Procrustomachia

Occasional Papers of the Uncensored Scientists Group

9, 1: 1-38

Milanówek 26 IV 2024 ISSN 2543-7747

Review of the *[Cyphogastra DEYR.]*-supergenus (Coleoptera: Buprestidae) VIII. The *Gloriosa*- and *Woodlarkiana*-circles

Roman B. HOŁYŃSKI

PL-05822 Milanówek, ul. Graniczna 35, skr. poczt. 65, POLAND

e-mail: rbholynski@gmail.com

For long I am working on fossil Cirripedia ... I would like to destroy all that company: I do not see the end of my work! … Having described a group of forms as separate species, having then torn the manuscript to pieces and made them a single species, then destroyed what I had written and separate them again as species and then concluded that there nevertheless is only one (and exactly that has just happened with me), I cursed all species and asked myself what a crime I had committed to be so severely punished C. DARWIN

Introduction

The present, eighth (see HOŁYŃSKI 2016, 2020a,b,c, 2021, 2022a,b for the first seven) section of the **Review** is the last "systematic" part: with its appearance the descriptions, as well as ***preliminary*** keys, attribution to circles, phylogenetic reconstructions *&c*. of all taxa of the supergenus *Cyphogastra DEYR.* known (in nature or at least from literature) to me are already available to the interested readers. However, each of these sections was aimed at the clarificaton of relations ***within*** a particular group (or few, supposedly closely related, groups) tentativly assessed as a monophyletic circle, based on the characters variable within or unique to those very groups and leaving out of consideration the data relevant only to the remaining, (at the particular stage of the review not targeted) taxa. Thus, while the formal descriptions, nomenclature, geographical distributions, and (with some reservations) ***within group*** phylogenetical reconstructions published in parts I-VIII may be considered as approaching the "state of art", the delimitation of circles and relations ***between*** them have at the very best the value of preliminary working hypotheses, and must be reconsidered in more comprehensive analysis – this will be the aim of the planned last, IX part of the **Review**, in which also the taxonomic ranks of particular taxa (hitherto – the question having not been particularly important from the descriptive, nomenclatural or cladistic viewpoints – tentatively treated as "full" species) will be critically re-assessed.

Conventions

Like in my other publications (unless "corrected" by editors...), I follow the very useful conventions of applying (of course, except wordly citations, where the original form must be retained) SMALL CAPS to ***all*** [irrespective of context (main text, taxon author name, reference list, &c.) and full *vs.* abbreviated version: inconsistent use deprives the display of any sense!] personal FAMILY- (***not*** given-) names, *italicizing* species- and genus-group names (as well as citations and words in languages different from that of the main text), and writing the suprageneric taxon-names in **Bold** [the latter is not a generally accepted custom, but is often important, as some of such names (*e.g.* of the subtribes **Buprestina LEACH**, **Melobasina BÍLÝ** or **Coraebina BED.**) are (or may easily become) "homonymous" (but valid!) with [sub-]generic ones (*Buprestina OBB.*, *Melobasina KERR.*, *Coraebina KERR.*)]

Labels of type-specimens are quoted as exactly as possible, including *italics* and ***handwriting*** (represented by ***bold italics***), CAPITAL LETTERS, SMALLCAPS, framing, colour of text and approximate colour of the label. Individual labels are cited in quotation marks "", separation of consecutive rows on labels marked by ‖, a label glued on another label (frequent *e.g.* in KBIN) by ┤├, a label glued on another label on which still another has been glued by ╡╞ (so, some quotations may look like "abc ┤ def ╡ ghi ╞├"). Determination (white, in the form like "***Cyphogastra gloriosa GST.***, det. R. HOŁYŃSKI" with year of determination written vertically on the left side) and type-designation [red for primary types, *e.g.* "***Cyphogastra theryi HOŁYŃSKI***, HOLOTYPE", green for paratypes, *e.g.* "*Cyphogastra theryi HOŁYŃSKI*, PARATYPE"] labels added by me are not cited.

New species will be described in detail, other descriptions restricted to traits potentially helpful in identification.

Except in citations and synonymies, quoted as in the respective original publications, I apply the term "*morpha*" ["*m.*"] for discrete variants (where intermediates are absent or very rare) and "*forma*" ["*f.*"] for sections of continuous spectrum; „variety" – "*varietas*" ["*v.*" or "*var.*"] is used as a neutral word of no specific connotation].

Length of body measured from anterior margins of eyes to elytral apices; length of elytra from anterior margin of scutellum; width of pronotum where it is the widest, width of elytra just behind subhumeral protuberances; with of head with eyes, in dorsal aspect; width of vertex between internal margins of eyes.

As usual, my phylogenetic reconstruction has been performed with MICSEQ – see HOŁYŃSKI (2001) for the general outline of the algorithm with presentation and justification of basic assumptions, and HOŁYŃSKI (2016) for the present state of its development and discussion of some aspects of the procedure.

Explanation of terms (used generally in my publications, but not necessarily all of them in any particular paper)

Convergent/divergent: Unless specially stated otherwise, always from base to apex
Epistomal ridge: Arcuate or biarcuate keel running from one anterolateral angle of epistome to another behind its emarginated anterior margin at the supraepistomal border
Supraepistomal carina: transverse ridge above the frontoepistomal border
Anterior cavity of front: deeper anterior part of frontal depression, more or less distinctly separated from the rest by oblique elevations
Collar: apical, constricted part of pronotum before truncation
Anterolateral angle of pronotum: angular bend between subparallel basal and abruptly oblique apical portion of sides
Anterior foveolae of pronotum: anterolateral and anteromedian
Anterolateral foveola of pronotum: small, often indistinct fovea near apical angle
Anteromedian foveola of pronotum: small, often indistinct fovea placed midlaterally at apical margin
Fossae: laterobasal depressions of pronotum
Prehumeral relief: elevated fragment of pronotal surface at basal angles, surrounded anteromedially by fossae
Subhumeral protrusion/denticle: moderately salient/prominent, angularly protruding ouywards, epipleural margin at humeri
Caudate elytra: of concave lateroapical margins and dorsal profile
Perihumeral dfp areas: usually not depressed stripes of dfp along lateral half of elytral base, sometimes exending around humeri to basalmost part of lateral margins
Elytral dfp sulci: 1-3 pairs of longitudinal depressed dfp furrows extending over entire elytral length or only part of it
Subhumeral dfp stripe/hollow/sulcus: dfp (not always depressed, often inconspicuous) area placed at lateral margin of elytra behind humeri
Perisutural elytral dfp sulci: innermost pair between 1. (sutural) and 2. costae
Middiscal elytral dfp sulci: middle pair between 2. and 3. costae
Perimarginal elytral dfp sulci: outermost pair between 4. costa and lateral margin of elytra
Abdominal plaque: elevated surface of 1. sternite, posteriorly delimited by more or less vertical step separating it from the rest of abdominal surface
Midlateral: lying at *ca.* mid-distance between median line and side margins
Phenun (pu): unit of the "cost of transformation" between character states, *i.e.* of phenetic distance between analysed taxa: **1 pu** = distance between two neighbour traits in the transformation chain if the weight has been settled as 1
Support quotient [SQ=**x/y** (in phenuns)]: rough estimator of "robustness" of particular pairing, where **x** is the "corrected distance" (at the relevant stage of analysis, *i.e.* when the pairing is being performed) between the paired taxa, and **y** – the shortest distance between any of them and any other remaining "in game".

Abbreviations:

L	=	length
W	=	width
BW	=	basal width
AW	=	apical width
H	=	width of head with eyes
V	=	width of vertex between eyes
ø	=	sex unknown
HT	=	holotype
LT	=	lectotype
ST	=	syntype
PT	=	paratype
BP***	=	(*e.g.* BPeip): specimen-identifying signature in my collection
≈	=	approximately equal
[Θ],[Θ]	=	round type-label with coloured frame in BMNH
[abc]	–	in square brackets (without quotation marks) data not specified on labels

Collection acronyms:

BMNH	=	Natural History Museum, London, ENGLAND
BPBM	=	Bernice P. Bishop Museum, Honolulu, USA
CLB	=	Charles L. BELLAMY, Sacramento, USA
DF	=	David FRANK, Praha, CZECHIA
EONMP	=	Entomologické Oddelení Národního Musea, Praha, CZECHIA
IZW	=	Instytut Zoologii PAN, Warszawa, POLAND
KBIN	=	Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, BELGIUM
MCGD	=	Museo Civico di Storia Naturale „Giacomo Doria", Genova, ITALY
MNCN	=	Museo Nacional de Ciencias Naturales, Madrid, SPAIN
MNHN	=	Muséum National d'Histoire Naturelle, Paris, FRANCE
NHRM	=	Naturhistoriska Riksmuseet, Stockholm, SWEDEN
RBH	=	Roman B. HOŁYŃSKI, Milanówek, POLAND
USNM	=	Smithsonian Institution: National Museum of Natural History, Washington, USA
WK	=	Willy KRONBLAD, Ekenässjön, SWEDEN

Supplementary note to HOŁYŃSKI 2022b

Cyphogastra (s.str.) coriacea KERR.

Cyphogastra coriacea KERREMANS 1910: 181-182

New material examined:

"***Nova Guinea*** || ***Mus. Paris***" "***coriacea***" [KERREMANS' label] "collection|| Dr. LOTTE" "***Cyphogastra*** || ***gloriosa GESTRO*** || ***abdominalis WATH.*** || ***Det.R. Hołyński*** || ***1993***" [1 ♀ KBIN]

Remarks: In the course of reexamination of the available material of the *Gloriosa*-circle I noticed that one specimen determined by me 30 years ago as *C. gloriosa abdominalis WATH.*" had been earlier identified by KERREMANS as *C. coriacea KERR.*, and closer comparison seems to confirm its taxonomic identity with the holotype. *C. coriacea KERR.* is a somewhat enigmatic taxon, known hitherto (HOŁYŃSKI 2022b, 2023) from but two specimens [a male holotype (24×8 mm.) from Mafor I., and a female (27×8.5 mm.) from Sorong], so the range of its variability (and, consequently, the very taxonomic validity) remains unknown. The present specimen is somewhat larger (29.5×9 mm.), has elytra more lustrous (spaces between punctures not appreciably micropunctulate), brighter green than the holotype and slightly bluish, sutural interstria contrastingly blue, preapical golden shade more conspicuous and at lateral margin cupreous, concolorous green epipleura only just before apices darkened – it is not clear whether these differences are purely individual or, perhaps, sexual.

Systematic review

BUPRESTIDAE LEACH
B U P R E S T I N A E L E A C H
BUPRESTINI LEACH
C H R Y S O C H R O I N A C A S T.
Cyphogastra DEYR.
C y p h o g a s t r a D E Y R. s. s t r.

Cyphogastra DEYROLLE 1864: 36-37
[type-species: *Buprestis foveicollis BOISDUVAL 1835*]

Abbreviated key to the identification of circles of the sg. *Cyphogastra DEYR. s.str.*

1 (6) No subhumeral and perimarginal dfp sulci on elytra; or, if perisutural present, then elytral disk (at least suturobasal part) black but ventral side and epipleura metallic, and/or fossae irregular with dfp bottoms entirely reduced or almost so

2 (3) Pronotal fossae shallow, indistinct, or irregular, non-dfp; or c-shaped, only narrowly dfp; or obliquely sulciform; or very broadly ovately quadrangular, ocupying almost entire (except prehumeral reliefs and anterior margin) lateral thirds of pronotum (including at least one of the anterior foveolae); or, if axe [Γ]-shaped and dfp, then elytral tips [bluish-]black, contrasting with more or less bright metallic rest of surface ..... *Tinianica-*, *Uxorismeae-*, *Bruyni-*, *Armata-*, *Flavimana-*, *Tuberculata-*, ... *Satrapa-*, *Collarti-*, *Gestroi-*, *Javanica-* and *Albertisi-* circles

3 (2) Fossae axe- or c-shaped with bottoms extensively dfp, elytral tips concolorous or cupreous, or dorsal side [sometimes slightly bluish-) black

4 (5) Dorsal side usually green, sometimes blue, cupreous or bronzed-brown; elytral tips cupreous or concolorous .... ***Gloriosa*-circle**

5 (4) Body entirely [sometimes bronzed- or bluish-]black .... ***Woodlarkiana*-circle**

6 (1) Elytra with depressed dfp sulci – if sometimes barely or not discernible, then entirely black with more or less distinct cupreous, golden, or green lateral patch .... *Canaliculata-*, *Farinosa-*, *Modesta-*, *Obloquens-*, *Ventricosa-* and *Pistor*-circles

Gloriosa-circle

Remarks: A Melanesian (New Guinea, Bismarck Arch., Solomon Is.) group of uncertain affinities, showing morphological resemblances to some (*e.g. C. sulana HOL.*, *C. viridis KERR.*, *C. mniszechi DEYR.*, *C. pisciformis DEYR.*) representatives of various, apparently not closely related circles. Also the internal structure remains mostly nebulous: the differences between the nominal taxa belonging here are usually vague, difficult to describe and not fully diagnostic, making the reliable clarification of the taxonomic status (species? subspecies? sexual form? or purely individual variety?) very difficult or impossible, especially in view of (often extremely) scant, usually old, poorly (inexactly and/or irreliably) labelled material available for study. The geographical distribution (western portion of the New Guinean north coast, Bismarck Archipelago, Solomons), vicariant to that of the *Woodlarkiana*-circle (north-eastern New Guinea, Woodlark Is., Louisiades), suggests initial (Late Miocene? – see **Phylogenetical reconstruction** below) cladistic separation, whereas the gap in the middle part may be the effect of subsequent invasion of, and competitive elimination by, the representatives of the *Viridis*-circle. On the other hand, as suggested by apparently early stage differentiation of the *C. [granulosissima]*-superspecies, invasion of the Solomon Islands and subsequent radiation there seems to be relatively recent, not yet completed process.

Key to the identification of species of the *Gloriosa*-circle

1 (4) Anterolateral angles of pronotum prominently projecting outwards. Anterior pronotal foveolae at most barely appreciable

2 (3) Elytral puncturation sparser: punctures clearly separated ..... ***C. (s.str.) arcuaticollis KERR.***

3 (2) Elytra densely punctured: punctures almost or actually contiguous ..... ***C. (s.str.) gloriosa GST.***

4 (1) Anterolateral angles not or but inconspicuusly projecting, or anterior pronotal foveolae wide and extensively dfp.

5(12) Elytra slightly but distinctly caudate; apices concolorous, or green basal colouration gradually, uncontrastingly transgressing into more bronzed-cupreous apical parts

6 (9) Elytral apices with more or less distinct preapical cupreous (more reddish or blackish if elytra bronzed) patch, extending anterad along side margin

7 (8) Dorsal side contrastingly bicolorous: head and pronotum green, elytra reddish-bronzed. Three apical sternites in male non-metallic, black ..... ***C. (s.str.) bennigseni KERR.***

8 (7) Pronotum concolorous with basal parts of elytra ..... ***C. (s.str.) aenigma sp.n.***

9 (6) Elytral colouration gradually, uncontrastingly transgressing into more bronzed-cupreous apical parts

10(11) Dorsal sculpture fine: spaces between elytral punctures mostly wider than their diameters. Anterior foveolae of pronotum large, anterolateral connected to fossa, anteromedian separated by much less than its diameter ..... ***C. (s.str.) jordani THY.***

11(10) Dorsal sculpture coarser: spaces between elytral punctures mostly narrower than their diameters. Anterior foveolae of pronotum rather small, spaces separating them from fossa usually wider than their diameters ..... ***C. (s.str.) abdominalis WATH.***

12 (5) Elytra not distintly caudate, with more or less conspicuous small contrasting preapical cupreous spot (extreme tip may be narrowly blackish)

13(16) No trace of perimarginal dfp fringe

14(15) Proepisterna uneven, dfp with indefinite more lustrous elevations. Anterior pronotal dfp foveolae distinct ..... ***C. (s.str.) praeclara KERR.***

15(14) Proepisterna almost perfectly even, uniformly dfp. Anterior foveolae of pronotum indistinct ..... ***C. (s.str.) theryi sp.n.***

16(13) Sides of elytra more or less broadly bordered with dfp fringe (sometimes discernible only on extreme perimarginal "interstria")

17(22) Tarsi dark

18(19) Dfp fringe inconspicuous, often discernible only in anterior third of elytral sides ..... ***C. (s.str.) malaitae sp.n.***

