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Seven new species of *Cyphogastra* DEYR. from New Guinea with remarks on the *Albertisi*-circle (Buprestidae: Buprestini: Chrysochroina)

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Introduction

The nominotypical subgenus of *Cyphogastra* DEYR., one of the most speciose genera of large **Buprestidae** LEACH, seems (HOLYŃSKI 2016) to have originated at the northwestern end of the Palaeomelanesian (HOLYŃSKI 2001) chain of archipelagoes now accreted to New Guinea, and on that “superisland” has attained its greatest degree of diversification: the present state of knowledge does not allow to quote exact values, but anyway the New Guinean representatives of the taxon make an assemblage at least comparable if not superior – as well in terms of number of species as of distinctive supraspecific groupings – to that of all the remaining parts of the distribution area together. Unfortunately *Cyphogastra* DEYR. – partly despite but partly just because of containing large and usually colourful, attractive beetles – is a taxonomically difficult and at the same time over- (multitude of scattered accidental records and superficial descriptions) and under- (last comprehensive review – KERREMANS 1910 – more than a century old; almost no significant studies after 1950) studied genus, the knowledge of New Guinean fauna being especially chaotic and unreliable: many taxa remain undescribed and the published taxonomic relations among those already named have usually no much more relation to the reality than if based on crystal-gazing [so e.g. the most recent catalogue – BELLAMY 2008 – lists 16 (10 of them New Guinean) synonyms and 4 (not inhabiting New Guinea) subspecies of *C. semipurpurea* (C.G.) whereas in fact at most 2 or, perhaps, 3 of them may really prove conspecific with the Javanese species]...

Some of the most common New Guinean representatives of the genus *Cyphogastra* DEYR. form four distinctive superspecies making together what can be referred to as *Albertisi*-circle; some others may or may not belong here but their affinities are not quite clear. The

almost strictly allo- or parapatric geographical distribution of the “core” group follows a characteristic pattern of narrow, apparently continuous chain of two lowland, coastal superspecies with pronotal fossae shaped like carpenter’s square and prehumeral reliefs rectangular [*C. [pisciformis]*-spp. (pronotum metallic green to bronzed-cupreous) between Waigiou (*C. pisciformis* DEYR.) and Huon Gulf (*C. nitida* KERR.), and *C. [albertisi]*-spp. (pronotum black) from there along Solomon Sea coast to the southeastern tip of New Guinea and then along the coast of Coral Sea to Yule I. 100 km. NW Pt. Moresby (single species: *C. albertisi* GESTRO)], and two [sub-]montane with fossae ovate or D-shaped and prehumeral reliefs triangular, inhabiting widely disjunct areas: [*C. [caudata]*-spp. (pronotum metallic blue, green or cupreous) with two already named species from SW-slopes of Owen Stanley Range (*C. clara* KERR.) and Arfak Mts. (*C. caudata* LSB.) and two yet undescribed from Aseki (Morobe Pr.) and Tifalmin (W-Sepik Pr.), and *C. [friendorum]*-spp. (pronotum black) with four hitherto unnamed species known from Efogi (Owen Stanley Range), Watut and Bulolo Riv. valleys, mountains around Wau and Aseki, and Okapa (Eastern Highlands Pr.). Several other superspecies [*C. [mniszewichi]*-spp., *C. [ventricosa]*-spp., *C. [venerea]*-spp.] show some apparently apomorphic characters resembling members of the *Albertisi*-circle, but the interpretation of these similarities remains uncertain and clarification of the affinities of the respective groups must wait for a reliable reconstruction of phylogeny. The aim of the present paper is to describe some of the seemingly relevant taxa, clearing the ground for comprehensive phylogenetical-taxonomical-biogeographical revision.

