small and very shallow.

Aedeagus (n = 7) length: 6.38–7.91 mm, width 1.33–1.53 mm, length/width ratio: (4.80)5.03–5.10(5.24). Apex of parameres rounded. Penis elongate, subparallel-sided.

**Differential diagnosis.** Among the subspecies of *C. (G.) walkeri* this one is easily distinguished by small and very dense punctation of elytra, particularly in apical third, where punctures are almost touching each other, while other subspecies have distinct intervals. The subspecies *C. (G.) walkeri kubani* subsp. nov. also has dense punctation of elytra but still has distinct intervals in apical third and is much more sculptured. *Chrysodema (G.) walkeri horaki* subsp. nov. has also completely irregular punctation in rows V–VIII without distinct intervals (more or less distinct in other subspecies). For additional characters see Table 1.

**Etymology.** This species is named after Jan Horák (Prague, Czech Republic), a well-known specialist in Mordellidae.

**Distribution.** Indonesia: Maluku Prov.: Leti Is.

### *Chrysodema (Gelaeus) walkeri kubani* subsp. nov.

(Figs 39–41, 67)

**Type locality.** Indonesia, Maluku Province, Romang Island.

**Type material.** HOLOTYPE: ♂ ‘Molukken / Ins. Roma [= Romang Island] [w, p] // CHRYSODEMA (Gelaeus Waterhouse, 1905) / walkeri / Damma (Waterhouse, 1892) / Vít Kubáň det. XI.1997 [w, h/p]’ (NMPC). PARATYPES: 5 ♂♂ 20 ♀♀, ‘Molukken / Ins. Roma [w, p] // Coll. / Jul. Moser [w, p]’ (4 ♂♂ 19 ♀♀ MFNB, 1 ♂ 1 ♀ DFPC). All specimens provided with an additional red printed label: ‘HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / walkeri / kubani* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]’.

**Description of holotype.** Well preserved ♂ specimen with all appendages. Length 27.50 mm, width 9.75 mm, length/width ratio: 2.82. Body weakly shiny.

Head, pronotum and scutellum bluish-green. Elytra dark bluish-black including apex, punctation on humeri somewhat greenish or bluish (Fig. 39). Ventral side dark green with copper and golden reflections, abdominal ventrites with purplish reflections (Fig. 40). Legs green with strong golden lustre, whole tarsi brown, only claws metallic.

Pronotum in general moderately coarsely and densely punctate. Medial line well marked, impunctate, not elevated. Medial impressions shallow, more impressed internally than externally, coarsely and moderately densely punctate, punctures subequal to those on disc, only basally smaller and denser. Principal impressions elongate and shallow, not sharply bordered, well separated from basal impressions, with small dense punctures. Lateral impression weak, oval, punctate. Basal impressions large and triangular.

Elytra without lateral impressions, moderately strongly punctate. Rows visible from base to apex, weakly impressed and irregularly double in apical half, internal rows more or less

regularly arranged, external gradually irregular. Punctures in rows V–VIII in middle third of elytra irregular but not forming isolated groups; spaces ca.  $2\times$  as broad as puncture diameter, partly elevated but not reticulate (Fig. 41). Intervals basally flat, not elevated, broad, approximately  $4\times$  as wide as rows of punctures, impunctate; apically and laterally vanishing, strongly narrowed, slightly elevated and punctate.

Ventral side (Fig. 40) including legs as in nominotypical subspecies. Only lateral sides of abdominal ventrites II–V densely punctate in basal half and very sparsely punctate in apical half; punctures moderately large, subequal in size.

Aedeagus (Fig. 67) length 7.60 mm, width 1.53 mm, length/width ratio: 4.97. Apex of parameres truncate. Penis oval, somewhat rounded on sides.