19(18) Dfp fringe conspicuous all along

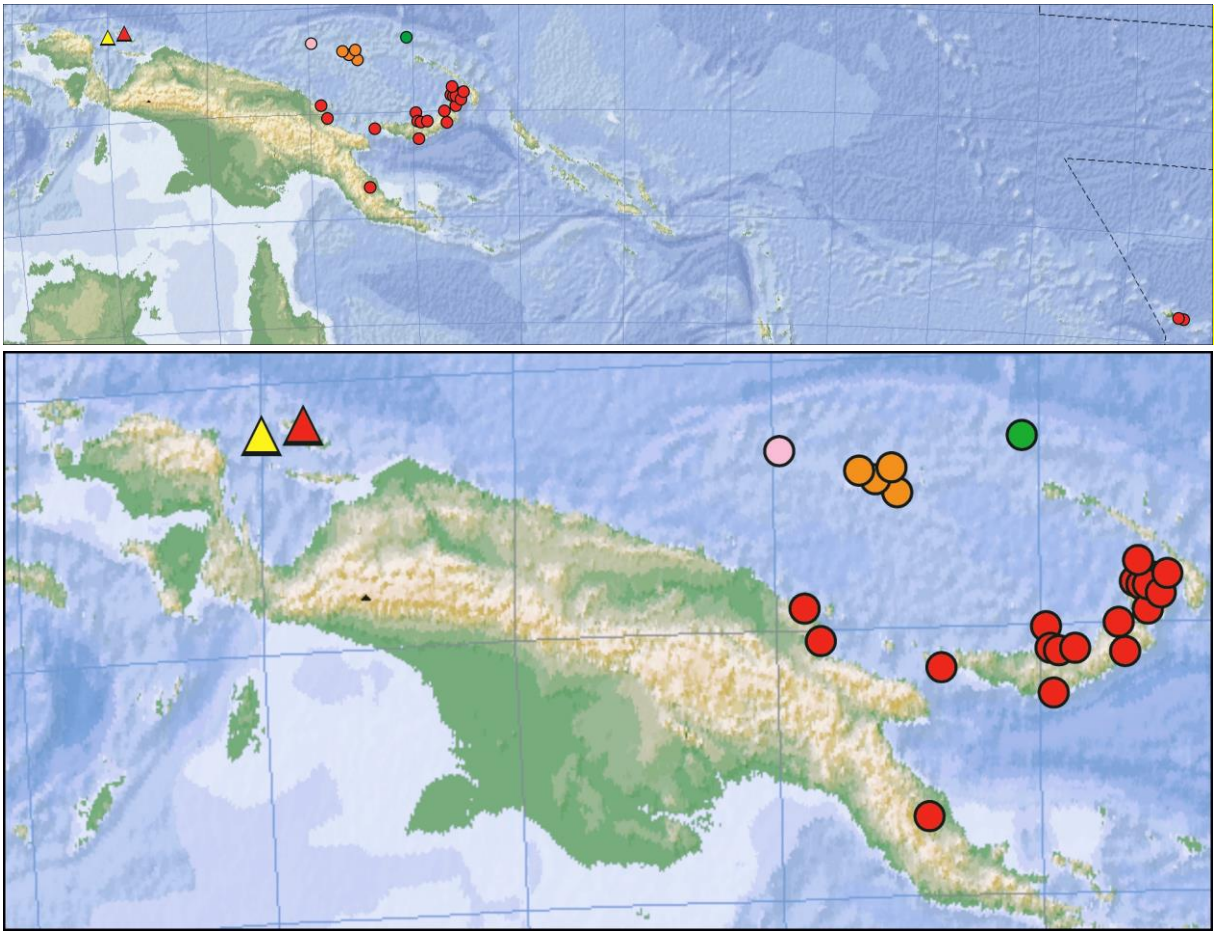
20(21) Elytral apex black, without cupreous preapical spot ..... ***C. (s.str.) popei sp.n.***

21(20) Elytral apex with minute but distinct preapical cupreous spot ..... ***C. (s.str.) granulosissima THY.***

22(17) Tarsi testaceous

23(24) Somewhat flattened. Finely punctulate perimarginal fringe of elytra less conspicuous, sometimes hardly discernible ..... ***C. (s.str.) cristovallensis (MTR.)***

24(23) More convex. Perimarginal fringe broad and conspicuous all along ..... ***C. (s.str.) santaecrucis KERR.***



Map 1
Geographical distribution of the *C.[gloriosa]* superspecies
▲ – *C. arcuaticollis* KERR.; ▲ – *C. gloriosa* GST.
● – *C. bennigseni* KERR. ● – *C. aenigma* sp.n. ● – *C. jordani* THY. ● – *C. abdominalis* WATH.

Cyphogastra (s.str.) gloriosa GST.

Cyphogastra gloriosa GESTRO 1877: 352
=*Cyphogastra aspera* HOŁYŃSKI *i.l.*

Material examined:

Lectotype (designated hereby): „N. Guinea || ***Korido. V*** || *Beccari* ***1875***" „TYPUS" "SYNTYPUS, Cyphogastra gloriosa Gestro, 1877" [orange label] "Museo Civico di Genova" [♀ (MCGD)]

Paralectotype: "Syntype"Θ "N. Guinea || ***Korido. V*** || *Beccari* ***1875***" "*gloriosa Gestro || Type*" "Kerremans 1903·59" [♀ (BMNH)]

Additional material: 11 ♀, 1 ø

Characters [Fig. 1]: Females 30×9.5 – 38×12.5 mm. Dorsally rather dark green with cupreous-red lateroapical elytral streak reaching to *ca*. the level of 2. sternite; ventral side somewhat brighter; legs bluish-green to violaceous-blue, tarsi indefinitely metallic, antenae piceous-brown. Median furrow of prosternal process with moderately dense semierect (inclined anterad) white pilosity; ventral dfp areas covered with very short recumbent pubescenc and rusty pulverulence; otherwise body glabrous.

Epistome deeply trapezoidally emarginated, transverse ridge poorly developed; upper part deeply depressed, clypeofrontal carina irregulaly biarcuate; frontal depression subtriangular or paraboloidal, deep, reaching far above upper margin of eyes, nearly

impunctate except in broad anterior cavity; median furrow coarse and smooth; vertex finely and sparsely punctured, V:H≈0.55; oculofrontal grooves moderately coarse. 1. antennal joint club-shaped, rather short (*ca.* 3× longer than thick); 2. subglobular, *ca.* 5× times shorter and much thinner than 1.; 3. as thick as 1., thickened towards apex and there as wide as 2.; 4. subtriangular, as long as 3. but by a half wider; 5.–10. progressively narrower and shorter; 11. somewhat longer than 10., longitudinally semiellyptical.

Pronotum transversely (L:W≈0.7) subquadrangular; base shallowly bisinuate; basal angles definitely acute; lateral margins rather deeply sinuately subparallel to prominent, distinctly projecting anterolateral angles; sinuate truncation appreciable only near anterior angles; apical margin rather deeply sinuate on each side of broad, shallowly emarginated median lobe. Median sulcus sharply striated along midline, finely and rather sparsely (like middiscal elevations) punctulate; puncturation of lateral parts much denser and coarser; fossae broad, very finely dfp; prehumeral reliefs elongately (*ca.* twice longer than wide) quadrangular.

Elytra definitely caudate: sides very slightly divergent to midlength, then almost regularly rounded to apical sixth and sinuately to narrowly jointly rounded apices (there adorned with sharp denticles); shoulders poorly marked, no trace of subhumeral protrusion). Surface rather densely covered with coarse (somewhat – though not very markedly – less so towards apices) punctures.

Proepisterna dfp with some low elevated areas sparsely covered with coarse punctures; sulcus of prosternal process very irregularly punctate-granulate, narrower than practically impunctate lateral rims; disk of metasternum flat, shallowly depressed along midline with fine medial stria, sparsely covered with moderately coarse punctures; sides of meso- and metasternum dfp, midlateral sloping areas coarsely punctured. Abdominal plaque very poorly developed, in profile almost completely obliterated; sternites covered with moderately coarse and not very dense punctures, midlateral bands narrow, other dfp areas small and inconspicuous. Apex of anal sternite narrowly paraboloidally rounded, with more or less prominent median incision.

Geographical distribution [Map 1]: Apparently an endemite of Biak/Supiori I. in the Geelvink Bay.

Remarks: *C. gloriosa* GST. and *C. arcuaticollis* KERR. are evidently only recently separated "sister" taxa of uncertain (species vs. subspecies) "rank": the differences between them – practically restricted to sculpture – are slight, difficult to unambiguously describe, perhaps not fully diagnostic. In various collections some specimens can be found labelled by me as holotype and paratypes of *C. aspera* HOŁ. – such name has never been published: it originated from the time when I, having not been succesful in disclosing the identity of "*Misori*" [*C. gloriosa* GST. was originally descried from "*Ins. Misori et Mafor (Sin. Geelvinkian.)*"], treated Mafor [=Numfoor] I. as the restricted type-locality, and consequently planned to describe the slightly but distintly different form from Biak as a new [sub-]species. However, somewhat later I realized that *C. arcuaticollis* KERR. is nothing else but just what I considered as *C. gloriosa s.str.*, and that all BECCARI's specimens marked as "types" of *C. gloriosa* GST. but not collected on Mafor I. have been labelled as "*Korido*", a locality on Supiori, so evidently "Misori" is some older name of that "island" (in fact, northwestern peninsula of Biak I.). In this situation, I decided to remove the ambiguity concerning the type-locality (and, thus, the identity of the nominotypical *C. gloriosa* GST.) by designating one of so labelled specimens in MCGD as the lectotype. Thus, the name *C. aspera* HOŁ. became superfluous and remained unpublished.

Cyphogastra (s.str.) arcuaticollis KERR.

Cyphogastra arcuaticollis KERREMANS *1910: 202-203*
=Cyphogastra froggatti THÉRY *1947: 663-664*

Material examined:

Holotype [of *C. froggatti* THY.]: "Type"♀ "***New Guinea*** || ***Coll. No. 9364*** || J.L.Froggatt" "***C2815***" "***Cyphogastra*** || ***Froggathi Théry*** || ***Type***" "Pres. by Imp. Inst.Ent. || B.M.1947-05" [♀ (BMNH)]

Additional material: 13 ♀, 24 ø

Characters [Fig. 2]: Females 21.5×8.5 – 38×12.5 mm. Dorsally green to greenish-blue with cupreous-red lateroapical elytral streak reaching to *ca*. the level of 3. sternite; ventral side lighter: golden- to bluish-green; legs green to blue, tarsi indefinitely metallic to almost pure black, antenaae piceous-brown. Median furrow of prosternal process with moderately dense semierect (inclined anterad) white pilosity; ventral dfp areas covered with very short recumbent pubescenc and rusty pulverulence; otherwise body glabrous.

Epistome arcuately emarginated; depression of upper part deep, regular, very finely punctulate; clypeofrontal carina biarcuate to almost straight. Frontal depression broadly paraboloidal, its upper margin rather indefinite, almost impunctate except in deep anterior cavity which is coarsely and densely punctured; median furrow sharply cut; vertex finely and sparsely punctured, V:H≈0.55. 1. antennal joint club-shaped, rather short (*ca.* 3× longer than thick); 2. subglobular, *ca.* 5× times shorter and much thinner than 1.; 3. four times longer than, and apically as thick as, 2.; 4. subtriangular, nearly as long as 3. but as wide as 1.; 5.–10. progressively narrower and shorter.

Pronotum transversely (L:W≈0.6) subquadrangular; base shallowly bisinuate; basal angles acute; lateral margins slightly convergent from base to just behind prominent anterolateral angles; truncation sinuate; apical margin rather deeply sinuate on each side of broad, shallowly emarginated median lobe. Median sulcus sharply striated along midline, finely and rather sparsely (like middiscal elevations) punctulate; puncturation of lateral parts much denser and (especially around anterior angles) very coarse; fossae relatively narrowly c-shaped, very finely dfp; prehumeral reliefs prominent, elongately quadrangular.

Elytra definitely caudate: sides very slightly divergent to midlength, then almost regularly rounded to apical sixth and sinuately to narrowly jointly rounded or subtruncated and sharply denticulated apices; no subhumeral protrusion). Surface covered with moderately dense and rather coarse (somewhat finer towards apices) punctures.

Proepisterna dfp with some elevated areas sparsely covered with coarse but shallow punctures; sulcus of prosternal process very coarsely and rather densely punctured; disk of metasternum shallowly longitudinally depressed, sparsely and finely punctulate; sides of meso- and metasternum dfp, midlateral sloping areas coarsely punctured. Abdominal plaque barely discernible; sternites covered with moderately coarse and not very dense punctures, midlateral bands very narrow, inconspicuous. Apex of anal sternite narrowly paraboloidally rounded, with shallow median incision.

Geographical distribution [Map 1]: All reliably labelled specimens known to me come from Mafor I.; according to the original description occurs also on Roon I.

Remarks: Deceptively similar to *C. gloriosa* GST., differs in more robust body, narrower bottoms of pronotal fossae, less dense elytral puncturation, punctures in sulcus of prosternal process mostly clearly individualized, *&c.* May also be mistaken for *C. abdominalis* WATH. which, however, has anterolateral pronotal angles not or but indistinctly protruding, elytra at most very slightly caudate, and cupreous apical colouration gradually, uncontrastingly transgressing into green or paler bronzed basal parts.

Fig. 1
Cyphogastra gloriosa GST.
♀ [BPekl], Biak I.: Korido

Fig. 2
Cyphogastra arcuaticollis KERR.
♀ ST [KBIN], Bism. Arch.: St.Matthias I.

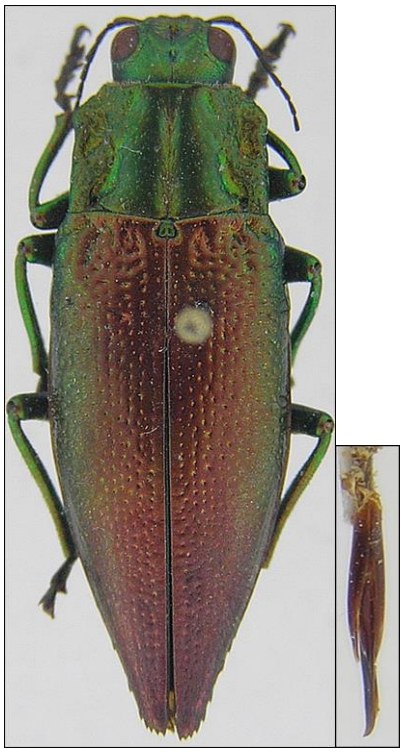


Fig. 3
Cyphogastra bennigseni KERR.
♂ [BPeku], Bismarck Arch.: Hermitt Is.

Fig. 4
Cyphogastra aenigma sp.n.
♀ PT [BPmbc], Manus I.: 1.5 mi. W Lorengau

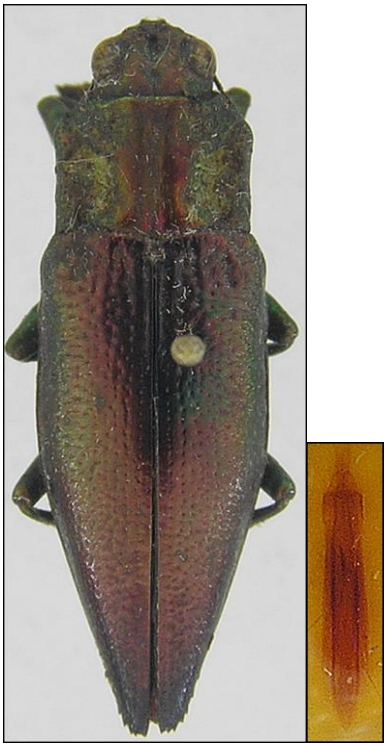


Fig. 5
Cyphogastra aenigma sp.n.
♂ HT [MNCN], Baluan I.

According to THÉRY's (1947) description of *C. froggatti THY.* the type was a large (35×11.5 mm., so apparently a female) beetle collected by J.L.FROGGATT on New Guinea, bearing the collection number 9364, preserved in BMNH. In fact, the BMNH collection contains three specimens determined as *C. froggatti THY.*, each of them marked as "Type": one (from Manus I., without collection number – see below: *C. aenigma sp.n.*) had not been mentioned by THÉRY (1947) at all; the other two agree with the description in being labelled "*New Guinea, Coll. No. 9364*", but one of them, determined originally as "*Froggathi v. nigra Théry, Type*", evidently represents the *"deuxième exemplaire entièrement noir,"* which "*me parait n'être qu'une variété de la précédente espèce (var. nigra, n.* [the "*précédente espèce*" is *C. praeclara KERR.*, but in fact the Author had probably *C. viridis KERR.* in mind: the entire desription consists in comparison with the latter, and anyway, according to the subsequent identification by LEVEY the specimen belongs to *C. punctatissima KERR.*, which he could hardly have confused with *C. praeclara KERR.*!]*)*; thus only the third one can be true holotype of *C. froggatti THY.* It is currently not accessible to me for reexamination, but during my visit to BMNH in 1976 I identified it as bronzed variety of "*C gloriosa s.str.*" [*i.e.* of *C. arcuaticollis KERR.* according to my present concept).

Cyphogastra (s.str.) bennigseni KERR.

Cyphogastra bennigseni KERREMANS 1906: 413, 415

Material examined: 2 ♂

Characters [Fig. 3]: Male [1] 26×8.5 mm. Head, pronotum, sternum and basal two sternites green; elytra bronzed; antennae, tarsi and apical part of abdomen piceous-brown. Pubescence distinct on dfp-depresions (short, dense, recumbent), in prosternal sulcus (short, rather sparse, erect), and on non-metallic apical abdominal segments, otherwise body glabrous.

Pronotum somewhat wavily subparallelsided; anterolateral angles slightly protruding, collar poorly developed; fossae irregularly shaped, coarsely punctured except for two small dfp spaces: a narrowly elongate along inner, and a roundedly foveolate before anterior, margin of prehumeral relief, separated by its acutely triangular anteromedian angle; anterior foveolae indistinct.

Elytra very slightly caudate, subparallelsided to midlength, then arcuately-cuneately tapering to jointly narrowly rounded and sharply denticulated apices; no subhumeral protrusion; sculpture rather fine, subequal from base to apices, punctures mostly arranged into relatively regular rows.

Proepisternal dfp areas small and poorly defined, metasternal and metacoxal not extensive, abdominal perimaginal and middiscal stripes moderately wide; abdominal plaque barely marked; apex of anal sternite deeply paraboloidally emarginated (male); female unknown.

Geographical distribution [Map 1]: Apparently endemic to Hermit Is., a remote group of islets in the Bismarck Archipelago.