Abbreviations and terminology

| | | |
|------|---|---|
| BPBM | = | Bernice P. Bishop Museum, Honolulu, USA; |
| CLB | = | Charles L. BELLAMY, Sacramento, USA; |
| CSCA | = | California State Museum of Arthropods, Sacramento, USA; |
| MNHN | = | Muséum National d’Histoire Naturelle, Paris, FRANCE; |
| RBH | = | Roman B. HOŁYŃSKI, Milanówek, POLAND; |
| RLW | = | Richard L. WESTCOTT, Salem, USA; |
| TNS | = | Thierry Neef de SAINVAL, Brussels, BELGIUM; |
| TT | = | Takeshi TERABAYASHI, Shiotsu, JAPAN; |
| UCBM | = | University of California Bohart Museum, Davis, USA; |
| WK | = | Willy KRONBLAD, Ekenässjön, SWEDEN; |

Besides, the following abbreviations are used in morphological descriptions:

| | | |
|-----|---|---|
| dfp | = | “densely-and-finely punctulate”: the type of sculpture occurring mainly in depressed areas (foveae, sulci), and consisting of fine, dense, regular punctulation on usually distinctly microsculptured background, covered with dense pubescence and frequently pulverulent. |
| L | = | length |
| BW | = | basal width |
| MW | = | maximum width |
| AW | = | apical width |
| V | = | width of vertex between eyes |
| H | = | width of head with eyes |

Collar: apical, constricted part of pronotum before truncation

Anterolateral angle of pronotum: angular bend between subparallel basal and abruptly oblique apical portion of sides

Fossae: deep laterobasal depressions of pronotum

Prehumeral relief: elevated fragment of pronotal surface at basal angles, surrounded anteromedially by fossae

Caudate elytra: of concave lateroapical margins and dorsal profile

Femoral brushes: long and dense, [semi]erect pubescence on caudal surface of meso- and metafemora

Midlateral: lying at *ca.* mid-distance between median line and side margins

BUPRESTIDAE LEACH

BUPRESTINAE LEACH

Buprestini LEACH

Chrysochroina CAST. 1835

***Cyphogastra* DEYR.**

***Cyphogastra* DEYR. s.str.**

Cyphogastra DEYROLLE 1864: 36-37

[type-species: *Buprestis foveicollis* BOISDUVAL 1835]

C. [mniszehi]-superspecies

***Cyphogastra* (s.str.) *westcotti* sp.n.**

Material examined:

Holotype: "PAPUA NEW GUINEA, MOROBE: Tekadu, 7°38'S 146°34'E, 27-28. III. 2000, TSears&binatung brigade" "COLLECTION OF R.L.Westcott" [♀ (RLW→UCBM)]

Paratype: "PAPUA NEW GUINEA, MOROBE Prov.: Tekadu, 7°38'S 146°34'E, IV. 2000, TSears & binatungbrigade" [1♀ (RBH: BPlöh)]

Additional material: None

Holotype: Female 29.5×9.5 mm. Dorsal side almost uniformly bronzed green with oily shine, elytral tips black (no reddish apical patch); below green on sides, cupreous-bronzed along middle; antennae and tarsi piceous-black. Dfp areas covered with fine and dense whitish pubescence and ochreous pulverulence; pubescence of legs and median sulcus of prosternal process short, semierect; otherwise glabrous.

Supraepistomal carina prominent, angularly produced at middle; frontal depression elongately triangular, poorly delimited in upper half, sharply so on sides of deep anterior, coarsely and densely irregularly punctured cavity; median furrow and perioocular sulci deep and coarsely punctured, this sculpture extending to lateral parts of vertex; rest of head with fine and very sparse punctures. 1. antennal joint club-shaped, *ca.* 4× longer than thick; 2. as long as wide, five times shorter and distinctly thinner than 1.; 3. elongately subtriangular, somewhat shorter than 1. and as thick (at apex) as 2.; 4. definitely triangular, as long as 3. and slightly wider than 1.; 5.-10. equal in width to 4. but progressively shorter (10. hardly longer than wide); 11. slightly longer than 10., longitudinally semielliptical.