**Variation.** Body ♂♂ (n = 6) length: (24.00)26.00–28.00 mm, width: (8.75)9.50–10.25 mm, length/width ratio: 2.67–2.87; ♀♀ (n = 20) length: (26.00)28.00–34.50 mm, width: 9.75–13.00 mm, length/width ratio: (2.43)2.55–2.79. Head, pronotum and scutellum vary from bright blue-green or turquoise-green to greenish-golden. Impressions on pronotum always more greenish. Elytra always bluish-black but often with more or less purple or violet reflections on apex; punctuation varies from black (of the same colour as elytra) to blue or bright green. Underside from almost dark green to mostly golden-green. Smaller specimens with overall coarser sculpture of pronotum, denser punctuation and more impressed medial impression. Principal impressions in larger specimens weak, barely separated from disc. Aedeagus (n = 4) length: 7.34–7.75 mm, width 1.38–1.53 mm, length/width ratio: 4.97–5.42.

**Differential diagnosis.** *Chrysodema* (*G.*) *walkeri kubani* subsp. nov. has the roughest (the most costate and coarsest punctuation), the dullest and the darkest (blackish-blue) elytra of all subspecies of *C.* (*G.*) *walkeri*, which have elytra distinctly metallic blue or viridian in background and wider smooth interspaces. *Chrysodema* (*G.*) *walkeri horaki* subsp. nov. has the elytra quite rough but distinctly differs in much smaller and denser punctuation. For additional characters see Table 1.

**Etymology.** This species is dedicated to Vítězslav Kubáň (Šlapanice, Czech Republic), a well-known specialist in world Buprestidae, particularly Coraebini.

**Distribution.** Indonesia: Maluku Prov.: Romang Is.

### *Chrysodema* (*Gelaus*) *walkeri nigriventris* subsp. nov.

(Figs 4, 33–35, 65)

*Gelaus Walkeri* var. *nigriventris* Théry, 1935: 248 (unavailable infrasubspecific name). BELLAMY (2008): 542 (catalogue, listed as synonym of *C.* (*G.*) *walkeri*).

*Gelaus walkeri walkeri* [misidentification]: AKIYAMA & OHMOMO (2000): Pl. 42, Figs 445-1, 445-2 (iconography). *Chrysodema walkeri*: LANDER (2003): Fig. 152 (colour photograph).

**Type locality.** Indonesia, Maluku Province, Moa Island.

**Type material.** HOLOTYPE: ♂, 'Ins. Moa [w, p] // Coll. / Jul. Moser [w, p]' (MFNB). PARATYPES (5 ♂♂ 77 ♀♀): 1 ♀, 'Ins. Moa [w, p] // COLLECTION / de BONNEUIL [w, p] // Pseudochrysodema Saund / Walkeri / I. Moa? [w, h] // Pseudochrysodema / Walkeri / v. nigriventris / Thery / PARATYPE [w, h]' (NHMB, coll. G. Frey); 2 ♀♀, 'Ins. Moa [w, p]' (NHMB, coll. G. Frey); 1 ♀, 'Ins. Moa [w, p] // Chrysodema / walkeri Waterh. [w, h]' (NHMB, coll. G. Frey); 1 ♀, 'Moa / b. Timor [w, p] // Chrysodema / walkeri Wat. / Moa (Timor) [w, h] // walkeri [w, h]' (NHMB, coll. G. Frey); 1 ♀, 'Ins. Moa [w, p] // Chrysodema / walkeri / Wat / A. Descarpentries det. [w, h/p]' (MHNH); 1 ♀, 'Ile Moa [w, h] // Molukken / Ins. Moa [w, h] // cupriventris / Kerrem. [w, h] // Walkeri / Waterh. [w, h] // Chrysodema / Walkeri v. / nigriventris Théry / A. Descarpentries det. / ne doit pas être décrit [w, h/p]' (MHNH); 1 ♂