Remarks: Characteristic within the *C. [gloriosa]*-superspecies by its contrastingly bicoloured dorsal side and poorly developed pdf areas in pronotal fossae. Morphologically closest to *C. aenigma sp.n.* from St. Matthias group, whereas – biogeographically intermediate and, according to the present analysis (*cf.* **Phylogenetical reconstruction** below), cladistically closer to *C. aenigma sp.n.* – *C. jordani THY.* from Admiralty Is. resembles rather widely disjunct (New Britain) and phylogenetically not so closely related *C. abdominalis WATH.*

Cyphogastra (s.str.) aenigma sp.n.

Material examined:

Holotype [?]: "***Village Higher School*** || ***area, Baluan Island,*** || ***Admiralities*** || ***27-4-1958*** || ***Coll. J.D.Hayes***" "2903" "EX COLLECTION || ***Dr. A.Cobos***" "***Cyphogastra*** || ***praeclara*** || ***Kerr.***" "M.N.C.N || MADRID" "***Cyphogastra*** || ***praeclara KERR.*** || ***froggatti THY.*** || Det. R. HOŁYŃSKI || ***2007***" [♂ (MNCN)]

Additional material: 1 ♂, 10 ♀

Holotype [Fig. 5]: Male 25.5×8 mm. Body relatively slender. Head and pronotum golden-bronzed, elytra dark brownish-bronzed, ventral side (except non-metallic brown apical three segments) dull golden-green. Pubescence whitish, on dfp areas dense and recumbent, in sulcus of prosternal process and along midline of metasternum sparse and erect, on brown apical sternites rather long and recumbent, otherwise lacking or inconspicuous.

Epistomal ridge rather blunt but distinct, roughly parallel to arcuately emarginated anterior epistomal margin, supraepistomal carina low and irregular; frontal depression shallow, broadly triangular, without clearly defined anterior cavity, coarsely but not very densely punctured; median furrow deep, broad but poorly delimited; puncturation of vertex itself rather coarse but sparse; oculofrontal grooves narrow and moderately deep. Antennae long, reaching almost to pronotal base; 1. joint club-shaped, 4× longer than thick; 2. subcylindrical, *ca.* as long as thick but by half thinner than 1.; 3. markedly thickened towards apex (there somewhat thicker than 2.), subequal in length to 1.; 4. flatened, triangular, as long as 3. and as wide as 1.; 5.–10. progressively narrower and more rhomboidal (10. almost as long as 4. but narrower, *ca.* 2 × longer than wide; 11. again somewhat longer (subequal to 5.), asymmetrically fusiform.

Pronotum *ca.* 1.4× wider than long; base bisinuate with subangular prescutellar lobe; basal angles slightly acute; lateral margins straight, parallel to slightly protruding anterolateral angles; apical margin rather deeply sinuate on each side of broadly truncated median lobe. Median sulcus moderately broad, finely and sparsely (similar to disk) punctured along midline but without stria. Dfp fossae broad, ɾ-shaped; anteromedian foveola inconspicuus, anterolateral not developed at all; prehumeral reliefs somewhat elongately rhomboidal, coarsely punctured like relatively very broad ridge separating fossa from lateral pronotal margin.

Elytra relatively narrow (L:W≈2.25), slightly caudate, no trace of subhumeral protrusion, sides slightly rectilinearly divergent to *ca.* midlength, regularly arcuate to apical sixth and very slightly sinuate to apices; apically sinuate part adorned with some (7-8 on each elytron) prominent denticles. No dfp sulci, elytral puncturation moderate, with no appreciable difference between basal and apical parts, here and there arranged into irregular but perceptible rows.

Proepisterna, lateral parts of meso- and metasternum and metacoxae almost entirely dfp; sulcus of prosternal process anteriorly parallelsided (as wide as each – very sparsely but rather coarsely punctured – lateral rim), narrowly lanceolate apically; disk of metasternum deeply grooved along middle, sparsely irregularly covered with moderately coarse puncturation to both sides of groove. Abdominal plaque low, sometimes almost non-existent: in profile seen as hardly more than obtuse and broadly rounded off bend between 1. sternite and rest of abdomen, slightly elongated punctures on plaque fine. Apex of anal sternite rather deeply subtriangularly (with rounded median angle) emarginated.

Variability: Males [2] 25.5 – 26.5×8, females [7] 23×7 – 30×9.5 mm. Females **[Fig. 4]** green with distinct golden perisutural interstria and cupreous lateroapical patch on elytra, more distinctly elevated abdominal plaque, moderately wide perimarginal and middiscal dfp

stripes, and narrowly subtruncately rounded (without distinct median incision) apex of anal sternite.

Geographical distribution [Map 1]: Seems endemic to Manus Is. group (Bismarck Arch.).

Remarks: Smaller and narrower than *C. arcuaticollis* KERR., anterolateral angles of pronotum but slightly protruding, proepisterna almost entirely dfp, middiscal dfp stripes on abdomen well developed. *C. bennigseni* KERR. differs in contrastingly green head and pronotum and practically non-dfp pronotal fossae.

Cyphogastra (s.str.) jordani THY.

Cyphogastra jordani THÉRY *1926: 71*
?=Cyphogastra emeraldina KERREMANS *1919: 54*

Material examined:

Lectotype: "*Coll.I.R.Sc.N.B.* || Nouvelle Guinée || ***BISMARK Arch.*** || ┤St. Matthias I., || June, July, 1923. || (A. F. Eichhorn).├" "┤***gloriosa*** || ***ssp. Jordani*** || ***Th.*** || THERY det.├ ***cf. Ann. Soc. ent. Belg.*** || ***1926, 66: 71*** ┤Syntype├" [♀ (KBIN)]

Paralectotype: "St. Matthias Is. || June, July, 1923. || (A. F. Eichhorn)." "***Recu de Rothschild***" "***Jordani Thery*** || TYPE" "MUSEUM PARIS || 1935 || Coll. A THÉRY" [1 ♀ (MNHN)]

Additional material: 1 ♂

Characters [Fig. 6, 7]: Male [1] 27×9, females [2] 32.5×10.5, 36.5×12.5 mm. Robust, dorsal side with oily lustre, body green (darker in male) becoming definitely (in ♀) or indistinctly (in ♂) golden in apical parts of elytra and (only in ♀) abdomen; apical margins of 3.-5. sternites in male ferrugineous. Sulcus of prosternal process with denser (♂) or sparser (♀), rather long erect pilosity somewhat inclined anterad, that along sternal midline similar but shorter and sparser, on elevated median parts of sternites short and recumbent; pubescence of dfp areas very dense, covered with rusty pulverulence; body otherwise practically glabrous.

Pronotal sides subparallel (♂) or slightly convergent (♀) from basal to markedly protruding anterolateral angles; fossae very broad, joining large sulciform anterolateral fovea; anterolateral also large, round, isolated; laterobasal reliefs elongately quadrangular, rather finely and not very densely punctured; discal punctulation fine and sparse.

Elytra markedly caudate; no subhumeral protrusions; sculpture generally very fine and sparse, only basally coarser; no trace of dfp sulci.

Proepisterna entirely dfp or with some elevated areas; puncturation in sulcus of prosternal process irregular, moderately coarse and very dense; sides of sternum extensively dfp; marginal and midlateral abdominal stripes well developed but rather narrow; abdominal plaque not individualized, marked only as prominently elevated hump at border between 1. and 2. sternite; apex of anal sternite in male deeply subtriangularly emarginated, in female narrowly rounded with at most barely appreciable shallow median incision.

Geographical distribution [Map 1]: St. Matthias Is. group NW of New Hanover (Bismarck Archipelago).

Remarks: Somewhat more robust than deceptively similar *C. abdominalis* WATH., anterolateral pronotal angles markedly protruding, elytral sides more distinctly divergent to midlength, surface much finer and sparser punctulate. *C. emeraldina* KERR. has been described (in KERREMANS' posthumous paper) from "*Iles de la Loyauté*", but it is almost certainly the effect of mislabelling; it seems to be the (senior!) synonym of *C. jordani* THY.: the description fits the characters of the latter quite exactly; if such identification is correct – what, however, needs confirmation by study of the [?holo-]type – the valid name of the taxon is *C. emeraldina* KERR.

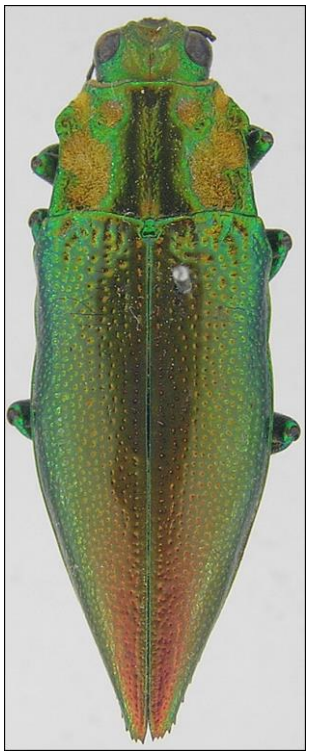


Fig. 6
Cyphogastra jordani THY.
♀ ST [KBIN], Bism. Arch.: St.Matthias I.

Fig. 7
Cyphogastra jordani THY.
♂ [MNHN], Bism. Arch.: St.Matthias Is.: Mussau

Fig. 8
Cyphogastra abdominalis WATH.
♀ [IZW], Duke of York I.

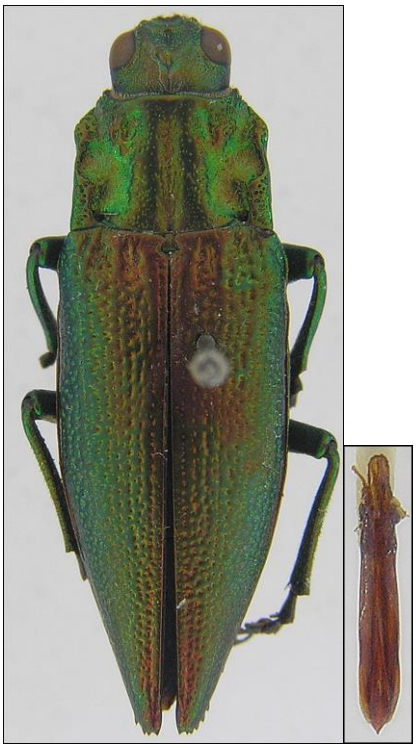


Fig. 9
Cyphogastra abdominalis WATH.
♂ [BPmbd], N. Guinea

Cyphogastra (s.str.) abdominalis WATH.

Cyphogastra abdominalis WATERHOUSE 1885: 381-382
=Cyphogastra auriventris KIRSCH 1885: 114-115
=Cyphogastra cupripennis KERREMANS 1898: 117-118
=Cyphogastra diabolica OBENBERGER 1917: 253
=Cyphogastra punctulata KERREMANS 1919: 56

Material examined:

Syntypes: "Type"Θ "D. of York I. 80-18" "***Cyphogastra abdominalis (Type) Waterh.***" [1 ø (BMNH)]; "Duke of York Is." "PARATYPE" "collection Dr. LOTTE" "*gloriosa v. abdominalis Wat.*, THERY det." [1 ♀ (KBIN)]

[Holo?]type [of *C. cupripennis KERR.*]: "Type"Θ "***Nouv. Bretagne, Fairm.***" "***cupripennis Kerr. Type***" "Kerremans 1903·59" [1 ø (BMNH)]

Holotype [of *C. diabolica OBB.*]: „Brit. N. Guinea" „***Cyphogastra*** || ***diabolica m. Typus*** || Det. Obenberger" „TYPUS"„Mus. Nat. Pragae, Inv. ***20 010***" [1 ♀ (EONMP)]

Additional material: 13 ♂, 134 ♀, 25 ø

Characters [Fig. 8, 9]: Males [11] 19.5×6 – 29.5×9.5, females [128] 23.5×7 – 38.5×12 mm. Moderately robust; body above green to bronzed, unicolorous or with elytra gradually more cupreous apicalwards; ventral side brighter green with abdomen often more or less cupreous. Pilosity of sulcus of prosternal process and metasternum white, erect, somewhat inclined anterad; elevated median parts of sternites sparsely covered with recumbent setae; pubescence of dfp areas very dense, covered with rusty pulverulence; body otherwise practically glabrous.

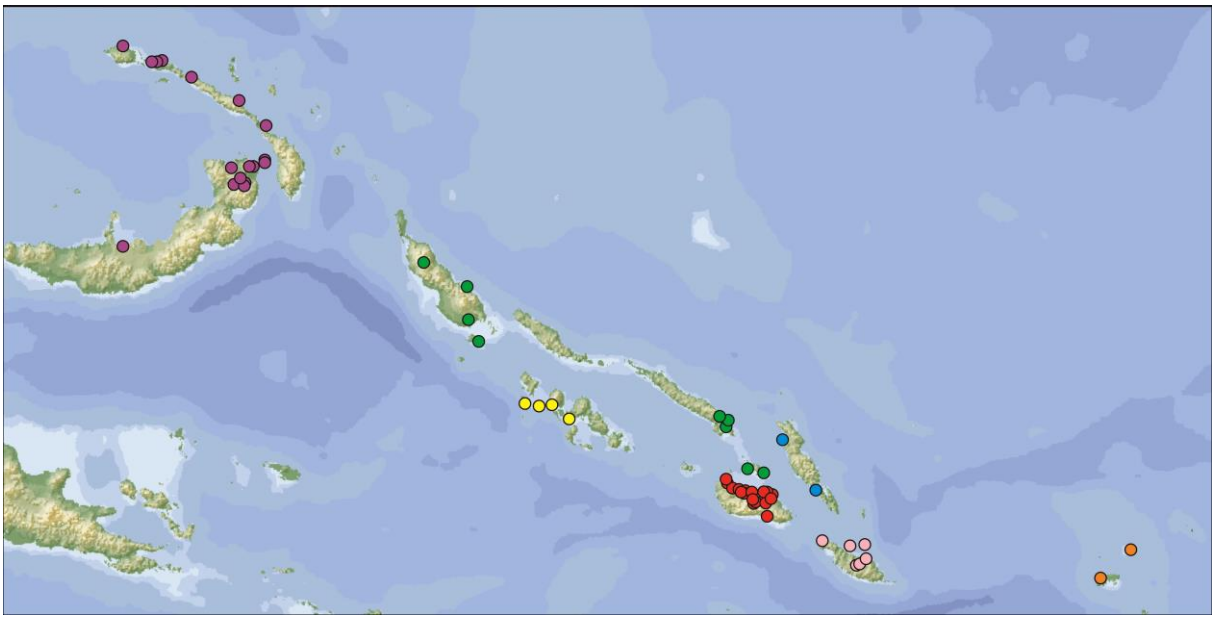
Pronotal sides subparallel or slightly convergent from base to barely protruding anterolateral angles; fossae broad, undivided, usually joining broadly sulciform anterolateral foveola; rounded anterolateral in most cases also large but isolated; prominent laterobasal reliefs elongately quadrangular to subrhomboidal, with anteromedian angles somewhat acutely protruding; pronotal disk rather finely and sparsely, sides coarser and much denser punctured.

Elytra but slightly caudate; subhumeral protrusions at most barely indicated; sculpture moderately coarse and dense on basal parts, becoming finer and sparser backwards; no trace of dfp sulci.

Proepisterna in practically all specimens entirely or almost entirely dfp; sides of sternum and metacoxae extensively so; marginal and midlateral abdominal dfp stripes well developed but rather narrow; abdominal plaque well developed, rather highly elevated, in profile usually roundedly right-angled; apex of anal sternite in male deeply paraboloidally emarginated, in female narrowly rounded without or at most barely appreciable shallow median incision.

Geographical distribution [Map 1]: New Britain and Duke of York I.; on New Guinea probably, on Samoa (Upolu, rather common) certainly introduced, occurrence on New Ireland and New Hannover needs confirmation.

Remarks: Similar to *C. jordani THY.* but narrower, more parallelsided, coarser sculptured, and differing also in well developed abdominal plaque; smaller specimens may be easily confused with (partly sympatric) *C. praeclara KERR.*: differences in anterolateral pronotal angles and extent of cupreous preapical spot on elytra may be inconclusive, but male genitalia seem diagnostically distinctive. Many specimens in various collections laelled as *C. abdominalis WATH.* belong in fact to other species of the *Gloriosa-* (C. *aenigma sp.n.*, *C. jordani THY.*, *C. arcuaticollis KERR.*, *C. praeclara KERR.*, &c.) or even (*e.g. C. mniszechi DEYR.*) other circles.



Map 2

Geographical distribution of the *C. [granulosissima]*-superspecies

● – *C. praeclara* KERR.; ● – *C. granulosissima* THY.; ● – *C. malaitae sp.n.*; ● – *C. popei sp.n.*; ● – *C. theryi sp.n.*; ● – *C. cristovallensis (*MTR.*)*; ● – *C. santaecrucis* KERR.

Cyphogastra (s.str.) praeclara KERR.

Cyphogastra praeclara KERREMANS *1910: 185-186*
=Cyphogastra parallela KERREMANS *1910: 193-194*
=Cyphogastra simplex KERREMANS *1919: 55*
=Cyphogastra viridimaculata THÉRY *1923: 246-247*
=Cyphogastra terminata v. nigritarsis THÉRY *1926: 71* [*issp.*]

Material examined: 33 ♂, 139 ♀

Characters [Fig. 10, 11]: Males [34] 15×6 – 25.5×8, females [119] 20.5×7 – 30×9.5 mm. Dorsally green, rarely bluish or bronzed, with more or less distinct small cupreous-red spot just before elytral tip; ventral side somewhat lighter and brighter. Median furrow of prosternal process (and deeply sulcate anterior part of metasternum) in males with very dense, moderately long, irregularly [semi-]erect pubescence, pilosity in prosternal process in females and along midline of metasternum in both sexes short, erect; dfp areas covered with very short recumbent pubescence and rusty pulverulence; otherwise body glabrous.