Sides of pronotum indistinctly convergent to somewhat produced anterolateral angles, collar poorly delimited, its lateral margins strongly convergent. Median sulcus rather deep, moderately (in both coarseness and density) punctured; punctulation on sides of disk fine and very sparse, on prehumeral reliefs and at sides of anterior margin coarse and rather dense. Lateral dfp fossae very large, D-shaped (median border straight), almost totally occupying both lateral thirds of pronotum, sharply delimited except rather irregular anterior border, where it joins small, somewhat sulciform anterolateral dfp foveola and is separated from prominent anteromedian only by inconspicuous transverse elevation (without interruption of dfp sculpture); prehumeral reliefs triangular. Scutellum very small, somewhat pear-shaped (very strongly constricted anteriorly) but even at posterior end hardly wider than coarse punctures of elytral base.

Elytral sides subparallel to midlength, strongly caudate. Apices jointly transversely truncated, with *ca.* 5 irregularly arranged denticles on each and 1-2 indistinct ones at the end of lateral margins. Elytral puncturation very fine apically, coarser towards base; surface distinctly microsculptured; no trace of costae or dfp depressions.

Proepisterna dfp with some irregular smooth elevations; sloping sides of prosternum covered with moderately coarse but sparse puncturation, lateral rims of prosternal process almost smooth, median sulcus deep, finely, very densely and irregularly punctulate; sides of meso- and metasternum almost entirely dfp, median parts finely sulcate along midline, almost

impunctate, separated from dfp sides by narrow zone of coarse, moderately dense puncturation. Posterior margin of metacoxae distinctly bisinuate. Abdominal plaque prominent (almost as high as length of 2. sternite behind it, profile of metasternum and 1. sternite straight), finely and very sparsely punctulate; lateral and midlateral dfp stripes broad and almost continuous; otherwise abdomen covered with moderately coarse and rather sparse puncturation without well delimited “mirrors”; apex of anal sternite narrowly rounded and rather minutely incised.

Variability: Paratype is somewhat larger (31×10 mm.), less brightly cupreous along middle of ventral side (especially abdomen), has elytra somewhat sinuately widened to midlength, proepisterna almost uniformly dfp – otherwise practically identical to the holotype.

Geographical distribution: Known only from the type-locality at base of the southeastern peninsula of New Guinea, at southwestern slopes of the main mountain range.

Remarks: In dorsal colouration the holotype is virtually identical to some specimens of *C. mniszewski* DEYR., e.g. to the holotype of *C. kleberi* THY.; it is also very similar in most other respects, but differs in smaller size, brightly cupreous median parts of ventral side (concolorous green in all compared *C. mniszewski* DEYR.), very well developed anteromedian dfp foveola on pronotum (sometimes deep but small and not distinctly dfp in the latter species), strikingly minute (less than half as wide as in *C. mniszewski* DEYR.) scutellum, deep and coarsely punctured postscutellar “striola”, strongly caudate elytra (resembling *C. albertisi* GESTRO or – especially eastern races of – *C. pisciformis* DEYR.), relatively short and inconspicuous pubescence of median prosternal sulcus, &c. Having only two specimens in disposition I am of course unable to fully exclude the possibility that some or all the differences are but peculiarities of these particular individuals, but as a complex, supported by the widely distant locality (except for one apparently mislabelled specimen from “Solomon Is.” the easternmost locality of *C. [mniszewski]-spp.* seen by me is that of the “type unique” of *C. kleberi* THY.: Arfak Mts.) makes con-specificity highly unlikely. On the other hand, it remains unclear whether the lack of data from the intermediate areas reflects the real disjunction or is but the effect of insufficient collecting, what makes it impossible to assess the possible specific distinctness. The name is given in honour of my American buprestidologist colleague, Rick WESTCOTT, from whose collection the type-specimens originate.

C. [caudata]-superspecies

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

Material examined:

Holotype: “P.N.GUINEA, Morobe Prov., Asiki 5. 90” [♀ (RBH: BPFue)]

Paratype: “Bulolo, M.P., P.N.G., Jan 1990” “No. 27” [red handwriting] [♀ (TT)]

Additional material: 2♀

Holotype: Female 30×9.5 mm. Head bluish-black, pronotum bluish-green, elytra green with blue lateral margin and bluish-black tips, sternum and femora green, abdomen golden-green, tibiae mostly violaceous, tarsi and antennae black. Dfp areas covered with fine and dense yellowish pubescence and ochreous pulverulence; pubescence dense, short, semierect on median sulcus of prosternal process, elsewhere on ventral surface recumbent and sparse, dorsal side glabrous.