45 ♀♀, same data as holotype (1 ♂ 43 ♀♀ MFNB, 2 ♀♀ DFPC); 1 ♀, same data as holotype plus additional label 'Gelaeus // Walkeri Wat. [w, h]' (MFNB); 1 ♀, 'Ins. Moa [w, p]' // Museum Leiden / Ex coll. / G. van Roon [w, p] // *Chrysodema / walkeri* (WATH.) / *nigriventris* (THY.) / det. R. HOLYŇSKI 2004 [w, p/h]' (RMNH); 1 ♀, 'Ins. Moa [w, h]' // *Gelaeus Walkeri / Wat. / Det. Dr. Obenberger [w, h/p]'* (NMPC); 4 ♀♀, 'Ile Moa / INDONESIA / v.1992 / Coll. T. LANDER [w, h/p]' // *Gelaeus / walkeri / (Waterh. 1892) / Dét. T. LANDER 1992 [w, h/p]'* (MHNG); 1 ♀, 'Ile de Moa / v.1992 / Coll. T. LANDER [w, h/p]' // *Gelaeus / walkeri / (Waterh. 1892) / Dét. T. LANDER 1993 [w, h/p]'* (MHNG); 1 ♀, 'INDONESIE / Moa Isl. / vii.1998 / Coll. T. LANDER [w, h/p]' // *Gelaeus / walkeri / (Wat. 1892) / Dét. T. LANDER 2000 [w, h/p]'* (MHNG); 1 ♀, 'GELAEUS WALKERI WALKERI / (bon A2, lot de 5 pcs) / Moa / INDONESIA, iii.2001 / 8462 L [w, p]' // ex coll. S. Bílý / National Museum / Prague, Czech Republic [w, p]' (NMPC); 3 ♀♀, 'INDONESIA, iii.2001 / Moa Is. / local collector [w, p]' // ex coll. S. Bílý / National Museum / Prague, Czech Republic [w, p]' (2 ♀♀ NMPC, 1 ♀ IRSN); 1 ♀, 'INDONESIA, iii.2001 / Moa Is. / local collector [w, p]' // ex coll. S. Bílý / National Museum / Prague, Czech Republic [w, p] / *Gelaeus / walkeri* Wat. / Sv. Bílý det.' (NMPC); 4 ♀♀, 'INDONESIA, / Maluku, March 2001, / MOA isl., / native coll. [w, p]' (3 ♀♀ VKSC, 1 ♀ DFPC); 1 ♂, 'Moa / Feb. 2002 [w, p]' (VKSC); 1 ♂, 'Moa / Juni. 2003 [w, p]' (DFPC); 4 ♀♀, 'MOA ISL. / 2/2008 [w, h]' (3 ♀♀ SJPC, 1 ♀ DFPC); 2 ♂♂ 2 ♀♀, 'Indonesia, SW Moluccas / MOA ISLAND., 0 - 200 m alt / E of TIMOR., 1.2009 / KAIWATU vill / local collectors lgt [w, p]' (1 ♂ 2 ♀♀ SJPC, 1 ♂ DFPC); 1 ♀, 'SUMATRA / Pulau [= Island] Moa [w, p] / GALEUS / walkeri Waterhouse / det. Barries 1995 [w, p]' (WBWA). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / walkeri / nigriventris* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Well preserved ♂ specimen with all appendages, missing only left antenna from antennomere VIII on. Length 29.50 mm, width 11.00 mm, length/width ratio: 2.68. Body weakly shiny.

Head, pronotum and scutellum dark green, impunctate areas on pronotum with dark purple tint. Elytra dark viridian, apical half with purple-violet metallic reflections (Fig. 33). Ventral side dark green with purple and golden reflections (Fig. 34). Legs green with strong golden reflections, whole tarsi brown, only claws metallic.

Pronotum in general moderately coarsely and densely punctate. Medial line well marked, impunctate, not elevated. Medial impressions shallow, more impressed internally than externally, coarsely and moderately densely punctate, punctures subequal to those on disc, basally denser. Principal impressions elongate and shallow, not sharply bordered, well separated from basal impressions, impunctate but rugose. Lateral impressions shallow, oval, punctate. Basal impressions large and triangular.