Pronotum transversely (L:W≈0.7) subquadrangular; base rather deeply bisinuate; basal angles acute; lateral margins rather deeply sinuately subparallel to not protruding anterolateral angles; apical margin shallowly sinuate on each side of not prominent, broadly truncated median lobe. Median sulcus somewhat denser punctulate than elevated parts of disk, puncturation of lateral parts much denser and coarser; fossa broad, ɾ-shaped, its anterior (transverse) part laterally bordered by very narrow, sharply elevated carina; prehumeral reliefs elongately quadrangular.

Elytra not caudate: sides very slightly divergent to midlength, then cuneately converging to jointly rounded apices (there adorned with sharp denticles); no trace of subhumeral protrusion. Surface covered with moderately dense, anteriorly rather coarse but becoming much finer apicalwards, punctures.

Proepisterna entirely, sides of sternum and metacoxae extensively dfp; bottom of broad sulcus of prosternal process in males poorly seen under very dense pulverulent pubescence but apparently dfp, in females rather sparsely punctured; disk of metasternum

very sparsely covered with fine punctures; abdominal plaque low but prominent, in profile usually somewhat roundedly right-angled, neither very finely nor very sparsely punctulate; median part of sternites covered with moderately coarse and rather sparse punctures; perimarginal and middiscal bands broad, in males almost contiguous. Apex of anal sternite broadly but not very deeply subtriangularly emarginate in male, narrowly subtruncately rounded in female.

Geographical distribution [Map 2]: Described from New Ireland and New Britain, known also from Duke of York, Nusa (small islet off Kavieng at the NW tip of N. Ireland) and New Hannover slands – labels like New Guinea, Solomon Is., to say nothing of Luzon, are evidenly erroneous.

Remarks: Partly sympatric *C. abdominalis* WATH. is larger, has usually distinctly protruding anterolateral angles of pronotum, slightly caudate elytra without individualized cupreous-red preapical spot, *&c.*; deceptively similar (the only diagnostic difference seems to be the shape of male genitalia) is geographically remote *C. theryi sp.n.*

Cyphogastra (s.str.) theryi sp.n.

?=*Cyphogastra amatina* KERREMANS *1919: 54-55*

Material examined:

Holotype: "SOLOMON IS || Guadalcanal || ***Kukum*** || ***31 X*** 196***3*** || P. GREENSLADE" "SOLOMON IS: || Pres. || P.J.M.Greenslade. || B.M.1966-477" "Ex B.M.[N.H.] || Duplicate" [♂ (RBH: BPelc)]

Paratypes: "SOLOMON Isls., Guadalcanal || BARANA vill. env., 190m || 09^{0}29.8'S-159^{0}59.5'E || 20.xi.-3.xii.2018 || J.Horák leg." "coll. David Frank || Prague, CZ" [1♂, 3♀ (DF)]; "SOLOMON ISLAND, GUADALCANAL || ca 3.5 km. SE BARANA vill. || (clearing in secondary forest, at light) || 09^{0}29.8'S-159^{0}59.5'E, 190 m || Jíři.Hájek leg., 24.xi.-14.xii.2013" "ex coll. S.Bílý || National Museum || Prague, Czech Republic" [9♀ (EONMP)]; "Guadalcanal || I." „26-IX.-4-XI'1944 || DavidGHall" [1♂ (RBH: BPj-u)]; "SOLOMON IS. || Guadalcanal || Honiara District || ***10***:***IV***:19***55*** || E.S.Brown || ***2784***" "Pres. by || Co. Inst. Ent. || B.M. 1958-79" "Ex B.M.[N.H.] || Duplicate" [1♀ (RBH: BPela)]; "***BRIT. SOLOMON IS.*** || ***Kukem*** || ***1963*** || ***Capt. Drake.*** || ***In garden.*** || ***B.M.1965-250***" "Ex B.M.[N.H.] || Duplicate" [1♀ (RBH: BPele)]; "SOLOMON IS. || Guadalcanal || ***Kukum*** || ***25 XI*** 196***3*** || P. GREENSLADE || ***11,010***" "SOLOMON IS: || Pres. || P.J.M.Greenslade. || B.M.1966-477" [1♀ (RBH: BPeld)]; "SOLOMON IS. || Guadalcanal || ***MT.AUSTIN*** || ***4. 3.*** 196***3*** || ***TERMINALIA SUPERBA*** || ***3807***" "SOLOMON IS: || Pres. || P.J.M.Greenslade. || B.M.1966-477" [1♀ (RBH: BPelf)]; "SOLOMON ISLAND, GUADALCANAL || ca 3.5 km SE of BARANA vill. || (clearing in secondary forest, at light) || 09^{0}29.8'S, 159^{0}59.5'E, 190 m || Jiří Hájek leg., 24.xi.-14.xii.2013" "ex coll. S.Bílý || National Museum || Prague, Czech Republic" [2♀ (RBH: BPmbg, mbh)]; "SOLOMON IS. || Guadalcanal || ***Tiua*** || ***7/3.***196 ***PJM Greenslade***" "SOLOMON IS: || Pres. || P.J.M.Greenslade. || B.M.1966-477" [1♀ (RBH: BPelg)]; "SOLOMON IS. || Guadalcanal || ***Rua Vatu*** || ***8.XI.***195***5*** || E.S.Brown" "Pres. by || Co. Inst. Ent. || B.M. 1958-79" [1♀ (RBH: BPel-)];"SOLOMON IS. || Guadalcanal || ~~Lunga~~ || ***Kukum*** || ***5/11*** 195***8*** || ~~E.S.Brown~~ || ***P.G.FENEMORE***""SOLOMON IS: || Pres. || P.J.M.Greenslade || B.M. 1966-477." "*Cyphogastra* || *terminata* || *Westw.* || R.D Pope det. 1958" [1♀ (USNM)]

Additional material: 2 ♂, 26 ♀, 18 ø

Holotype [Fig. 13]: Male 20.5×6.5 mm. Pronotum, ventral side and legs bluish-green, elytra puregreen. Sternum along median line and abdominal plaque with moderately dense, rather long, white erect pilosity, dfp areas very densely recumbently pubescent, body otherwise glabrous.

Epistome trapezoidally emarginated; epistomal ridge very fine, supraepistomal carina }-shaped. Frontal depression above well defined and rather coarsely but sparsely punctured anterior cavity shallow, triangular; median furrow deep, sharply defined; V:H≈0.5.

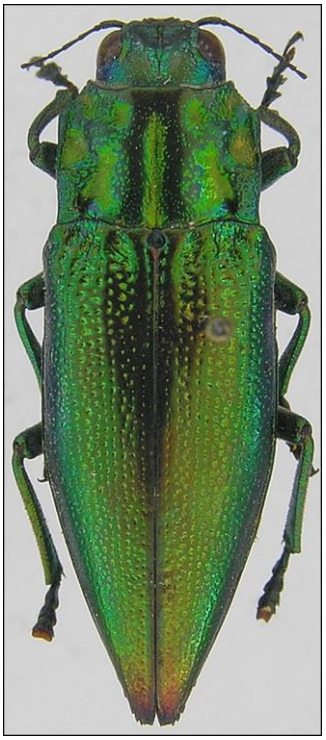


Fig. 10
Cyphogastra praeclara KERR.
♀ [EONMP], N. Britain: Baining Mts.

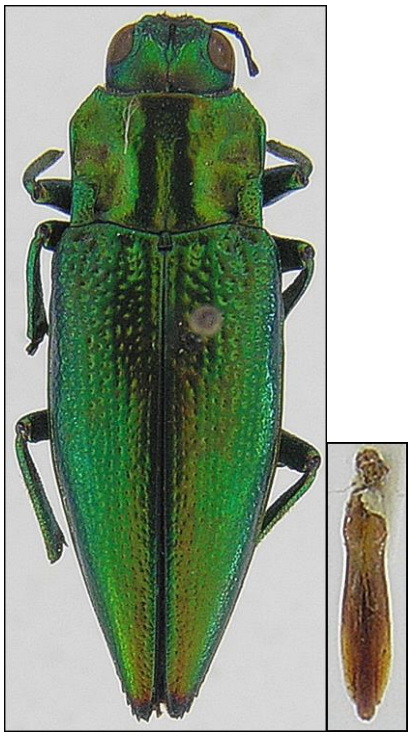


Fig. 11
Cyphogastra praeclara KERR.
♂ [BPmbf], Neu Mecklemburg

Fig. 12
Cyphogastra theryi sp.n.
♀ PT [DF], Guadalcanal: *ad* Barana

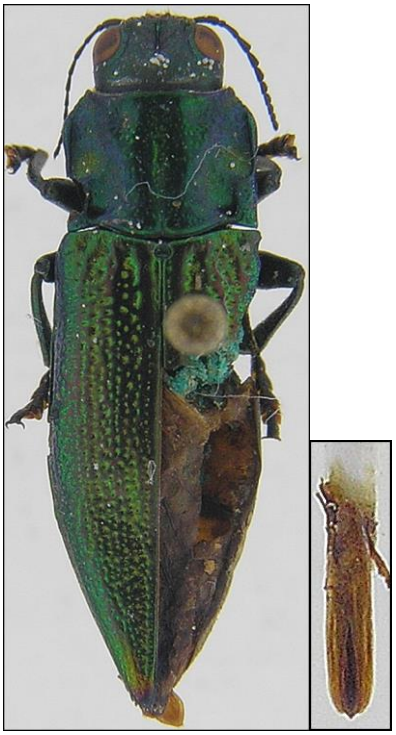


Fig. 13
Cyphogastra theryi sp.n.
♂ HT [BPelc], Guadalcanal: Kukum

Fig. 14
Cyphogastra theryi sp.n.
♂ PT [DF], Guadalcanal: *ad* Barana

Pronotum *ca.* 1.4× wider than long; base bisinuate with broadly rounded prescutellar lobe; basal angles slightly acute; lateral margins parallel, very shallowly emarginate; anterolateral angles not protruding; apical margin shallowly trisinuate. Median sulcus moderately broad, without distinct stria, rather finely and sparsely (similar to disk) punctured along midline. Dfp fossae broad, ⌐-shaped; anterior foveolae poorly defined; prehumeral reliefs wide and short, rhomboidal; ridge separating fossa from lateral pronotal margin very narrow.

Elytra not caudate, without subhumeral protrusion, subparallelsided to *ca.* midlength, then cuneately tapering to apices; no dfp sulci; elytral puncturation moderate, somewhat coarser on basal than on apical parts, here and there arranged into irregular rows.

Proepisterna, lateral parts of meso- and metasternum, and metacoxae almost entirely dfp; perimarginal and middiscal dfp stripes on sternites very broad, nearly contiguous. Sulcus of prosternal process very broad, very densely irregularly sculptured. Abdominal plaque rather highly elevated but obtuse-angled. Apex of anal sternite rather deeply subtriangularly (with rounded median angle) emarginated.

Variability [Fig. 12-14]: Males [5] 20.5×6.5 – 23×7; females [47] 20×6 – 32×10.5 mm. Body green, sometimes with some bluish or golden hue, rarely elytra and/or ventral side golden-cupreous; preapical cupreous-red spot on elytra very small or entirely lacking. Anterior foveolae on pronotum variously developed; abdominal plaque often right- or even definitely acute-angled in profile. In females prosternal sulcus narrower and more sparsely punctured, perimarginal and middiscal stripes narrower, apex of anal sternite narrowly rounded.

Geographical distribution [Map 2]: Guadalcanal I. of Solomon Arch.

Remarks: Barely distinguishable from *C. praeclara* KERR.: the only reliable difference seems to be the shape of *aedoeagus*. Several specimens in some collections bear my old simple (without species name) red "HOLOTYPE" or "PARATYPE" labels: I recognized the taxon as new already in London in 1978, but hitherto have not formally described it. Now these specimens are not accessible to me for reexamination, therefore they cannot be included in the type-series, the less so that the discovery of a male **[Fig. 14]** with genitalia looking not identical to those of the actual holotype (if it is not but illusion caused by different preparation) suggests a possibility of the existence of sibling species. Thus, the real types are only those labelled according to my current custom ("*Cyphogastra theryi* HOŁYŃSKI, HOLOTYPE" or "*Cyphogastra theryi* HOŁYŃSKI, PARATYPE").

Cyphogastra (s.str.) malaitae sp.n.

Material examined:

Holotype: "SOLOMON ISLANDS || MALAITA Is. cca 6 km NW || Waisisi vill.. env.. 340m || 09^{0}20.1'S 161^{0}07.6'E || J.Horák leg. 5.-11.xii.2017" "coll. David Frank || Prague, CZ" [♀ (DF)]

Paratypes: "Malaita Is. || Solomon Iss. || 15.ii.1990" "***Cyphogastra*** || ***terminata*** || ***WATERHOUSE*** || DET.K.AKIYAMA.19***92***" "Cyphogastra || ***praeclara*** || Det.R.Holynski || ***1994***" [1 ♀ (RBH: BPfuk)]; "SOLOMON ISLANDS || MALAITA Is. cca 6 km NW || Waisisi vill.. env.. 340m || 09^{0}20.1'S 161^{0}07.6'E || J.Horák leg. 5.-11.xii.2017" "coll. David Frank || Prague, CZ" [1 ♀ (DF)], 1 ♀ (RBH: BPmbm)]

Additional material: 2 ♀

Holotype [Fig. 15]: Female 28.5×9 mm. Bright green with relatively large (extending over *ca.* 3 mm.) cupreous-red preapical patch on elytra (extreme tips black). Sternum along median line and abdominal plaque with short, sparse, white erect pilosity, dfp areas very densely recumbently pubescent, body otherwise glabrous.

Supraepistomal carina V-shaped. Frontal depression above well defined and finely densely punctured anterior cavity indefinite; median furrow coarse in depression, very fine above; V:H≈0.5.

Pronotum *ca.* 1.4× wider than long; base shallowly, somewhat angularly bisinuate with broadly rounded prescutellar lobe; basal angles definitely acute; lateral margins parallel, anterolateral angles well marked but not protruding; apical margin shallowly sinuate to both sides of straightly truncated median lobe. Punctulation of disk moderately fine and sparse, of prehumeral relief and marginal ridge coarser and denser, around anterior angle very irregularly coarse and dense; fossa rather broad, ɾ-shaped, subdivided into prebasal and midlateral part by anteromedian protrusion of, itself elongately quadrangular, prehumeral relief; anterior foveolae distinct.

Elytra not caudate, without subhumeral protrusion, sides slightly divergent to midlength, then arcuately-cuneately tapering to apices; no dfp sulci; elytral puncturation moderate, much coarser on basal than on apical parts, here and there arranged into irregular but perceptible rows; perimarginal dfp fringe relatively well developed, discernible all along.

Proepisterna, lateral parts of meso- and metasternum and metacoxae almost entirely dfp; perimarginal and middiscal dfp stripes on sternites broad but widely separated. Sulcus of prosternal process irregularly granulated. Abdominal plaque moderately high, right-angled. Apex of anal sternite regularly rounded.

Variability: [5 females] 22×7 – 28.5×9.5 mm. Dorsal side green to greenish-blue, ventral [golden-]green; preapical cupreous-red spot on elytra often very small. Dfp fringe of elytra usually very poorly developed. Anterior foveolae on pronotum more or less distinct but not very conspicuous; otherwie similar to the holotype.

Geographical distribution [Map 2]: Solomon Archipelago: Malaita I.

Remarks: Distinguishable from *C. praeclara* KERR. and *C. theryi sp.n.* in more or less distinct perimarginal elytral dfp fringe, and from the other Solomonese relatives in its poor development.

Cyphogastra (s.str.) popei sp.n.

=Cyphogastra hoschecki HOŁYŃSKI *i.l.*

Material examined:

Holotype: "Solomon Is. || Munda || NGeorgia" "Dec. 31 1944 || LAConwell" [♀ (USNM)]

Paratypes: "***SOLOMONEN, 8.86*** || ***KOLOMBANGARA IS.*** || ***WERNER leg.***" "ex coll. Vít Kubáň || National Museum || Prague, Czech Republic" [2 ♀ (EONMP)]; "Solomon Is. || Munda || NGeorgia" "1944 || LAConwell" [2 ♀ (USNM)]; "Solomon Is. || Munda || NGeorgia" "Feb 1945 || LAConwell" [1 ♀ (RBH: BPmbj)]; "Solomon Is. || Munda || NGeorgia" "Apr 1945 || LAConwell" [1 ♀ (USNM)]; "SOLOMON IS. || New Georgia || Holopurm || 27.vii.1958" "***Cyphogastra*** || ***granulosissima*** || ***THÉRY*** || ***hoschecki HOŁ.*** || det. R. HOŁYŃSKI || ***1993***" "***Cyphogastra*** || ***hoschecki*** || ***HOŁYŃSKI*** || HOLOTYPE" [1 ♀ (RBH: BPelh)]

Additional material: 4 ♀

Holotype [Fig. 16]: Female 28×9.5 mm. Bright golden-green with golden midline of pronotal median sulcus and minutely black elytral tips (no trace of cupreous-red preapical patch); femora and tibiae blue, antennae and tarsi piceous black. Sulcus of prosternal process with sparse and short whitish semierect (inclined anterad) pilosity, dfp areas very densely recumbently pubescent and covered with ochraceous pulverulence, body otherwise glabrous.