Supraepistomal carina prominent, angularly produced at middle; frontal depression elongately triangular, poorly delimited in upper half, more clearly so on sides of deep, coarsely and densely irregularly punctured anterior cavity; median furrow and pericocular sulci

deep; sides of front impunctate, vertex very finely and sparsely punctured at middle, coarsely and densely behind eyes; rest of head with fine and very sparse punctures. 1. antennal joint club-shaped, *ca.* 4× longer than thick; 2. as long as wide, five times shorter and distinctly thinner than 1.; 3. subcylindrical, somewhat shorter than 1. and as thick (at apex) as 2.; 4. definitely triangular, as long as 3. and slightly wider than 1.; 5.-10. rhomboidal, equal in width to 4. but progressively shorter (10. hardly longer than wide); 11. longer than 10., longitudinally semielliptical.

Sides of pronotum slightly arcuate, subparallel to broadly rounded anterolateral angles, no collar. Median sulcus rather deep, densely but not very coarsely punctured in median stria; punctulation on disk fine and very sparse, on prehumeral reliefs moderately coarse and dense. Lateral dfp fossae very large, almost totally occupying both lateral thirds of pronotum, sharply delimited except narrow anterior border, fully incorporating both anteromedian and anterolateral foveae; prehumeral reliefs triangular. Scutellum small, trapezoidal (sides divergent backwards), deeply foveolate, impunctate.

Elytral sides subparallel to midlength, strongly caudate. Apices jointly transversely truncated, with *ca.* 5 irregularly arranged denticles on each and 2-3 indistinct ones at the end of lateral margins. Elytral puncturation very coarse anteriorly, progressively finer towards apices; microsculpture very fine, inconspicuous; no trace of costae or dfp depressions.

Proepisterna uniformly dfp; sloping sides of prosternum covered with fine and sparse punctulation, lateral rims of prosternal process almost smooth, median sulcus deep, somewhat narrower than rims, finely, very densely and irregularly punctulate; sides of meso- and metasternum almost entirely dfp, median parts sulcate along midline, sparsely punctate, separated from dfp sides by narrow zone of coarse, moderately dense puncturation. Posterior margin of metacoxae indistinctly bisinuate. Profile of metasternum and 1. sternite straight; abdominal plaque prominent, as high as length of 2. sternite behind it, covered with moderately fine and sparse, strongly elongate punctures; lateral dfp stripes not developed, midlateral very broad on basal sternites, narrow and well delimited on 4.-5. segments; otherwise abdomen covered with moderately coarse and rather sparse puncturation without well delimited "mirrors"; apex of anal sternite narrowly rounded without median incision.

Variability: All examined specimens practically identical.

Geographical distribution: Known only from two localities in [sub-]mountainous areas of the Morobe Pr. on New Guinea.

Remarks: Distinctive within the *C. [caudata]*-superspecies by its (almost entirely green, like in eastern representatives of *C. [pisciformis]*-spsp.) dorsal colouration; resembles also *C. westcotti* sp.n. of the *C. [mniszewski]*-spsp. (so much so that I had it initially included among paratypes of the latter) which, however, differs in details of colouration (concolorous green head, brightly cupreous median parts of ventral side), lustre of dorsal side, pronotal shape, extent of lateral fossae, strikingly minute scutellum, relatively short and inconspicuous pubescence of median prosternal sulcus, &c.

***Cyphogastra (s.str.) acuminicauda* sp.n.**

Material examined:

Holotype: "NEW GUINEA, TIFALMIN, APRIL 1969" [♀ (CLB→CSCA)]

Additional material: none

Holotype: Female 36×11.5 mm. Head brownish-black; pronotum dull greenish-bronzed with cupreous dfp foveae; elytra a bit lighter greenish-bronzed passing apicalwards into oily-green with short (2 mm. at suture, 5 mm. along side margins) black lateroapical band; ventral side green with golden dfp depressions; tibiae blackish-green, labrum, antennae and and tarsi piceous-black.