Elytra without lateral impressions, moderately strongly punctate. Rows visible from base to apex, weakly impressed and irregularly double in apical half, internal rows more or less regularly arranged, external gradually irregular. Punctures in rows V–VIII in middle third of elytra irregular but not forming isolated groups; spaces ca. 3× as broad as puncture diameter, not elevated (Fig. 35). Intervals basally flat, not elevated, broad, approximately 4–5× as wide as rows of punctures, impunctate; apically and laterally vanishing, strongly narrowed, slightly elevated and punctate.

Ventral side (Fig. 34) including legs as in nominotypical subspecies. Only lateral sides of abdominal ventrites II–V densely punctate in basal half and very sparsely punctate in apical half; punctures moderately large, subequal in size (Fig. 4).

Aedeagus (Fig. 65) length 7.50 mm, width 1.63 mm, length/width ratio: 4.60. Apex of parameres rounded. Penis elongate, subparallel-sided.

**Variation.** Body ♂♂ (n = 6) length: (21.00)24.25–29.50 mm, width: (7.50)8.75–11.00 mm, length/width ratio: 2.63–2.80; ♀♀ (n = 74) length: (22.75)24.00–35.75(38.00) mm, width: (8.25)9.25–13.00(14.00) mm, length/width ratio: (2.43)2.54–2.85. Head, pronotum and scutellum green with blue, turquoise, purple, golden or copper sheen. Impressions on pronotum usually golden. Elytra predominantly viridian with purple-violet reflection on apical half. Purple colour sometimes extends also to basal half of elytra. Rarely elytra dark blue-green. Underside nearly always dull, only exceptionally shiny, varying from almost uniformly dark green to mostly golden-green or copper-green. Punctuation of pronotum variable in density and coarseness, medial impressions variously impressed, principal impressions oval to round and variously impressed, lateral impressions variously impressed, and basal impressions oval to triangular, always deeply impressed. Elytra exceptionally with lateral impressions; larger specimens smoother while smaller specimens rougher, particularly on apical third. Aedeagus (n = 5) length: 6.17–8.06 mm, width 1.17–1.63 mm, length/width ratio: 4.60–5.04(5.45).

**Differential diagnosis.** Among the subspecies of *C. (G.) walkeri* this one is easily distinguished by viridian colouration of elytra (various shades of blue in other subspecies) and rounded apices of parameres (truncate in other subspecies). For additional characters see Table 1.

**Etymology.** The epithet is combination of Latin words *niger* = black and *venter* = underside reflecting darkly coloured ventral side of body.

**Distribution.** Indonesia, Maluku Prov.: Moa Is.

**Remarks.** THÉRY (1935: 248) described *Gelaeus walkeri* var. *nigriventris*, however, in the same work he described also a subspecies *Gelaeus walkeri wetteriana* therefore the variety *nigriventris* is infrasubspecific name according to the Article 45.6.4 (ICZN 1999). Nor it was validated before 1985 (Article 45.6.4.1) and hence it is an unavailable name according to ICZN (1999).

We have located one female specimen in NHMB from the locality Moa mentioned by THÉRY (1935) and provided with his original paratype label as the variety *nigriventris*. Additionally we have found a series of specimens in MFNB with identical locality label (specimens originated in the collection of Julius Moser) agreeing also morphologically with the NHMB specimen. In our opinion this taxon is a distinct subspecies of *C. (G.) walkeri* and we decided to use the same name as Théry.

LANDER (2003) provided a colour photograph of *C. (G.) walkeri*, however, the specimen does not have the last tarsomere metallic green thus it does not belong to the nominotypical subspecies. In our opinion the depicted specimen belongs to *C. (G.) walkeri nigriventris* subsp. nov. based on general shape.