Epistome shallowly subtrapezoidally emarginated; epistomal ridge very fine; supraepistomal carina V-shaped. Frontal depression triangular, anterior cavity rather deep, finely but densely punctured; median furrow coarse in depression, very fine above; V:H≈0.5.

Pronotum *ca.* 1.4× wider than long; base somewhat angularly bisinuate with broadly rounded prescutellar lobe; basal angles definitely acute; lateral margins sinuately subparallel, anterolateral angles well marked but not protruding; apical margin shallowly sinuate to both sides of subtruncated median lobe. Punctulation of disk moderately fine and sparse (much finer and denser along midline of median sulcus), broadly quadrangular prehumeral relief somewhat coarser and denser punctured; fossa very broad, ɾ-shaped, extesively dfp, broadly confluent with also very broad anterolateral, but separated from smaller rounded anteromedian, foveola.

Elytra not distinctly caudate, without subhumeral protrusion, sides appreciably divergent to midlength, then arcuately tapering to narrowly jointly rounded apices; no dfp sulci; elytral puncturation moderate, much coarser on basal than on apical parts, here and there arranged into irregular but perceptible rows; perimarginal dfp fringe wide and conspicuous all along.

Proepisterna, lateral parts of meso- and metasternum and metacoxae almost entirely dfp; perimarginal and middiscal dfp stripes on sternites broad but widely separated. Sulcus of prosternal process rather densely and coarsely punctured. Abdominal plaque moderately high, right-angled. Apex of anal sternite regularly rounded.

Variability: [10 females] 24×7.5 – 32.5×10.5 mm. Green to greenish-bronzed; no preapical cupreous-red spot on elytra. Fossae and anterior foveolae on pronotum as well as dfp fringe of elytra very broad and conspicuous.

Geographical distribution [Map 2]: New Georgia group of Solomon Archipelago. I have not been sussessful in searching for the locality Holopurm.

Remarks: Distinguishable from *C. praeclara* KERR. and *C. theryi sp.n.* in distinct perimarginal elytral dfp fringe, and from the other Solomonese relatives in total lack of cupreous preapical spot of elytra.

Cyphogastra (s.str.) granulosissima THY.

Cyphogastra granulosissima THÉRY *1923: 228-229*
Cyphogastra grensladei HOŁYŃSKI *i.l.*

Material examined:
"Cotype": "Cotype"Ọ "ILES SALOMON || POPARAC" "***Cyphogastra*** || ***granulosissima Théry*** || ***cotype*** || Théry det." "ex Coll. || A. Théry || B.M.1923-364" [♀ (BMNH)]
Additional material: 2 ♂, 263 ♀, 25 ø

Characters [Fig. 17, 18]: Males [2] 12.5×6.5 – 25×8.5, females [237] 21×6.5 – 32.5×11 mm. Green, rarely bluish or cupreous-bronzed, with more or less distinct small cupreous-red spot just before elytral tip. Median furrow of prosternal process in males with dense and long, in females shorter and sparser, erect pilosity, in both sexes much shorter and sparser along midline of metasternum; dfp areas covered with very short recumbent pubescence and rusty pulverulence; otherwise body glabrous.

Pronotum transversely subquadrangular; base rather deeply bisinuate; basal angles acute; lateral margins sinuately subparallel to well developed but not really protruding anterolateral angles; apical margin shallowly sinuate on each side of not prominent, broadly truncated median lobe; collar somewhat discernible only just at truncation. Disk rather finely and sparsely, lateral parts denser and coarser punctured; fossae usually rather narrow, subdivided into anterolateral and elongated basal parts by acutely produced anteromedian angle of prehumeral relief; anterior foveolae poorly developed; prehumeral reliefs elongately quadrangular.

Fig. 15
Cyphogastra malaitae sp.n.
♀ HT [DF], Malaita I.: Waisisi

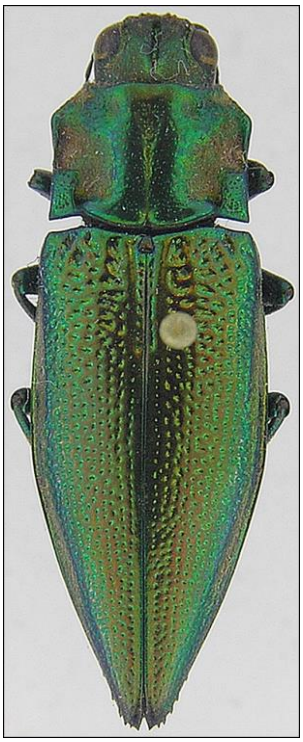


Fig. 16
Cyphogastra popei sp.n.
♀ PT [EONMP], Kolombangara I.

Fig. 17
Cyphogastra granulosissima THY.
♀ [EONMP], Bougainville I.: Kieta

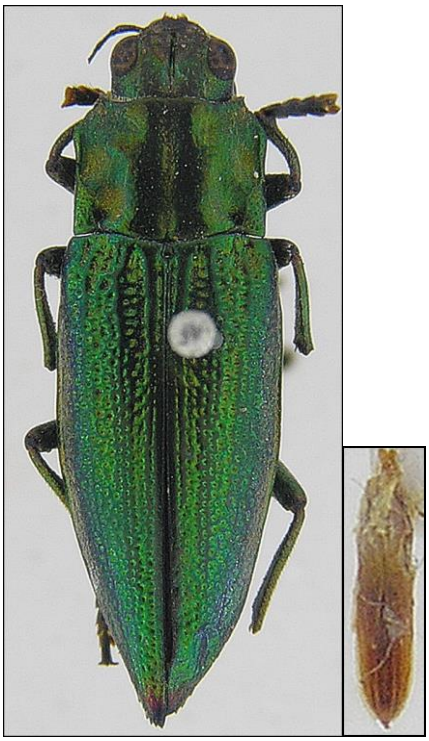


Fig. 18
Cyphogastra granulosissima THY.
♂ [BPemf], Shortland Is.: Poparag I.

Elytra not noticeably caudate: sides very slightly divergent to midlength, then cuneately tapering to jointly rounded and finely denticulate apices; no trace of subhumeral protrusion. Surface covered with moderately dense punctures, anteriorly rather coarse but becoming finer apicalwards; very fine and dense punctulation of elevated spaces between normal punctures form conspicuous, usually rather wide fringe along lateral margin; in most specimens (especially females) more or less distinctly depressed sulciform interstriae (somewhat resembling those in *C. canaliculata* THY.), often of more golden colouration and/or covered with micropunctulation similar to that in lateral fringe, alternate with normally elevated and sculptured intervals.

Proepisterna entirely, sides of sternum and metacoxae extensively dfp; bottom of broad sulcus of prosternal process in males very finely and densely punctulate, in females sparser but coarser irregularly granulate; abdominal plaque rather low, in profile usually roundedly obtuse-angled, covered with fine and sparse strigulate punctures; median part of sternites rather coarsely and sparsely punctured; perimarginal and middiscal bands broad, in male confluent. Apex of anal sternite broadly but not very deeply subtriangularly emarginate in male, rounded in female.

Geographical distribution [Map 2]: The most expansive form of the superspecies: distributed from Bougainville, Shortland, Treasury, and perhaps some (Ranongga?) of the New Georgia islands, through Sta. Isabel and Florida Is. – but I have not seen any specimen from Choiseul I., and more representative material may show that the populations from Sta. Isabel [elytra contrastingly more golden-cupreous than pronotum?] and Florida Is. deserve [sub-]specific distinction.

Remarks: Narrow, of somewhat distinctive colouration and sculpture; "*canaliculata*-type" sulci on elytra make typical *C. granulosissima* THY. unmistakable, specimens in which this feature is not clearly developed may be recognized by combination of perimarginal elytral dfp fringe with dark tarsi, relatively narrow "bipartite" pronotal fossae, poorly developed anterior foveolae, and elytra concolorous with pronotum. The "cotype" may perhaps be in fact paratype – the "*deuxième exemplaire*" mentioned in the original description (THÉRY 2023) – but I cannot now verify if it is indeed "*de taille un peu plus petite*" and if "*le fond de l'impression frontale est rouge feu et les bandes des élytres beaucoup moins visibles, mais encore sensibles*". In some collections specimens (including "HOLOTYPE" and "PARATYPE") named earlier by me as *C. greensladei* HOŁ. may be found: this is a name *in litt.*, never published.

Cyphogastra (s.str.) cristovallensis (MTR.)

Buprestis (Evides) cristovallensis MONTROUZIER *1855: 10*
Cyphogastra terminata WATERHOUSE *1885: 381*

Material examined:

Lectotype (designated hereby): "Coll. I.R.Sc.N.B. || **Iles SALOMON** || **Ile San Cristobal** || ex coll. Le Moult" "┤ B. Cristovallensis || S. Cristoval ├ **Cf.: Ann. Soc. Agr. Lyon 1855: 10** ┤ Syntype ├" [♀ (KBIN)]

Holotype [of *C. terminata* WATH.]: "Type" ♁ "Solomon Is. 83·25" "*Cyphogastra terminata (Type) Waterh.*" [ø (BMNH)]

Additional material: 18 ♀, 20 ø

Characters [Fig. 19]: Females [2] 23.5×7.5 – 30.5×10.5 mm. Green, often with some bluish or golden hue; median pronotal furrow narrowly golden-cupreous; cupreous-red preapical spot on elytra conspicuous, extreme tip bluish-black; antennae piceous-brown, tarsi testaceous. Median furrow of prosternal process with rather short, sparse, semierect pilosity,

that along midline of metasternum still shorter and sparser; dfp areas covered with very short recumbent pubescence and rusty pulverulence; otherwise body glabrous.

Lateral margins of pronotum subparallel or slightly convergent to not prominent anterolateral angles. Median furrow often very finely and densely, disk otherwise rather finely and sparsely, lateral parts denser and coarser punctured; fossae rather broad, sometimes partly subdivided by acutely produced anteromedian angle of prehumeral relief; anterior foveolae well developed.

Elytra not caudate, sides slightly divergent to midlength, then cuneately tapering to jointly rounded and finely denticulate apices; no trace of subhumeral protrusion. Surface regularly convex; puncturation moderately dense, anteriorly rather coarse but becoming finer apicalwards; perimarginal dfp fringe poorly developed, often hardly discernible.

Proepisterna entirely, sides of sternum and metacoxae extensively dfp; abdominal plaque rather low, in profile usually roundedly obtuse-angled, covered with fine and sparse strigulate punctures; median part of sternites rather coarsely but not densely punctured; perimarginal and middiscal dfp stripes rather wide. Apex of anal sternite regularly rounded (female). Male unknown.

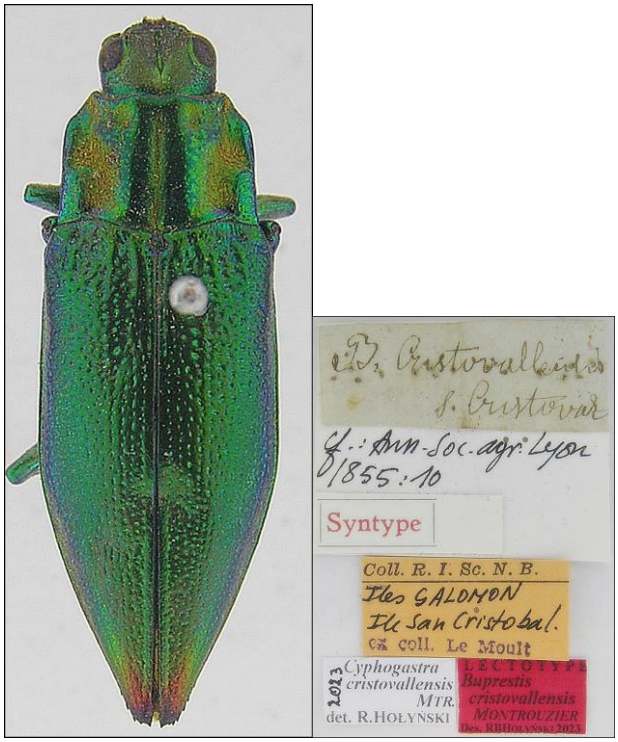


Fig. 19
Cyphogastra cristovallensis MTR.
♀ LT [KBIN], S.Cristobal I.

Fig. 20
Cyphogastra santaecrucis KERR.
♀ [BPemi], Sta.Cruz Is.: Reef I.

Geographical distribution [Map 2]: San Cristobal and surrounding islets (Ugi, Sta. Ana).

Remarks: Differs from *C. santaecrucis* KERR. in golden, distinctively punctulated median pronotal sulcus and poor development of perimarginal elytral dfp fringe; from all the other Solomonese relatives in yellow tarsi. *C. terminata* WATH. is usually either mistakenly treated as ***senior*** synonym of either *C. cristovallensis (*MTR.*)* or – despite yellow tarsi – *C. praeclara* KERR.

Cyphogastra (s.str.) santaecrucis KERR.

Cyphogastra Santae Crucis KERREMANS *1895: 205*

Material examined:

Holotype: "Type"Θ "Santa Cruz, Heyne" "*SantaeCrucis Kerr. Type*" "Kerremans 1903·59" [ø (BMNH)]

Additional material: 7 ♀

Characters [Fig. 20]: Females [7] 23.5×8 – 27×8.5 mm. Green to greenish-bronzed; cupreous-red preapical spot on elytra conspicuous, extreme tips bluish-black; antennae brown, tarsi testaceous. Pilosity of median furrow of prosternal process and along midline of metasternum short, sparse; dfp areas densely covered with very short recumbent pubescence and rusty pulverulence; otherwise body glabrous.

Pronotum transversely quadrangular, subparallelsided, anterolateral angles relatively poorly accentuated. Disk finely and sparsely, lateral parts denser and coarser punctured; fossae rather broadly ɾ-shaped, extensively dfp; anterior foveolae well developed but not very broad.

Elytra not caudate, subparallelsided to midlength, then cuneately tapering to jointly rounded and finely denticulate apices; no trace of subhumeral protrusion. Surface regularly convex; puncturation moderate, becoming finer towards apices; perimarginal dfp fringe conspicuous, wide all along.

Proepisterna entirely, sides of sternum and metacoxae extensively dfp; abdominal plaque low, obtuse-angled, sparsely covered with fine strigulate punctures; median part of sternites rather coarsely but not densely punctured; perimarginal and middiscal dfp stripes prominently developed but widely separated. Apex of anal sternite regularly rounded (female). Male unknown.

Geographical distribution [Map 2]: KERREMANS (1895, 1910), followed by OBENBERGER (1926), treated it as a Philippinese species, mistakenly considering "*Santa-Cruz de Luçon: Philippines*" as the type-locality; in fact, *C. santaecrucis KERR.* is evidently a – geographically remotely peripheral – member of ***melanesian*** *[granulosissima]*-superspecies, and indeed all specimens examined by me originated from ***melanesian*** Santa Cruz Is. (politically easternmost island group of Solomons, geographically norhernmost of New Hebrides).

Remarks: Closest relative of *C. cristovallensis (MTR.)* – see **Remarks** to that species for differences.

***Woodlarkiana*-circle**

Remarks: Apparently taxonomically close [but differing immediately in entirely (bluish-, bronzed- or coal-) black colouration], and distributed vicariantly (eastern part of northern New Guinea, D'Entrecasteaux and Louisiade archipelagoes), to the *Gloriosa*-circle; in contrast to the latter, differences between the included species-level taxa are usually unambiguously diagnosable morphologically and their geographical distribution (relictual? result of overcompetition by members of the *Albertisi*-c.?) restricted to very narrowly delimited areas (single islands, single locality on "mainland" New Guinea).