Apical margin of epistome rather deeply paraboloidally incised. Frontal depression deep, triangular, reaching far beyond upper margins of eyes; periocular sulci deep, dfp at bottom, flanked inside with narrow zone of coarse, elongated, rather sparse punctures; median furrow deep, accompanied on each side by shallow, triangular, coarsely and densely punctured depression; otherwise front with but few widely spaced punctures. Vertex moderately wide ($V:H \approx 0.52$), medially almost smooth, rather densely punctured behind upper margins of markedly protruding eyes. Antennae reaching to *ca.* basal fourth of pronotal sides; 1. joint clavate, *ca.* $2.5 \times$ longer than thick; 2. globular, a little thicker than long, much thinner and *ca.* $4 \times$ shorter than 1.; 3. slightly flattened, distinctly wider at apex than at base, as wide but $3 \times$ longer than 2; 4. elongately triangular, as long as 3.; 5.-10. progressively shorter; 11. as long as 7.

Pronotum widest at base; $BW:AW:L \approx 1.4:0.95:1$; sides slightly convergent to broadly rounded anterolateral angles, oblique lateroapical truncations distinctly sinuate; anterior margins shallowly trisinate, base with broadly triangular prescutellar lobe. Median stria distinct but not reaching apical margin, flanked anteriorly with pair of obliquely longitudinal stripes of dense puncturation forming narrow V between midlength and anterior fourth; laterobasal fossa broadly extending to near apical angles, obliquely truncated anteriorly, leaving coarsely punctured transversely triangular space surrounding small elongated anteromedian dfp fovea and also coarsely punctured triangular laterobasal relief; lateral margins bordering sides of fossae very narrow, almost smooth; surface otherwise finely, very sparsely punctulate. Scutellum small, trapezoidal, longitudinally depressed, smooth.

Elytra $2.3 \times$ longer than wide; sides obliquely sinuate between humeral angles and prominent subhumeral protrusions, deeply sinuate just behind them, subparallel to basal third, arcuately converging to $\frac{3}{5}$, and sinuately so to very narrow, obliquely truncate apices; lateroapical margin with 7-8 (4 lateral, 3-4 apical) sharp denticles (sutural longest); dorsal profile shallowly convex in basal $\frac{3}{4}$ and rather deeply concave apically. Epipleura wide anteriorly, abruptly narrowed (no epipleural denticle) at metacoxae, almost parallelsided to hind margin of 2. sternite, and again abruptly constricted. Elytral surface almost regularly convex, with but narrow perisutural (on basal fifth and apical half) and indistinct perimarginal (at posterior constriction of epipleura) shallow sulci; puncturation rather coarse at base, gradually finer to almost indistinct apically, arranged in near-regular longitudinal rows; no dfp depressions.

Proepisterna dfp with elongated, coarsely but shallowly and sparsely punctured relief at middle; prosternal process finely and very sparsely punctured at sides, more densely but not much coarser in narrow medial sulcus. Metasternum narrowly depressed along midline, finely and sparsely punctulate at middle, dfp laterally, rather densely and coarsely punctured in between; metepisterna dfp; medial half of metacoxae coarsely and rather densely punctured, lateral half dfp. Ventral profile of 1. sternite straight, abdominal plaque high, its apical slope almost equal in height to the length of 2. sternite behind; abdominal punctulation rather fine and very sparse at middle, denser at sides, with pair of transverse dfp patches common to basal two and similar pair at anterior margin of third segment; 3.-5. sternites with very irregular elongated dfp spots at sides and much more regular (although here and there broken) narrow midlateral dfp stripes. Anal sternite with shallow, rather indistinct apical incision.

The photo (Fig. 3) is my combination of two separate pictures (of anterior and posterior part of the beetle's body) made long ago by dr. Piotr ŚLIPIŃSKI.