### *Chrysodema (Gelaeus) walkeri rejzeki* subsp. nov.

(Figs 30–32, 64)

**Type locality.** Indonesia, East Nusa Tenggara Province, Alor Island.

**Type material.** HOLOTYPE: ♀, 'Alor [w, p] // Galaeus / walkeri / (Waterh., 1892) / Dét. T. LANDER 1990 [w, h/p]' (MHNG). PARATYPES (1 ♂ 2 ♀♀): ♀, 'Alor / Staud. [w, h] // SYN- / TYPE [b, p] // cupriventris / Kerr. / Type [w, h] // Kerremans. / 1903–59. [w, p] // Chrysodema / erronea / HOŁYŃSKI / HOLOTYPE [r, h] // 1978 Chrysodema / erronea Hol. / det. R. Holyński [w, h; unpublished manuscript name]' (BMNH); ♂, 'Alor [w, p] // COLLECTION

/ de BONNEUIL [w, p] // MUSÉUM PARIS / 1935 / Coll. A. THÉRY [w, p]' (MHNH); ♀, 'I. Alor / H. F. Holz. [w, p]' (MHNH). All specimens provided with an additional red printed label: 'HOLOTYPE [or PARATYPE respectively] [sex] / *Chrysodema (Gelaeus) / walkeri / rejzeki* subsp. nov. / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]'.

**Description of holotype.** Well preserved ♀ specimen, missing right antenna and last tarsomeres on left fore-leg and both hind-legs. Length 30.25 mm, width 10.75 mm, length/width ratio: 2.81. Body strongly shiny. Body colouration as in the nominotypical subspecies but elytra dark blue including apex without purple reflections and with greenish apical half of suture, lateral sides, lateral impressions, and partly also punctures (Figs 30, 32). Whole tarsi brown, only claws metallic.

Pronotum moderately coarsely and moderately densely punctate. Medial line well marked, impunctate. Medial impressions distinctly impressed on both sides, coarsely and densely punctate, punctures smaller than those on disc. Principal impressions oval and shallow, not sharply bordered, well separated from basal impressions, weakly separated from disc, with small dense punctures. Lateral impressions oval, shallow, punctate. Basal impressions large and oval.

Elytra with conspicuous anterior and posterior lateral impressions, moderately punctate. Both impressions shallow but distinct, anterior round, larger, posterior oval and smaller (Fig. 32). Rows visible from base to apex, weakly impressed and irregularly double in apical half, internal rows more or less regularly arranged, external gradually irregular. Punctures in rows V–VIII in middle third of elytra quite densely and more or less regularly arranged, not forming isolated groups; spaces approximately 2× as broad as puncture diameter, flat not reticulate (Fig. 32). Intervals basally flat, not elevated, broad, approximately 4× as wide as rows of punctures, impunctate; apically and laterally narrowed, somewhat elevated and punctate.

Ventral side (Fig. 31) including legs as in nominotypical subspecies. Only lateral sides of abdominal ventrites III–V densely punctate in basal half and very sparsely punctate in apical; punctures moderately large, subequal in size.

**Variation.** Body ♂ (n = 1) length: 26.00 mm, width: 9.5 mm, length/width ratio: 2.74, ♀♀ (n = 3) length: 30.25–31.00 mm, width: 10.75–11.25 mm, length/width ratio: 2.73–2.81. Head, pronotum, underside of body including legs from bright green to golden-green with more or less expanded copper reflections. Elytra from turquoise-green to blue or violet-blue and with only anterior lateral impression. In one ♀ specimen elytra mostly blue, lateral margin green only in basal third of elytra.

Aedeagus (Fig. 64) length 6.53 mm, width 1.43 mm, length/width ratio: 4.57. Apex of parameres horizontally truncate. Penis elongate-oval, distinctly rounded on sides.