Key to the identification of species of the *Woodlarkiana*-circle

1 (4) Elytra finely to moderately punctured; perimarginal stria narrow and rather shallow, with no trace of dfp sculpture. Median sulcus of prosternal process wider than lateral rims. Hind angle of abdominal plaque obtuse and usually broadly rounded in profile

2 (3) Dorsally bluish-black, ventrally blackish-blue or blackish-green. Elytra parallelsided in basal half ..... ***C. (s.str.) azureoatra HOŁ.***

3 (2) Entirely black, with at most some golden reflexes on ventral side. Sides of elytra slightly but distinctly divergent to midlength ..... ***C. (s.str.) punctatissima KERR.***

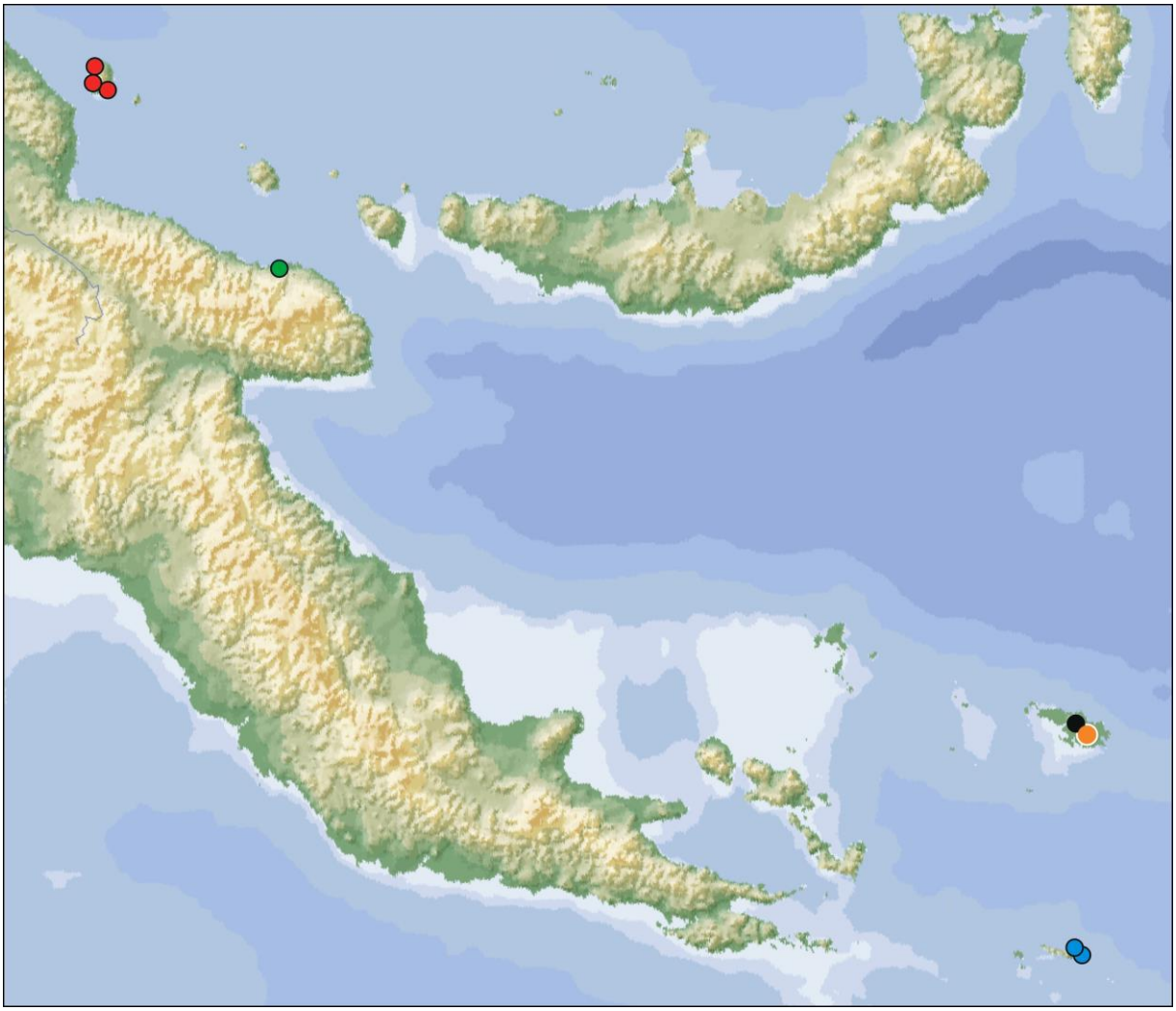
4 (1) Elytra very coarsely punctured; perimarginal stria somewhat deepened, more or less distinctly dfp. Median sulcus of prosternal process narrower than lateral rims. Abdominal plaque more or less right- or even acute-angled in profile

5 (6) Elytra markedly caudate, definitely widened at midlength ***C. (s.str.) personata sp.n.***

6 (5) Elytra not or at most moderately caudate, parallelsided in anterior half

7 (8) Body length >30 mm. Ventral sides in both sexes uniformly piceous-black with at most slight metallic reflexions ..... ***C. (s.str.) woodlarkiana (MTR.)***

8 (7) Length of body <30 mm. Ventral side definitely violaceous-blue (female) or abdomen non-metallic testaceous-brown towards apex ***C. (s.str.) montrouzieri THY.***



Map 3

Geographical distribution of the *Woodlarkiana*-circle

● – *C. punctatissima KERR.*; ● – *C. personata sp.n.*; ● – *C. atroazurea HOŁ.*; ● – *C. woodlarkiana (MTR.)* ; ● – *C. montrouzieri THY.*

[larger symbol encircled in white – general area: exact locality unknown]

Cyphogastra (s.str.) atroazurea HOŁ.

Cyphogastra atroazurea HOŁYŃSKI *2016: 59-60*

Material examined:

Holotype: „*P.N.G. MOROBE, MISIMA ISL, VII. 1974*" [♂ (RBH: BP:emu)]

Paratypes: "*New Guinea, Bwagadia, Misma* [*sic!*], *XII. 1991*" "COLL., W.KRONBLAD., SWEDEN." "COLL., W.KRONBLAD., SWEDEN." [*sic!*: 2 identical labels] "*Cyphogastra cyanipes Kerr.*" [1♂ (WK)]; „*Papua N. Guinea, Milne Bay Prov., Misima I. Jan. Feb. 1978, Coll. per P. Clark*" [1♀ (RBH: BP:emt)]; „*APRIL 78, BOIOU, MISIMA*" [1♀ (CLB)]

Additional material: None

Characters [Fig. 21, 22]: Males [2] 27.5×8.5 – 30.5×9.5; females [2] 35×11 – 38×12.5 mm. Dorsal side black with distinct (less so in artificial light!) violaceous-blue shine, dfp depressions more or less golden-green; colouration of ventral side usually predominantly greenish, but at least lateroapical margins of anal sternite bordered violaceous; antennae and legs (with tarsi) black. Prosternal process and median parts of metasternum with short, erect, rather sparse white pilosity, dfp areas covered with dense recumbent pubescence, otherwise body glabrous.

Front wider than long, sides definitely divergent; frontal depression almost impunctate except for rather deep, irregularly transversely quadrangular anterior cavity; V:H≈0.55.

Pronotum transverse, sides subparallel to protruding anterolateral angles and abruptly obliquely truncated to distinctly marked collar. Fossae deep, regularly C-shaped, bottom narrowly dfp; anterior foveae deep, obliquely elongated, dfp at bottom.

Elytral sides obliquely truncated at humeri, slightly sinuately divergent on basal sixth, parallelsided to *ca.* basal third, and narrowly cuneately tapering to distinctly caudate and sharply denticulate apices; puncturation coarse on basal fourth of disk, becoming progressively finer (but everywhere distinct) backwards and to some extent sidewards.

Proepisterna almost entirely, very regularly dfp; prosternal process narrowly, deeply sulcate. Abdominal plaque rather low, its outline in lateral aspect flatly S-shaped (both – re-entrant at base and convex at top – angles broadly rounded); midlateral dfp stripes on abdomen distinct and rather wide but poorly delimited; apex of anal sternite broadly paraboloidally emarginated (♂) or very shallowly, inconspicuously emarginated (♀).

Geographical distribution [Map 3]: Known only from Misima Island.

Remarks: The closest relative of *C. atroazurea* HOŁ. – *C. punctatissima* KERR. (or at least what I consider to be *C. punctatissima* KERR.: see below remarks on that name) – differs from it in several, not easy to formulate or quantify, characters: black (with no distinct metallic shine) elytra and also black (with or without plumbeous-bronzed – never green or blue – hue) pronotal and ventral colouration; more robust body with elytra more or less distinctly widened to near midlength, more broadly cuneate, apically coarser punctured; abdominal dfp stripes more regular and better developed; anal sternite with short (rarely absent) preapical carinula along midline; *&c*. Still more robustly built *C. personata sp.n.* has elytra more distinctly widened to midlength, definitely more conspicuously caudate, and coarser sculptured; *C. woodlarkiana* MTR., is dorsally piceous brownish-black, much coarser sculptured, with broader and less regular pronotal fossae, perimarginal furrow behind elytral humeri deep and conspicuously dfp, wide (wider than smooth lateral parts) median furrow of prosternal process, abdominal plaque prominent and definitely angular in lateral aspect, *&c*.; at last, *C. montrouzieri* THY. is smaller, dorsally piceous-black, much coarser sculptured, with right-angled abdominal plaque and male anal sternite non-metallic ferrugineous-brown towards apex.

Fig. 21
Cyphogastra atroazurea HOŁ.
PT ♂ (WK) Misima I.: Bwagadia,

Fig. 22
Cyphogastra atroazurea HOŁ.
PT ♀ (RBH: BPemt) Misima I.

Fig. 23
Cyphogastra punctatissima KERR.
♀ (RBH: BPemo) Karkar I.: Kevasop

Fig. 24
Cyphogastra personata sp.n.
HT ♀ (BPBM) PNG: Morobe Pr.: Wasu

Cyphogastra (s.str.) punctatissima KERR.

Cyphogastra punctatissima KERREMANS 1895: 203-204.

Material examined:

Syntype: „Type" „N.Guinée, Stauding." "*punctatissima Kerr. Type*" "Kerremans 1903-59" [1ø (BMNH)]

Additional material: 11 ♀

Characters [Fig. 23]: Females [11] 31.5×9.5 – 37.5×12 mm. Uniformly coal-black, moderately lustrous. Glabrous (dorsally) or almost so (ventral side) except for rather sparsely setose medial furrow of sternum and densely pubescent dfp areas.

Pronotal sides slightly convergent or parallel; anterolateral angles slightly but distinctly protruding; anterior foveolae not very large but (at least anteromedian) well developed, anterolateral usually narrowly sulciform; fossae rather narrowly c-shaped, not divided into basal and anterolateral parts, dfp bottoms moderately extensive; prehumeral reliefs elongately quadrangular.

Elytra definitely caudate; subhumeral potrusions barely marked; sides sloghtly but distinctly widened to *ca*. midlength, then shallowly sinuately tapering to narrowly jointly rounded and finely denticulate apices; elytral puncturation moderately coarse, mostly irregular.

Median sulcus of prosternal process wider than almost smooth marginal rims Proepisterna entirely or almost so, metasternal sides extensively dfp, perimarginal and midlateral dfp stripes on abdomen narrow but well developed, arcuate dfp depressions partly encircling elevated reliefs on sides of sternites not conspicuous; abdominal plaque rather low, in profile roundedly obtuse-angled; anal sternite rounded, with minute shallow emargination at middle of tip (♀); male unknown.

Geographical distribution [Map 3]: Described from "Nouvelle Guinée" but apparently ndemic to Karkar: all exactly labelled specimens examined by me originate from that island.

Remarks: My concept of *C. punctatissima KERR.* has been based on the examination (done long ago…) of the "Type" [apparently ***syn***type: KERREMANS (1895) gives a ***range*** of sizes, so evidently had more than one type-specimen] in BMNH. However, the original description (repeated in KERREMANS 1910 and matching the characters used in the key therein) reads "*tête verdâtre, sombre; pronotum vert sur le disque, noirâtre sur les côtés; élytres d'un vert bleuâtre peu brilliant, la suture postérieure et l'apex sombres; dessous noirâtre à reflets d'un cuivreux obscur*", whereas all specimens I have ever seen were black with or without slight plumbeous or bronzed (***not*** green) hue, with no discernible contrast between disk and sides, and elytra uniformly black without any metallic shine or distinctive sutural or apical colouration! It is not clear how to interpret so serious disparity: has KERREMANS erroneously described his type-series? or the description reflects the characteristics of another, not specifically mentioned in the original description, syntype (whose whereabouts remain unknown) different from that studied by me? or the BMNH specimen has been erroneously marked as "Type"? or I have inexactly made the comparison of the BMNH "Type" with my specimen (I have no possibility to check this now, but even my lack of experience at the time of my first visit to London – 1978, when the comparison had been made) – does not make the unconditional acceptation of [bluish-]green specimen as true type of a species represented by uniformly pure black specimens)? Anyway for the moment I cannot think of better solution than to accept my specimens, directly or indirectly compared to the BMNH "Type", as true *C. punctatissima KERR.*

Cyphogastra (s.str.) personata sp.n.

Cyphogastra Froggathi v. nigra THÉRY *1947: 664 [issp.]*

Material examined:

Holotype: "NEW GUINEA: NE || Morobe District || Wasu, 0-100m. || IX. 1968" "N.L.H.Krauss || Collector || BISHOP MUSEUM" [♀ (BPBM)]

Type: „Type"♂ „New Guinea, Coll. No. 9364, J.L.Froggatt" "C.2816" "*Froggathi v. nigra Théry Type*" "Pres. by Imp. Inst. Ent., B.M. 1947.105" "=*Cyphogastra punctatissima Kerr., B.Levey det. 1970*" [1ø (BMNH)]

Additional material: none

Holotype [Fig. 24]: Female 32.5×10 mm. Totally black, moderately lustrous. Sternum along median line and abdominal plaque with short, rather sparse, white erect pilosity, dfp areas very densely recumbently pubescent and covered with orange pulverulence, body otherwise glabrous.

Epistome deeply arcuately emarginated; epistomal ridge sharp but rather low, supraepistomal carina coarse, somewhat irregular, transverse, narrowly interrupted at middle. Frontal depression elongately triangular, reaching far beyond upper margins of eyes, above almost impuncate, anterior cavity coarsely irregularly sculptured; median furrow rather inconspicuous; V:H≈0.5.

Pronotal base shallowly trisinuate (very broad prescutellar lobe almost straightly truncate); basal angles acute; lateral margins slightly but distinctly convergent; anterolateral angles barely protruding; apical margin sinuate on both sides of shallowly arcuate median lobe. Median sulcus moderately broad, dfp along midline, stria very fine. Dfp fossae broadly c-shaped, bottoms widely dfp; anterior foveolae relatively large, anteromedian somewhat ovate, anterolateral connected to fossa by fine sulcus; prehumeral reliefs somewhat rhomboidal, coarsely punctured.

Elytra markedly caudate, subhumeral protrusion barely indicated, sides shallowly sinuately divergent to midlength, then also sinuately tapering to obliquely truncated, finely denticulate (with sutural denticle distinctly broader and longer) apices; no dfp sulci; elytral puncturation moderate, somewhat coarser on basal than on apical parts, mostly arranged into somewhat irregular rows.

Lateral and median thirds of proepisterna dfp, very irregular mostly impunctate space runs along middle; lateral parts of meso- and metasternum and metacoxae almost entirely dfp; perimarginal stripe on sternites barely noticeable, middiscal rather narrow, nearly contiguous. Sulcus of prosternal process *ca.* as wide as lateral rims. Abdominal plaque rather highly elevated, almost right-angled in profile. Apex of anal sternite rounded with minute shallow emargination at middle.

Variability: Unknown.

Geographical distribution [Map 3]: Known only from Wasu at the north coast of the Huon Peninsula.

Remarks: Looks somewhat intermediate between *C. punctatissima* KERR. and *C. wodlarkiana (*MTR.*)*, differing from the former in more extensive pronotal dfp areas, and somewhat coarser elytral puncturation; from the latter in not so coarse sculpture and narrower medial sulcus of prosternal process, and from both in distinctly convergent pronotal sides, more strongly caudate elytra, right-angled profile of abdominal plaque [roundedly obtuse-angled in *C. punctatissima* KERR., acute-angled in *C. wodlarkiana (*MTR.*)*], and some minor details; *C. atroazurea* HOŁ. and *C. montrouzieri* THY. differ in more or less distinctly bluish colouration, subparallelsided anterior half of but slightly caudate elytra, *&c.*

Cyphogastra (s.str.) woodlarkiana (MTR.)

Buprestis (Evides) woodlarkiana MONTROUZIER 1855: 10-11
Evides goryi BOHEMAN 1858: 59

Material examined:
Lectotype [hereby designated]**:** „SYNTYPE" [♂ (MNHN)]
Paralectotype: „SYNTYPE" [♀ (MNHN)]
Holotype [of *goryi*]**:** „Sidney" „[Dr.] Kinb.[erg]" „Type" „Goryi Bhm. Eugen. Kelda" „Naturhistoriska Riksmuseet Stockholm, Loan no 111/99" [♀ NHRM]
Additional material: 2 ♀

Characters [Fig. 25, 26]: Male [1] 32×10, female [4] 31×9.5 – 36×12 mm. Piceous black, ventral side with slight greenish-blue lustre. Rather sparsely erectly setose along median line of sternum and abdominal plaque, dfp areas densely recumbently pubescent, otherwise glabrous but all depressed parts (including coarse punctures) filled with rusty pulverulence.

Pronotal sides subparallel; anterolateral angles slightly protruding; anterior foveolae rather large, sulciformly elongated, anterolateral connected to broadly ɾ-shaped, in female obliquely divided into basal and anterolateral parts fossa; prehumeral reliefs subrhomboidal.

Elytra slightly to moderately caudate; subhumeral potrusions barely marked; apices denticulate; perimarginal dfp striola distinct, otherwise elytral puncturation very coarse, mostly irregular.

Proepisterna partly, metasternal sides extensively dfp, midlateral dfp stripes on abdomen narrow, perimarginal practically non-existent; abdominal plaque in profile acute-angled; apex of anal sternite broadly and deeply subtriangularly emarginated in male, rounded with minute shallow emargination at middle in female.

Geographical distribution [Map 3]: *Buprestis woodlarkiana MTR.* described from Woodlark Is., *Evides goryi BOH.* from "Sidney", none of the other specimens examined by me bore any locality label; if *C. woodlarkiana (MTR.)* proves indeed taxonomically different from *C. montrouzieri THY.*, and if Woodlark Is. is the true distribution area of the species (the provenience from Sydney being highly unlikely), then we have here an interesting case of sympatry or near-sympatry (the – single – exact locality is known only for *C. montrouzieri THY.*!) between two close relatives (or at least subspecifical differentiation within very small archipelago) – the effect of double invasion followed by sympatric displacement?

Remarks: No identification label was attached to the MNHN specimens, but they reasonably match both (MONTROUZIER's and BOHEMAN's) original descriptions, KERREMANS' (1910) redescription, THÉRY's (1926) remarks comparing his "*ssp. Montrouzieri*", and my notes on the type of *C. goryi BOH.*, while clearly differing from any other conceivable candidate, so in my opinion their attribution to *Buprestis woodlarkiana MTR.* and designation as lecto- and paralectotype is justifiable –indeed, considering the unclear taxonomical and nomenclatural relations within this group, highly desirable. The specimens available for examination show *C. woodlarkiana (MTR.)* as a very well characterized, easy to recognize species: its large, robust, coarsely sculptured, uniformly bronzed-black body with prominent anterolateral angles of pronotum, broadly dfp pronotal depressions (fossae and anterior foveolae), subparallelsided basal half of slightly but distintly caudate elytra, distinctly (at least anteriorly) dfp perimarginal striola, *&c.*, seems to make it practically unmistakable; however, very scanty material [type series (two unlabelled specimens) of *Buprestis woodlarkiana MTR.* and holotype (labelled as "*Sidney*") of *Evides goryi BOH.*] does not warant too much confidence...