Geographical distribution: Known only from the holotype collected at Tifalmin ($5^{\circ}06'S-141^{\circ}28'E$) in West Sepik Pr. of PNG, on northern slopes of Star Mts., *ca.* 50 km. E of Indonesian border.

Remarks: *C. acuminicauda sp.n.* is apparently a member (allospecies) of the [*caudata*]-superspecies, morphologically and geographically intermediate between *C. caudata* *LSB.* (head and elytra bronzed, pronotum dark oily green, ventral side blackish, tarsi testaceous, anterolateral angles of pronotum markedly angular, extreme tips of elytra distinctly spathulate) from Arfak Mts. and *C. cognita sp.n.* (dorsally and ventrally green, anterior margins of pronotal fossae straightly transversely truncated and including anteromedian foveae, tips of elytra more widely and transversely truncated) inhabiting Morobe Pr.



Fig. 1
C. westcotti sp.n.
♀ HT Tekadu [UCBM]



Fig. 2
C. cognita sp.n.
♀ HT Aseki [RBH: BPfue]



Fig. 3
C. acuminicauda sp.n.
♀ HT [CSCA]



Fig. 4
C. friendorum sp.n.
♀ HT Mt.Kaindi [RBH: BPezs]



Fig. 5
C. incongruens sp.n.
HT Efogi [RBH: BPezr]



Fig. 6
C. oculata sp.n.
♂ HT Okapa [BPBM]



Fig. 7
C. radwanskae sp.n.
♂ HT Bulolo [RBH: BPfum]

C. [*friendorum*]-superspecies

Cyphogastra (s.str.) *friendorum* sp.n.

Material examined:

Holotype: "PAPUA NEW GUINEA, Morobe Distr.(E), Mt Kaindi, 1820m 28.II.1977" [♀ (RBH: BPezs)]

Paratypes: "NEW GUINEA: NE, Mt. Missim, 1400 m., 7 XII 1966" G.A.Samuelson Collector" [1♀ (BPBM)]; "NEW GUINEA: NE, Wau, Morobe Distr., Mt. Missim, 1200 m., 4 XII 1974" Reni Sakomdaro coll'r., Wau Ecology Inst. (Bishop)" "K-1376" [1♀ (BPBM)]; "P.N.GUINEA, Morobe Prov, Wau 4.90" [1♀ (RBH: BPfui)]; "Wau, PNG" [1♀ (TNS)]; "ASEKI, PNG" [1♀ (RBH: BPezv)]; "Aseki, PNG" [1♀ (TNS)]; "ASEKI, PNG, 2/93" [1♀ (RBH: BPloi)]; "ASEKI, PNG, 2/93" "Coll. de Sainval" [1♀ (RBH: BPloj)]; "ASEKI, PNG, 3/94" [1♀ (TNS)]; "ASEKI, PNG, 3/94" "Coll. de Sainval" [1♀ (RBH: BPlok)]; "Aseki, M. Prov., P.N.G., Aug. 1994" "furendoramunanyōtamamushi [printed in katakana] *Cyphogastra friendorum* HO ssp.n., s.str.?" "Collection of, Takeshi TERABAYASHI, Japan [+ red personal stamp]" [1♀ (RBH: BPjui)]; "*Cyphogastra* sp., PAPUA NEW GUINEA, Morobe P., Aseki, Oiwa, 01.08.1996" "Coll. de Sainval" [1♀ (RBH: BPloi)]; "PNG: MOROBE PROV.: Aseki Subdistr.: Samaia Vill., 16 IV 1998" [1♀ (TT)]; "TiTiKaBa, Aseki, MP, PNG, 09/92" [1♀ (TNS)]; "Titikaba, Aseki MP, PNG 09/92" [1♀ (BPezw)]; "Coll. de Sainval" [4♀ (TNS)]; "New Guinea, Yekwnwi [sic! – ?Yeiwani, 28 km. ESE Aseki?]. Aseki, MP-PNG, II 1992" „COLL. WILLY KRONBLAD, SWEDEN" „COLL. WILLY KRONBLAD, SWEDEN" [1♀ (WK)]; "Papua" [1♀ (MNHN)]

Additional material: none

Holotype: Female 30×9.5 mm. Black with slight bronzed (on head, pronotum and ventral side) or much stronger iridescent purplish/golden/greenish (on elytra) lustre; narrow, sharply defined elytral perisutural stripe contrastingly purplish, tips brightly cupreous; legs and antennae black.