**Differential diagnosis.** Among the subspecies of *C. (G.) walkeri* this one is easily distinguished by elytra with distinct large lateral impressions and green lateral sides and suture, while the other subspecies do not have differently coloured margins of elytra or suture and the lateral impressions are rarely present and if so they are very small and shallow (basically present only as a group of several punctures). For additional characters see Table 1.

**Etymology.** This species is dedicated to Roman Rejzek (Prague, Czech Republic), excellent collector of Buprestidae.

**Distribution.** Indonesia, East Nusa Tenggara Prov.: Alor Is.

**Remarks.** The paratype of *C. (G.) walkeri rejzeki* subsp. nov. deposited in BMNH is labelled

as syntype of *C. (G.) cupriventris*. The latter species was described from ‘Macassar’ and KERREMANS (1898) must have had at least two specimens as he gave length span ‘Long., 21–28; larg., 7–9 mill.’. However, this ‘syntype’ has locality Alor and measures  $30.75 \times 11.25$  mm and is very different from the other syntype of *C. (G.) cupriventris* deposited in BMNH. Therefore we do not consider it as a part of the type series of the latter species. We assume that Kerremans acquired this specimen after the description of *C. (G.) cupriventris* and erroneously labelled it as its type. Most likely it represents a voucher specimen for the record from Alor mentioned by him (KERREMANS 1903). See additional remarks under *C. (G.) cupriventris*.

***Chrysodema (Gelaeus) wetteriana* (Théry, 1935), stat. nov.**

(Figs 54–56, 71)

*Gelaeus Walkeri* subsp. *wetteriana* Théry, 1935: 248 (original description).

*Chrysodema (Gelaeus) walkeri* subsp. *wetteriana*: BELLAMY (2008): 542 (catalogue).

**Type locality.** Indonesia, Maluku Province, Wetar Island.

**Type material examined.** LECTOTYPE (present designation): ♂, ‘K. Schädler / Wetter / acq. 1898. [w, h] // Gelaeus / Walkeri / ssp. Wetteriana / Thery / ♂ TYPE [w, h] // *C. wetteriana* / THY. / det. HOLYŃSKI / PARATYPE [g, h]’ (RMNH). PARALECTOTYPES (1 ♂ 2 ♀♀): 1 ♀, ‘K. Schädler / Wetter / acq. 1898. [w, h] // Gelaeus / Walkeri / ssp. Wetteriana / Thery / ♀ TYPE [w, h] // *wetteriana* THY. / HOLOTYPE ! / (cf. size) / det. R. HOLYŃSKI [r, h]’ (RMNH); 1 ♂, ‘K. Schädler / Wetter / acq. 1898. [h] // Paratype [y, p] // 1934–692 [p] // Gelaeus / Wetteriana / Thery / PARATYPE [w, h]’ (BMNH); 1 ♀, ‘K. Schädler / Wetter / acq. 1898. [w, h] // Ceram / Jilo / C.Ribbe 1884 [w, p, sic!] // Gelaeus / Wetteriana / Thery / PARATYPE [w, h]’ (MHNH). All specimens provided with an additional red printed label: ‘LECTOTYPE [or PARALECTOTYPE respectively] [sex] / *Chrysodema (Gelaeus) / wetteriana* / (THÉRY, 1935) / David Frank & / Lukáš Sekerka des. 2016 [year handwritten]’.

**Redescription of lectotype.** Well preserved ♂ specimen with all appendages intact, elytra with transverse crack at base. Length 27.00 mm, width 10.00 mm, length/width ratio: 2.70.

Body generally black (Figs 54–56) partly with dark metallic reflections: purple on principal impressions of pronotum, marginal punctures on elytra, and most of ventral side; basal impressions of pronotum, and legs and mouthparts at joints with greenish tint. Apical half of last tarsomere and claws darkened but not metallic.