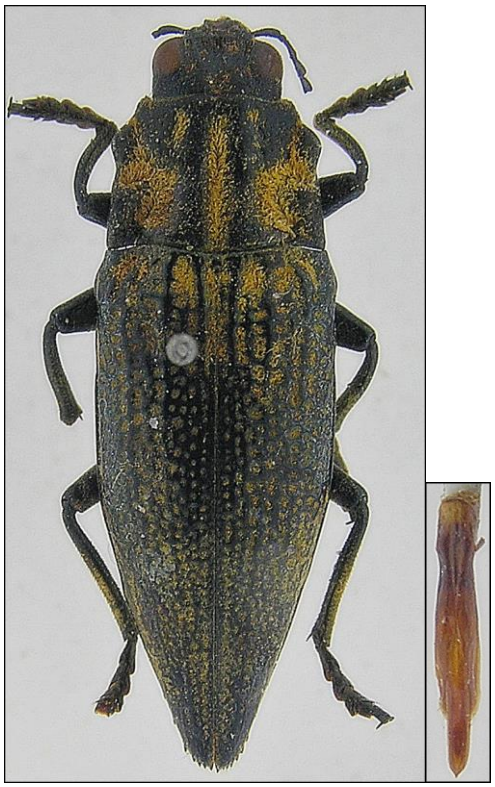


Fig. 25
Cyphogastra woodlarkiana (MTR.)
♂ LT [MNHN] no label

Fig. 26
Cyphogastra woodlarkiana (MTR.)
♀ PLT [MNHN] no label

Fig. 27
Cyphogastra montrouzieri THY.
♂ (RBH: BPeml) Woodlark I.

Fig. 28
Cyphogastra montrouzieri THY.
♀ LT (MNHN) Woodlark I.

Cyphogastra (s.str.) montrouzieri THY.

Cyphogastra Woodlarkiana ssp. Montrouzieri THÉRY *1926: 69-70*

Material examined:

Lectotype [hereby designated]**:** "Woodlark Insel" "*Staudinger*" "PARATYPE" "*C. Woodlarkiana* || *var. Montrouzieri* || *Théry* || *paratype* || A. Descarpentries det." [♀ (MNHN)]

Additional material: 3 ♂, 14 ♀

Characters [Fig. 27, 28]: Males [3] 28×9 – 30×9, females [15] 20.5×6 – 30×9.5 mm. Dorsal side piceous black, ventral in female bluish-violaceous, in male sternum and abdominal base black with slight bluish lustre transgressing into non-metallic ferrugineous on apical sternites. White erect pilosity along median line of sternum rather short, dfp areas densely recumbently pubescent and covered with orange pulverulence, body otherwise glabrous.

Pronotal sides subparallel or slightly convergent; anterolateral angles not protruding; anterior foveolae variously developed but usually rounded and separated from also variable, broadly ɾ-shaped, often obliquely divided into basal and anterolateral parts fossae; prehumeral reliefs elongate, rather coarsely punctured.

Elytra more or less appreciably caudate; no subhumeral potrusions; apices denticulate; elytral puncturation coarse, partly aranged into rows.

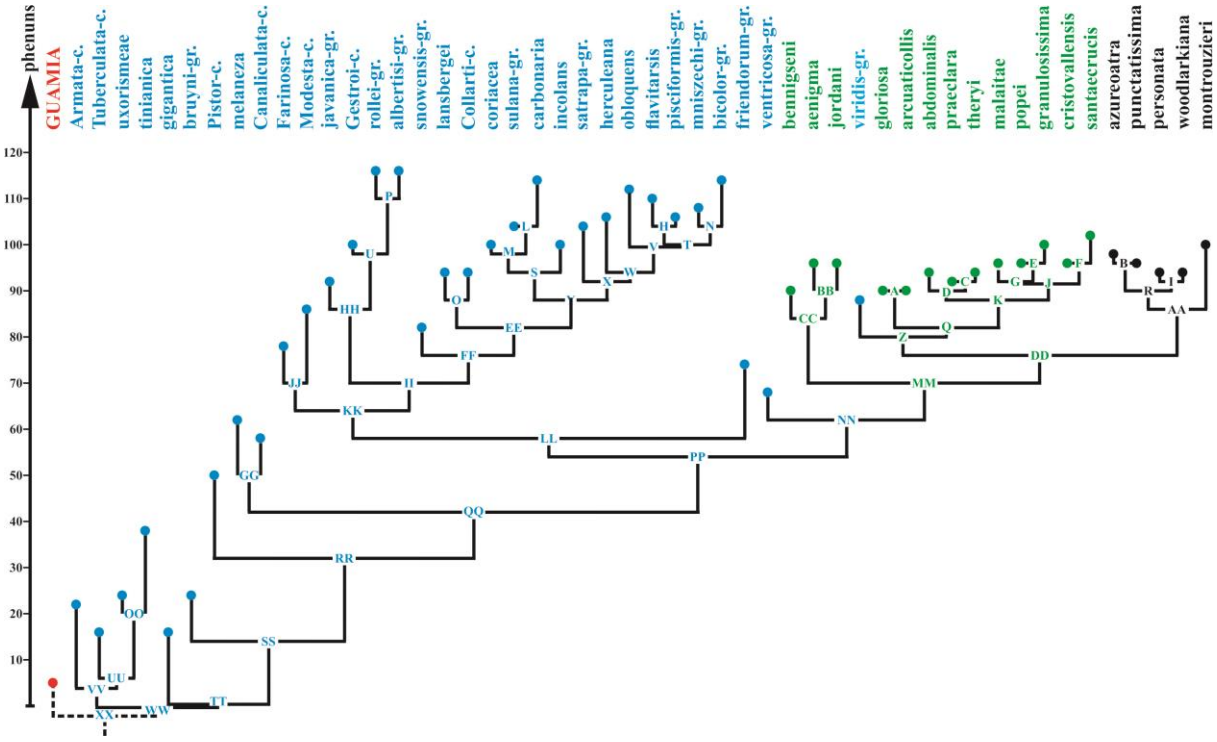
Proepisterna entirely dfp, metasternal sides almost so, midlateral dfp stripes on abdomen well developed, perimarginal practically lacking; abdominal plaque rather high, in profile right- to somewhat acute-angled; apex of anal sternite broadly and deeply subtriangularly emarginated in male, rounded with minute more or less deep emargination at middle in female.

Geographical distribution [Map 3]: Woodlark Is. (the only known exact locality is Kulumadau on the main – Murua – island of the group).

Remarks: Smaller than *C. woodlarkiana (MTR.)*, somewhat less coarsely sculptured, with not protruding anterolateral pronotal angles, violaceous-blue ventral side in female, non-metallic apical parts of abdomen in male, apical incision on female anal sternite usually deeper – more, exactly labelled material [especially of *C. woodlarkiana (MTR.)*] is needed to clarify the meaning (specific? subspecific? varietal?) of these differences.

Phylogenetical reconstruction

The present analysis, aimed at the clarification of phylogenetic structure and immediate affinities ("sister-group") of the *Gloriosa*- and *Woodlarkiana*-circles, has been based almost exclusively on the characters variable within these two taxa, what makes its "by-product" – the suggested relationships ***among the non-target groups*** – by definition irreliable and not worth special commenting. Thus, our further considerations start with **PP** [relatively small, dorsally somewhat bicolorous (pronotum greenish, elytra bronzed with bluish-black extreme tips), ventral side green, tarsi dark; pronotum subparallelsided with anterolateral angles well marked but not protruding outwards; anterior foveolae distinct; fossa broadly c-shaped, extensively dfp; non-caudate elytra without subhumeral protrusion or dfp depressions, its puncturation moderately coarse; proeisterna partly dfp; abdominal plaque low, roundedly obtuse-angled in profile; marginal dfp stripe of anal sternite inconspicuous, midlateral moderately developed] and one of its immediate descendants [**NN**: elytra uniformly green with narrow perimarginal dfp sulci; abdominal plaque prominent, right-angled], probably inhabiting what is now westernmost New Guinea (Vogelkop peninsula).



If I properly interpret the palaeogeographic and palaeoclimatic reconstructions published by geologists (*e.g.* HALL 2002), the bifurcation of the **NN** clade might have occurred in Late Miocene (somewhere between *ca.* 10 and 5 million years ago), when the terranes of the Southern Caroline Arc, in their westward movement, approached the northwestern coast of "continental" New Guinea, allowing one of the "daughter" taxa, the ancestor (**MM**: elytral tip cupreous-red, somewhat extended anterad into short lateroapical streak; no dfp sulci on elytra; no distinctly elevated abdominal plaque] of the clade including both target circles (the *Gloriosa*- and *Woodlarkiana*-), to invade and spread over the island chain up to what is now New Britain, leaving the ancestral *Ventricosa*-circle [elytral tip black, perimarginal sulcus on elytra broad, proepisterna non-dfp] on the "mainland". One branch of **MM** [**CC**: lateroapical cupreous elytral streak extended anterad, male anal sternite non-metallic brown, pronotal fossae less extensively dfp, prehumeral reliefs rhomboidal, abdominal plaque low but distinctly elevated, lateral dfp stripes on abdomen extensive] invaded the (just emerging off the NE-end of proto-New Britain) islets of the north-western part of the present Bismarck Archipelago, then splitting into *C. bennigseni* KERR. [elytra bronzed, anterior pronotal foveolae inappreciable, fossae not dfp] on Hermit Is. and more eastern **BB** [larger, anterolateral angles of pronotum projecting outwards, fossae extensively dfp], the ancestor of *C. aenigma sp.n.* [small, bronzed, prehumeral relief tetragonal, distinct subhumeral dfp stripe, proepisterna entirely dfp] from Manus Is. and *C. jordani* THY. [large, anterior pronotal foveolae extensively dfp, joining fossae, dorsal sculpture very fine] inhabiting St. Matthias island group. Following the final accretion of western and middle terranes of the former S-Caroline Arc to northwestern (W of *ca.* the Astrolabe Bay) New Guinea **CC**'s sister-group [**DD**: large, elytral tip concolorous] spread over the nearly entire northern coast and subsequently divided (at *ca.* lower Ramu Riv.) into very slightly modified [elytral tip concolorous, fossae moderately dfp] western **Z** and somewhat more differentiated [body black, proepisterna entirely dfp, abdominal plaque in profile right-angled] south-eastern **AA**, the ancestor of the *Woodlarkiana*-circle. As one of the "daughters" of **Z** – having

originated, perhaps, in the lower Ramu valley – appears *C. viridis* KERR.-group [elytral tip black, no lateroapical streak, distinct subhumeral protrusion], hitherto (as reconstructed in the earlier parts of the **Review**) considered rather a relative of *Bruyni*-c. The appearance of *Viridis*- and *Woodlarkiana*-circles on "mainland" effectively subdivided the remainder [**Q**: elytral tip cupreous-red] of the *Gloriosa*-c. (the paraphyletic ancestor of both) into westernmost [**A**: large, lateroapical cupreous streak extended anterad, anterolateral pronotal angles protruding] ancestor of barely distinguishable *C. gloriosa* GST. (Biak I.) and *C. arcuaticollis* KERR. (Mafor I.), and eastern (New Britain) **K** [pronotal fossae broadly dfp, traces of perimarginal elytral dfp, perimarginal dfp stripe on abdomen well developed]. **K** invaded islands of the Solomon Arch. to evolve there into **J** [small body, proepisterna entirely dfp], while the almost unchanged [only perimarginal dfp fringe disappeared] population remaining on New Britain (**D**), having colonized New Ireland to become **C** [abdominal plaque low], itself further evolved into *C. abdominalis* WATH. [no contrast between cupreous lateroapical streak and the rest of elytral surface, abdominal plaque highly elevated]. According to the present reconstruction **C** did not differ in anything from recent *C. praeclara* KERR., whose daughter-group is hardly distinguishable [proepisterna entirely dfp] *C. theryi sp.n.* from the near-opposite end of the Solomon chain (Guadalcanal I.)! Two hypotheses seem possible: either **C** was widely distributed from New Hannover and New Ireland all along the Solomon Arch. to Guadalcanal, having been later overcompeted on intermediate islands by the representatives of the *C. [granulosissima* THY.*]*-supersp. and survived only on both ends, or the similarity of *C. theryi sp.n.* to *C. praeclara* KERR. is only convergent.

J, the ancestor of the *C. [granulosissima* THY.*]*-superspecies, left two "daughters": the (at least as regards the characters used in the analysis) unchanged **G** (on New Georgia group?) and **F**=*C. cristovallensis* MTR. [yellow tarsi] on San Cristobal, which had later colonized the remote (politically still belonging to Solomons, but geographically the northernmost periphery of New Hebrides) Santa Cruz Is. to evolve there into *C. santaecrucis* KERR. [dfp bottoms of pronotal fossae moderately broad, prehumeral reliefs rhomboidal, perimarginal dfp fringe on elytra wide]. **G**, after having invaded Malaita I. (the result being *C. malaitae sp.n.*: pronotal fossae moderately dfp, abdominal plaque right-angled in profile) evolved *in situ* into **E**=*C. popei sp.n.* [anterior pronotal foveolae broad, perimarginal elytral dfp fringe prominent] and then colonized Bougainville I. to form there the best known member of the superspecies: *C. granulosissima* THY. [elytra with more or less conspicuously, differentiated linear longitudinal striae; perimarginal dfp stripes on abdomen inappreciable].

AA seems to have been widely distributed from the lowlands around the Astrolabe Bay to the southeastern tip of the Papuan Peninsula; from there it invaded Louisiade Archipelago to evolve there [smaller body, violaceous ventral side, unmetallic brownish male anal sternite, poorly marked anterolateral angles of pronotum, coarse sculpture, slight but distinct perimarginal posthumeral dfp fringe] into *C. montrouzieri* THY., while "continental" populations developed larger body and but partly dfp proepisterna to become **R** and transspeciate [sympatrically???] into **B** [pronotal fossae moderately dfp, proepisterna entirely dfp, abdominal plaque low] and **I** [anterior foveolae very broad], both occupying essentially the same, "maternal" (inherited from **R**) area, and both recently represented by pairs of remotely disjunct relicts (?): respectively [unmodified] *C. punctatissima* KERR. on Karkar I. and *C. azureoatra* HOŁ. [body with distinct bluish lustre] on Misima I., and *C. personata sp.n.* [prehumeral reliefs rhomboiodal] on the north coast of Huon Peninsula and *C. woodlarkiana* MTR. [very coarse sculpture, distinct posthumeral dfp fringe, abdominal plaque acute-angled in profile] on Woodlark Is. (sympatric with *C. montrouzieri* THY. – double invasion!).

Acknowledgements

It is my duty and great pleasure to express deep gratitude to my Czech Colleagues, Dr. Lukáš SEKERKA (EONMP) and David FRANK for always friendly, helpful cooperation and the loan of the *Cyphogastra*s from the collections under their care.