Apical margin of epistome rather shallowly broadly emarginate; frontal depression deep, triangular, reaching far beyond upper margins of eyes; pericocular sulci deep, finely and densely punctulate at bottom; median furrow deep, anterior cavity coarsely and densely punctured, otherwise front with but few widely spaced punctures. Vertex moderately wide (V:H≈0.55), medially almost smooth, rather densely punctured behind upper margins of markedly protruding eyes. Antennae almost reaching to pronotal base; 1. joint clavate, *ca.* 3.5× longer than thick; 2. globular, much tinner and >4× shorter than 1.; 3. slightly flattened, distinctly wider at apex than at base, as wide but 3× longer than 2; 4. elongately triangular, as long as but apically almost twice wider than 3.; 5.-10. progressively shorter; 11. longitudinally semielliptical, not much shorter than preceding two together.

Pronotum widest at anterolateral angles, BW:MW:L≈1.5:1.55:1; sides shortly sinuate just before acute basal angles, then straightly inconspicuously divergent to not protruding but well defined, narrowly rounded anterolateral angles, oblique lateroapical truncations indistinctly sinuate without appreciable collar; base markedly angularly bisinuate, apical margin rather deeply trisinuate. Median stria distinct, sharp, impunctate, not reaching apical margin, longitudinal discal elevations finely and very sparsely punctulate near base and almost impunctate otherwise; laterobasal fossae deep, ovate with subacutely angular basal and broadly arcuate apical margin, extending to *ca.* apical third, leaving bifoveolate, coarsely punctured space between discal elevations and lateroapical truncations; laterobasal relief triangular; lateral margins bordering sides of fossae very narrow, smooth. Scutellum very small, trapezoidal, longitudinally depressed, smooth.

Elytra 2.5× longer than wide, markedly caudate; sides obliquely truncated just behind base (no subhumeral protrusions), then almost straightly indistinctly divergent to before midlength and sinuately tapering to very narrow, obliquely truncate apices; lateroapical margin with some minute denticles at apex and 3-4 widely spaced before. Elytral surface

almost regularly convex, with but some irregular foveae at very base; puncturation rather coarse at base, gradually finer to almost indistinct apically, longitudinal rows barely discernible here and there; no dfp depressions.

Proepisterna dfp, ochraceously pulverulent, without elevated reliefs; prosternal process with but few fine punctures at sides, more densely and coarsely punctured in narrow but deep medial sulcus. Metasternum narrowly depressed along midline, finely and sparsely punctulate at middle, much more coarsely on sloping sides and metacoxae, finely and very densely on metepisterna. Ventral profile of 1. sternite straight, abdominal plaque high (apical slope almost equal in height to the length of 2. sternite behind), very finely and sparsely punctulate, punctures definitely elongate; abdomen otherwise rather coarsely and densely punctured, no dfp depressions, only traces of midlateral stripes. Anal sternite apically rounded without medial incision.

Variability: Except for differences in size (24.5×7.5 – 34×11 mm.), basic dorsal colouration (from black to definitely bronzed) and iridescent lustre (strongly pronounced in some specimens, indiscernible in others) the type series makes a remarkably homogeneous assemblage. However, my collection contains two (1 ♂, 1 ♀) challenging (apparently sympatric: from Wau) specimens: besides being very small (♂ 24×7.5, ♀ 25.5×8 mm., *i.e.* just above the lower limit of *C. friendorum sp.n.* variability), black without iridescent lustre, with more angular prehumeral relief and more coarsely punctured anterolateral space on pronotum, rather coarse elytral puncturation, more irregular smooth reliefs on proepisterna – features occurring sometimes also in otherwise typical representatives of the new species – they show also some “absolute” (non-overlapping) differences (definitely more elongated, dorsally flatter body with less “caudate” elytra) strikingly evident at a glance but unfortunately very difficult to express in terms applicable in a diagnosis or identification key... So, for the moment I have no definite opinion as to the con[sub]specificity of these specimens, and consequently do not assign them to *C. friendorum sp.n.*

Geographical distribution: All specimens examined by me have been (or – that labelled only as “Papua” – might have been) collected within the relatively short (*ca.* 70 km. from Aseki in the west and Mt. Missim on the east) section of mountainous area of central Morobe Prov. of New Guinea.