Pronotum in general coarsely and densely punctate particularly anteriorly and laterally, punctures foveolate. Medial line well marked and impunctate. Medial impressions distinct, moderately deep, densely punctate, towards centre somewhat sparser; punctures slightly smaller than those along anterior margin. Principal impressions shallow and weakly bordered from disc, densely punctate. Lateral impressions shallow and punctate. Basal impressions small with anterior part less impressed than basal part.

Elytra without lateral impressions, with strongly elevated intervals and distinctly impressed rows of punctures from base to apex. Punctuation of elytra overall very coarse and dense. Rows visible from base to apex, irregularly double (internal) or triple (external) from basal third of elytra to apex. Punctures in rows V–VIII in middle third of elytra forming groups of 2–4 separated by elevated impunctate folds forming irregular elevated reticulate sculpture (Fig. 56). Intervals approximately 4× as wide as rows of punctures, with shallow transverse wrinkles, and apically with several additional punctures.

Mid femora in central part moderately densely punctate, punctures large, on sides punctures smaller and denser.

Ventral side of body (Fig. 55) overall coarsely and quite densely punctate. Abdominal ventrite I laterally densely and coarsely punctate, punctures large. Ventrite II laterobasally densely punctate, punctures distinctly smaller than on ventrite I, lateroapical area sparsely punctate. In each of subsequent ventrites densely punctate area proportionally smaller to the sparsely punctate area.

Aedeagus (Fig. 71) not fully sclerotised and broken between parameres, therefore its width was not measured, length: 7.29 mm. Apices of parameres rounded. Penis elongate, subparallel-sided.

**Variation.** Body ♂♂ (n = 2) length: 27.00–27.25 mm, width: 10.00 mm, length/width ratio of body: 2.70–2.73; ♀♀ (n = 2): length: 29.50–30.50 mm, width: 11.00–12.50 mm, length/width ratio of body: 2.44–2.68. One female has pronotum slightly smaller and with sparser punctation, mainly in central part. Subhumeral denticle in paralectotypes distinctly larger, particularly in males.

**Differential diagnosis.** *Chrysodema* (*G.*) *wetteriana* is readily distinguished from other taxa of the subgenus by nearly black body with slight metallic reflections on pronotum and strongly elevated intervals on elytra. It is the most sulcate species of all *Gelaeus*.

**Distribution.** Indonesia, Maluku Prov.: Wetar Is.

**Remarks.** THÉRY (1935) described this taxon as subspecies of *C. (G.) walkeri* based on the material from RMNH but did not mention the number of specimens he had at disposal. At the beginning of the description he stated: 'Taille du type (long 28 mm; 5.25 mm).' but did not mention the sex of the 'type' nor is it indirectly indicated in the description. The width of 'type' must have been given erroneously as the width of studied specimens is 10–11 mm; the length is also not in agreement with presently studied specimens as they are either smaller or larger. The description itself is rather short followed by longer paragraph comparing *C. (G.) wetteriana* to *C. (G.) walkeri* where Théry mentioned a female of *C. (G.) wetteriana*. In the last sentence he compared the apical notch on abdominal ventrite V in both sexes making obvious he must have had more than one specimen. There are two specimens (male and female) of *C. (G.) wetteriana* in RMNH, however, both were labelled by Théry as 'type'. Additionally, there are two specimens labelled as 'paratype' deposited in BMNH and MNHN respectively. All four beetles bear identical locality label and Théry's original identification labels. As two of the four specimens are labelled 'holotype' and the description is very short it is not possible to identify any of the specimens as the type and we consider all four to be syntypes. According to the reference number 1934–692 the BMNH specimen was presented to the museum by Théry himself. In order to conserve the concept of this taxon and associate it with the morphology of male genitalia we designate the male specimen deposited at RMNH as the lectotype. The MNHN syntype has two locality labels, one identical to other syntypes, however, on the other is printed Ceram, Jilo. We assume the second locality label was accidentally pinned under the specimen as it was remounted.