Literature:

BOHEMAN C.H. 1858. Coleoptera, species novas descripsit. *In: Kongliga Svenska Fregatten Eugenies Resa omkring Jorden under befäl af C. A. Virgin, Åren 1851-1853. Volume 2 (Zoologi, 1, Insecta)*. **Stockholm: Norstedt & Söner [4: 1-217]**: 1-127

BOISDUVAL J.A. 1835. Voyage de découvertes de l'Astrolabe exécutée par ordre du Roi, pendant les années 1826-1827-1828-1829, sous les commandement de M.J. Dumont d'Urville. Faune entomologique de l'Océan Pacifique avec l'illustration des insectes nouveaux recueillis pendant le voyage. Deuxième partie. Coléoptères et autres ordres. **Paris: Tastu:** 1-716

DESCARPENTRIES A. 1956. Note sur des Buprestides peu connus ou nouveaux [COL.]. *Bull. Soc. Ent. Fr.* **61**, 6: 228-231

DEYROLLE H. 1864. Description des Buprestides de la Malaisie recueillis par M. Wallace. *Ann. Soc. Ent. Belg.* **8**: 1-272; 305-312

GESTRO R. 1877. Aliquot Buprestidarum novarum diagnoses. *Ann. Mus. Civ. St. Nat. Genova* **9**: 351-362

HALL R. 2002. Cenozoic geological and plate tectonic evolution of SE Asia and the SW Pacific: computer-based reconstructions, model and animations. *J. Asian Earth Sci.* **20**: 353-431

HOŁYŃSKI R.B. 2001. MICSEQ, a new method of phylogenetic analysis, with example reconstruction of *Dicercomorpha* DEYR. (*Coleoptera: Buprestidae*). *Ann. Upp. Sil. Mus. (Ent.)* **10-11**: 139-158

HOŁYŃSKI R.B. 2016. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) I. Mysteries of early evolution: *Pleiona DEYR.* and sg. *Guamia THY. Procrustomachia* **1**, 5: 72-95

HOŁYŃSKI R.B. 2020a. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) II. The *Tinianica-*, *Armata-*, *Uxorismeae-*, *Bruyni-* and *Flavimana*-circles. *Procrustomachia* **5**, 3: 29-59

HOŁYŃSKI R.B. 2020b. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) III. The *Tuberculata-*, *Satrapa-* and *Collarti*-circles. *Procrustomachia* **5**, 6: 67-100

HOŁYŃSKI R.B. 2020c. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) IV. The *Gestroi-* and *Javanica*-circles. *Procrustomachia* **5**, 6: 101-130

HOŁYŃSKI R.B. 2021. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) V. The *Farinosa-* and *Canaliculata*-circles. *Procrustomachia* **6**, 4: 19-48

HOŁYŃSKI R.B. 2022a. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) VI. The *Modesta-*, *Obloquens-*, *Ventricosa-*, and *Pistor*-circles. *Procrustomachia* **7**, 1: 1-38

HOŁYŃSKI R.B. 2022b. Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**) – VII. The *Albertisi*-circle. *Procrustomachia* **7**, 6: 81-128

HOŁYŃSKI R.B. 2023 Review of the *[Cyphogastra DEYR.]*-supergenus (**Coleoptera: Buprestidae**). Supplementary descriptions and notes. *Procrustomachia* **8**, 3: 17-34

KERREMANS C. 1895. Buprestides Indo-Malais. Deuxième partie. *Ann. Soc. Ent. Belg.* **39**, 4: 192-224

KERREMANS C. 1898. Buprestides nouveaux de l'Australie et des régions voisines. *Ann. Soc. Ent. Belg.* **42**, 3: 113-182

KERREMANS C. 1910. Monographie des Buprestides. **Bruxelles: Janssens 4**, 6-9: 161-288

KERREMANS C. 1919. Descriptions de Buprestides nouveaux. *Ann. Soc. Ent. Belg.* **59**, 3: 41-62

KIRSCH T. 1885. Drei neue Cyphogastra-Arten. *Berl. Ent. Zschr.* **29**, 1: 113-115

MONTROUZIER X. 1855. Essai sur la faune de l'Ile de Woodlark ou Moiou. *Ann. Sci. Phys. Nat. Agr. Ind. Lyon (2)* **7**: 1-114

OBENBERGER J. 1917. Neue Cyphogastren (Coleoptera-Buprestidae). *Ent. Bl.* **13**, 10-12: 253-256

OBENBERGER J. 1926. Buprestidae I. *Col. Cat.* **84**: 1-212

THÉRY A. 1923. Études sur les Buprestides (troisième partie). *Ann. Soc. Ent. Belg.* **62 [1922]**: 193-270

THÉRY A. 1926. Recherches synonymiques sur les Buprestides et descriptions d'espèces nouvelles. *Ann. Bull. Soc. Ent. Belg.* **66**, 1-2: 33-74

WATERHOUSE C.O. 1885. New Coleoptera recently added to the British Museum. *Ann. Mag.Nat. Hist. (5)* **15**: 377-382

Appendix

Character definitions

Upper line – codes of traits [“character-states”]; ***[bold italics]*** – terminals of a transformation chain
Lower line – weights (costs of transformation) [0↔1↔2=1: additively equidistant (distance between 0 and 1 the same (=1) as between 1 and 2, that between 0 and 2 = 1+1 = 2; abc=1: equidistant [a↔b=b↔c=c↔a=1]; (abc)↔x=2: alternatively equidistant [a↔x=b↔x=c↔x =2

Size

1. Length - body: ***[0]*** <30 mm. ; [1] ~30 mm.; ***[2]*** >30 mm.
   0↔1↔2=1

Colour

2. Dorsal (dominant): [g] cupreous through green to blue; [a] bronzed; [b] black
   gab=2
3. Dorsal (contrast): ***[0]*** concolorous; [1] pronotum slightly contrasting with elytra; ***[2]*** pronotum sharply contrasting with elytra
   0↔1↔2=1
4. Dorsal (lustre): ***[0]*** simple; ***[1]*** distinctive lustre
   0↔1=1
5. Elytra (epipleura): ***[0]*** concolorous; ***[1]*** contrasting cupreous
   0↔1=1
6. Elytra (tip): ***[0]*** bluish-black; [1] concolorous; ***[2]*** cupreous-red
   0↔1↔2=1
7. Elytra (lateroapical streak): ***0]*** none; [1] minute; ***[2]*** extended
   0↔1↔2=1
8. Elytra (lateral spot): ***0]*** none; [1] slightly marked; ***[2]*** contrasting
   0↔1↔2=1
9. Ventral (dominant): [g] green or blue; [c] cupreous or bronzed; [p] purplish or violaceous; [b] black
   g↔c↔p=1; (gcp)↔b=2
10. Anal sternite (male): *[0]* concolorous or unknown; *[1]* unmetallic brown or ferrugineous
    0↔1=2
11. Tarsi: ***[0]*** dark; ***[1]*** yellow
    0↔1=2

Pronotum

12. Side margins: ***[0]*** subparallel; ***[1]*** markedly convergent
    0↔1=2
13. Anterolateral angles: ***[0]*** barely marked; [1] well developed; ***[2]*** projecting outwards
    0↔1↔2=1
14. Anterior foveolae: ***[0]*** none or inappreciable; [1] distinct; ***[2]*** prominent, joining fossae
    0↔1↔2=1
15. Lateral fossae: ***[0]*** not or barely dfp; [1] moderately dfp; ***[2]*** extensively dfp
    0↔1↔2=1
16. Lateral fossae: [n] broad, indefinite, non-dfp; [f] oblique furrow; [c] c- or axe-shaped; [o] ovate; [e] entire
    f↔c =2; c↔o↔e =1; (fcoe)↔n=1
17. Prehumeral reliefs: ***[0]*** [sub-]trigonal; [1] tetragonal; ***[2]*** rhomboidal
    0↔1↔2=1

Elytra

18. Subhumeral protrusion: ***[0]*** none; [1] discernible; ***[2]*** prominent
    0↔1↔2=1
19. Apical half: ***[0]*** sides rounded; [1] cuneate or moderately caudate; ***[2]*** strongly caudate
    0↔1↔2=1
20. Sculpture: ***[0]*** very fine; [1] moderate; ***[2]*** very coarse
    0↔1↔2=1
21. Dfp perihumeral: ***[0]*** none; [1] discernible; ***[2]*** prominent
    0↔1↔2=1
22. Dfp subhumeral: ***[0]*** none; [1] discernible; *[2]* prominent
    0↔1↔2=1
23. Dfp sulci – perisutural: ***[0]*** none; [1] discernible; ***[2]*** prominent
    0↔1↔2=1
24. Dfp sulci – perimarginal: ***[0]*** none; [1] linear; ***[2]*** broad
    0↔1↔2=2
25. Dfp lateral fringe: ***[0]*** none; [1] discernible; ***[2]*** prominent
    0↔1↔2=1
26. Longitudinal narrow stripes: ***[0]*** none; [1] discernible; ***[2]*** prominent
    0↔1↔2=1

Ventral side

27. Proepisterna: ***[0]*** entirely dfp; [1] partly dfp; ***[2]*** entirely lustrous & reliefed
    0↔1↔2=1
28. Abdominal plaque: ***[0]*** none; [1] very low; ***[2]*** prominent
    0↔1↔2=1
29. Abdominal plaque: ***[0]*** posterior angle roundedly obtuse; [1] posterior angle right; ***[2]*** posterior angle definitely acute
    0↔1↔2=1

30. Lateral dfp depressions on abdomen: ***[0]*** none or inconspicuous; [1] extensive; ***[2]*** almost entire sides
    0↔1↔2=1
31. Middiscal dfp stripes on abdomen: ***[0]*** none/inconspicuous; ***[1]*** distinct at least on anal sternite (often confluent with lateral)
    0↔1=1

Character matrix

red italics – apomorphies;

blue columns – distance from immediate ancestor and support quotient [S/Q]

```
                                    12345 67890 12345 67890 12345 67890 1
                                     2       22 22
=======================================================================
.0. GUAMIA                          0g000 220c0 10101 c1010 00000 01000 1
.1. Armata-c.                       0g000 000b0 11100 n0011 00000 00002 1= 9
.2. Gestroi-c.                      0g200 010p0 00110 c1021 00000 01201 1= 1
.3. C.rollei-gr. (7-L)              0g201 020b0 00100 c1010 00000 00201 1= 3
.4. Collarti-c.                     0g200 020g0 00122 o0001 00000 00212 1= 3
.5. Tuberculata-c.                  1b000 000b1 11110 c2111 00000 00121 1= 5
.6. C.obloquens                     1g010 000g0 10112 c1010 02000 00221 1= 6
.7. C.melaneza                      1b000 000b0 00102 o0011 02020 01221 1= 6
.8. Canaliculata-c.                 1b000 000b0 00122 c0021 00110 11111 1= 4
.9. Modesta-c.                      0g101 000g0 00012 e0011 00110 00002 1= 8
10. Pistor-c.                       1b000 000g0 00012 c2000 22220 00102 1= 9
11. C.snowensis-gr.                 0b000 000b0 00102 c1010 00020 00112 1= 3
12. Farinosa-c.                     1g200 001g0 10112 c1011 00110 00112 1= 4
13. C.carbonaria                    0b000 000b0 00101 c2011 00000 00112 1= 5
14. C.friendorum-gr. (7-T)          0b100 001p0 00112 o0010 00000 01110 0= 8
15. C.herculeana                    2b000 000p0 00111 c1110 00000 00110 1= 6
16. C.lansbergei                    0g100 020g0 00102 o0000 00000 00102 1= 3
17. C.albertisi-gr. (7-D)           0g201 020b0 00102 c1011 00000 01111 1= 3
18. C.bicolor-gr. (7-CC)            0a000 000g0 00112 o0120 00000 00111 1= 5
19. C.flavitarsis                   0g000 000g0 10112 c1011 01000 00101 1= 3
20. C.coriacea                      0g000 001g0 00101 c2011 00000 01100 1= 1
21. C.mniszechi-gr. (7-I)           1g000 000g0 00102 o0010 00000 00111 1= 2
22. C.pisciformis-gr. (7-K)         1g000 000g0 00012 c1011 01000 00101 1= 1
23. C.sulana-gr.                    0g000 000g0 00101 c2011 00000 00111 1= 0
24. C.gigantica                     2g000 020g0 11202 o1110 00000 01220 1= 8
25. C.javanica-gr.                  1g200 002p0 00100 c1120 00000 00112 1= 3
26. C.incolans                      0g000 001g0 00100 c1110 00000 01201 1= 3
27. C.satrapa-gr. (7-R)             0a100 000c0 00101 c1000 00000 00211 1= 6
28. C.ventricosa-gr. (7-II)         0g000 000g0 00112 c1011 00020 02210 1= 3
29. C.tinianica                     0a100 100g1 10201 c2120 00000 01201 1= 9
30. C.uxorismeae                    1g000 000p1 10100 c2120 00000 02210 1= 2
31. C.bruyni-gr.                    1g000 000g0 01010 f2011 10000 01210 1= 5
32. C.viridis-gr.                   1g000 000g0 00111 c2111 00000 11200 1= 4
33. C.gloriosa                      2g000 220g0 00211 c1011 00000 01100 1= 0
34. C.arcuaticollis                 2g000 220g0 00211 c1011 00000 01100 1= 0
35. C.bennigseni                    0g100 220g1 00100 c2011 00000 01101 1= 3
36. C.aenigma                       0a000 220g1 00212 c1011 01000 00101 1= 3
37. C.jordani                       2g000 220g1 00222 c2010 00000 01101 1= 3
38. C.abdominalis                   1g000 220g0 00112 c1011 00000 01201 1= 2
39. C.praeclara                     1g000 210g0 00112 c1011 00000 01101 1= 0
40. C.theryi                        1g000 210g0 00112 c1011 00000 00101 1= 1
41. C.malaitae                      0g000 210g0 00111 c1011 00001 00211 1= 2
42. C.popei                         0g000 210g0 00122 c1011 00002 00201 1= 0
43. C.granulosissima                0g000 210g0 00122 c1011 00002 10200 1= 2
44. C.cristovallensis               0g000 210g0 10112 c1011 00001 00200 1= 0
45. C.santaecrucis                  0g000 210g0 10111 c2011 00002 00200 1= 3
46. C.azureoatra                    2b010 100b0 00111 c1011 00000 00100 1= 1
47. C.punctatissima                 2b000 100b0 00111 c1011 00000 00100 1= 0
48. C.personata                     2b000 100b0 00122 c2011 00000 01210 1= 1
49. C.woodlarkiana                  2b000 100b0 00122 c1012 00001 01220 1= 1
50. C.montrouzieri                  0b000 100p1 00012 c1012 00001 00210 1= 7

.A                                  2g000 220g0 00211 c1011 00000 01100 1= 4 [ 0/ 5]
.B                                  2b000 100b0 00111 c1011 00000 00100 1= 3 [ 1/ 6]
.C                                  1g000 210g0 00112 c1011 00000 01101 1= 1 [ 1/ 2]
.D                                  1g000 210g0 00112 c1011 00000 01201 1= 1 [ 2/ 5]
.E                                  0g000 210g0 00122 c1011 00002 00201 1= 2 [ 2/ 4]
.F                                  0g000 210g0 10112 c1011 00001 00200 1= 2 [ 3/ 5]
.G                                  0g000 210g0 00112 c1011 00001 00201 1= 0 [ 3/ 5]
.H                                  1g000 000g0 00112 c1011 01000 00101 1= 2 [ 4/ 7]
.I                                  2b000 100b0 00122 c1011 00000 01210 1= 1 [ 4/ 6]
```

```
.J                  0g000 210g0 00112 c1011 00001 00201 1= 2 [ 4/ 5]
.K                  1g000 210g0 00112 c1011 00001 01201 1= 3 [ 4/ 5]
.L                  0g000 000g0 00101 c2011 00000 00111 1= 3 [ 4/ 4]
.M                  0g000 001g0 00101 c2011 00000 01101 1= 2 [ 4/ 6]
.N                  1g000 000g0 00112 c0010 00000 00111 1= 2 [ 5/ 7]
.O                  0g100 020g0 00112 c0000 00000 00112 1= 3 [ 6/10]
.P                  0g201 020b0 00101 c1011 00000 01201 1= 6 [ 6/ 8]
.Q                  1g000 210g0 00111 c1011 00000 01200 1= 1 [ 6/ 7]
.R                  2b000 100b0 00112 c1011 00000 01210 1= 2 [ 6/ 9]
.S                  0g000 001g0 00101 c1010 00000 01101 1= 3 [ 6/ 6]
.T                  1g000 000g0 00112 c1010 01000 00111 1= 0 [ 7/ 7]
.U                  0g200 010p0 00100 c1021 00000 01201 1= 6 [ 8/10]
.V                  1g000 000g0 00112 c1010 01000 00111 1= 3 [ 8/ 8]
.W                  1g000 000c0 00111 c1010 00000 00111 1= 1 [ 7/ 7]
.X                  1g000 000c0 00101 c1010 00000 00111 1= 2 [ 8/ 8]
.Y                  0g000 000g0 00101 c1010 00000 00111 1= 4 [ 8/ 8]
.Z                  1g000 110g0 00111 c1011 00000 01200 1= 2 [ 8/ 9]
AA                  1b000 100b0 00112 c1011 00000 00210 1= 5 [ 9/ 9]
BB                  1g000 220g1 00212 c2011 00000 01101 1= 3 [ 9/ 9]
CC                  0g000 220g1 00111 c2011 00000 01101 1= 7 [ 9/10]
DD                  1g000 100g0 00112 c1011 00000 01200 1= 3 [ 9/ 9]
EE                  0g100 010g0 00102 c1010 00000 00112 1= 3 [ 9/ 9]
FF                  0g000 000g0 00102 c1010 00010 00112 1= 3 [ 9/ 9]
GG                  1b000 000b0 00112 c0011 01010 01111 1= 4 [10/10]
HH                  1g200 011p0 00100 c1020 00000 00112 1= 8 [10/10]
II                  0g100 000g0 00101 c1010 00000 00112 1= 3 [10/11]
JJ                  0g200 000g0 00112 c1011 00110 00112 1= 3 [10/10]
KK                  0g200 000g0 00112 c1010 00000 00112 1= 3 [10/11]
LL                  0g100 000g0 00112 c1010 00000 01111 1= 2 [ 9/11]
MM                  0g000 210g0 00112 c1011 00000 01200 1= 4 [11/11]
NN                  0g000 100g0 00112 c1011 00010 01210 1= 4 [ 8/10]
OO                  1g000 000p1 10100 c2120 00000 01211 1= 7 [10/15]
PP                  0g100 000g0 00112 c1011 00000 01110 1= 6 [10/10]
QQ                  1b000 000g0 00112 c1011 00010 01111 1= 5 [10/10]
RR                  1b000 000g0 00012 c1011 11120 01111 1= 9 [10/11]
SS                  1g000 000g0 01012 c2011 10010 01210 1= 7 [ 9/13]
TT                  1g000 000g0 11102 c2111 00000 01210 1= 0 [10/11]
                                                        2
UU                  1g000 000b1 11100 c2111 00000 00211 1= 1 [ 9/ 9]
VV                  1g000 000b1 11100 c2111 00000 00201 1= 2 [ 6/ 7]
WW                  1g000 000b0 11100 c2111 00000 00201 1
                          g    0 2   0          1 12
                               2                  20
XX                  1g000 000b0 11100 c2011 00000 01200 1
                    0     22 g   0  2  1  0         0
                             c      1
```

Open access
Edited, published and distributed by:
Informal *Uncensored Scientists Group*
c/o Roman B. HOŁYŃSKI
PL-05822 **Milanówek**, ul. Graniczna 35, skr. poczt. 65, **POLAND**
e-mail: rbholynski@gmail.com