As mentioned above Théry described this taxon as subspecies of *C. (G.) walkeri*. In general *C. (G.) wetteriana* is most similar to the latter species-group, particularly to *C. (G.) walkeri kubani* subsp. nov. but it is very distinct (see differential diagnosis). Therefore we rise its rank to species.

### Distribution of the subgenus *Gelaeus*

*Chrysodema* s. str. is widely distributed from Southern India, Sri Lanka, and continental SE Asia through, Philippines, Japan, and Indonesia to Solomon Islands. However, only a few species reach the Lesser Sunda Islands (*C. (C.) subrevisia* J. Thomson, 1879, *C. (C.) radians* (Guérin-Méneville, 1830), *C. (C.) smaragdula stevensii* (J. Thomson, 1857)) and not more than one occur on the same islands as *Gelaeus* while outside the Lesser Sunda Islands the number of *Chrysodema* s. str. rapidly increases.

The distribution of *Gelaeus* covers only, from the geological point of view, islands of the Banda Arc (Fig. 72). The Banda Arc is an island arc system divided into two parts. The Inner Banda Arc was created by volcanic activity while the Outer Banda Arc (occasionally called the Main Arc or the Southern Arc) was created by seafloor uplift as a result of geological forces occurring at the edge of a subduction zone. The oldest islands are almost five million years old but most of them appeared ca. three million years ago. These islands are therefore geologically quite young and have never been connected to the mainland. There is also a deep-sea trench between the Inner and the Outer Arcs so the islands could not have been connected to each other, even in the case of a sea level fall during the glacial periods. This implies that the islands were colonized subsequently as a result of different effects. Regarding the relatively close islands aerial dispersion of *Gelaeus* is possible unlike the remote islands where ocean dispersion in timber is probable. This assumption is supported by existence of a strong sea current flowing eastward from the Makassar Straits and turning southwest between Timor Island and Tanimbar Archipelago (HALL 2009: 159). This would be supported by the distribution of individual subspecies of *C. (G.) walkeri*, which are distributed over islands along the main current from the Makassar Straits.

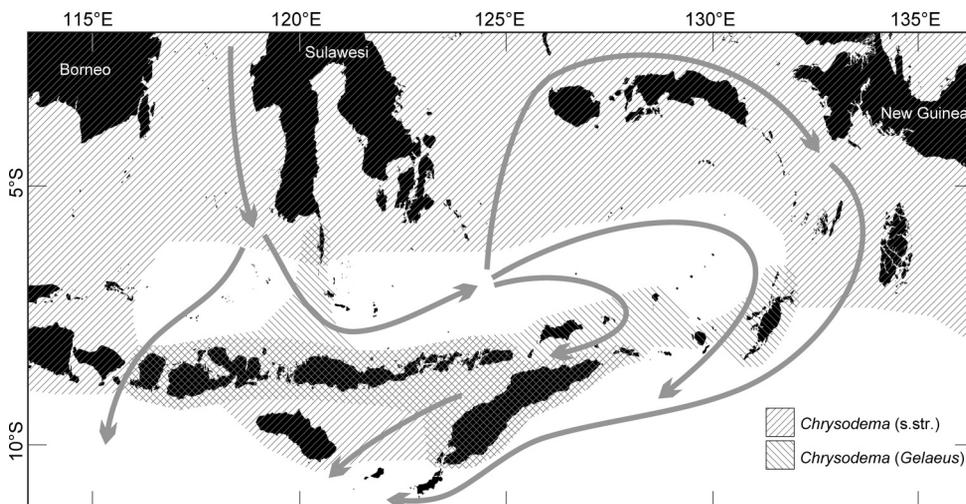


Fig. 72. Distribution of the subgenus *Gelaeus* Waterhouse, 1905 and *Chrysodema* s. str. in the Lesser Sunda Islands in Indonesia. Gray arrows indicate main sea currents from the Makassar Straits (redrawn after GORDON 2005).

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