Remarks: Dark brown to blackish colouration with or without iridescent lustre but (except narrow sutural cupreous stripe in some specimens) no bright metallic tones, in combination with extensive broadly ovate pronotal fossae and triangular to subrhomboidal (of definitely obtuse anteromedian angles) prehumeral reliefs, make *C. friendorum sp.n.* unmistakable. The species is dedicated to my friends in general, but especially to Maria and Tony FRIEND for – among many other good reasons – their incredible generosity in sponsoring our (my Wife’s and mine) travel to New Guinea.

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

Material examined:

Holotype: „Efogi, Central Province, PNG, 12-IV-82, D.BLACK” [ø (RBH: BPezr)]

Additional material: none

Holotype: (Unsexed) 27.5×8.5 mm. Head and pronotum black (dfp bottoms of pronotal fossae bright cupreous), elytra bronzed (darker laterally, somewhat paler medially to become indistinctly greenish near contrastingly purplish-cupreous suture); sternum and abdomen black with strong bluish-green lustre.

Frontal depression deep, triangular, reaching beyond upper margins of eyes; periocular sulci deep, finely punctulate at bottom; median furrow deep but impunctate, anterior cavity coarsely and densely punctured, otherwise front with but few widely spaced

punctures. Vertex moderately wide (V:H≈0.5), puncturation medially rather sparse, much denser behind upper margins of markedly protruding eyes.

Pronotum widest at slightly protruding anterolateral angles; sides behind them straight, basal angles acute, oblique lateroapical truncations deeply sinuate anteriorly to form well defined collar; base markedly angularly bisinuate, apical margin rather deeply trisinate. Median stria distinct, sharp, rather densely punctured, not reaching apical margin, longitudinal discal elevations finely punctulate near base and almost impunctate otherwise; laterobasal fossae deep, ovate with subacutely angular basal and broadly arcuate apical margin, extending but slightly beyond pronotal midlength, leaving uneven, irregularly coarsely punctured space between discal elevations and lateroapical truncations; anteromedian dfp foveolae minute, hardly discernible, anterolateral ones not individualized; laterobasal relief triangular, finely and sparsely punctulate; lateral margins bordering sides of fossae very narrow, smooth. Scutellum very small, ovate, longitudinally depressed, micropunctulate.

Elytral sides obliquely truncated just behind base (no subhumeral protrusions), then almost straightly indistinctly divergent to midlength and sinuately tapering to conjointly rounded apices; lateroapical margin sharply and densely denticulate at apex and with some widely spaced denticles on sides. Elytral surface regularly convex; puncturation rather coarse at base, gradually finer (but everywhere distinct) apically, longitudinal rows discernible here and there; no dfp depressions.

Proepisterna dfp (but neither distinctively coloured nor appreciably pubescent/pulverulent) with numerous smooth elevations; prosternal process with rather wide (*ca.* equal in width to smooth lateral rims) densely punctured medial sulcus; pubescence all-along sternal midline sparse but rather long, erect); metasternum narrowly depressed along midline, finely and sparsely punctulate at middle, much more coarsely on sloping sides and metacoxae; metepisterna dfp. Ventral profile of 1. sternite straight, abdominal plaque high (apical slope almost equal in height to the length of 2. sternite behind), sparsely covered with cuneately elongate punctures; abdomen otherwise rather finely and sparsely punctured, with small dfp depressions on sides of 2.-4. sternites and moderately developed midlateral dfp stripes. Apical part of anal sternite missing.

Geographical distribution: Known only from type locality: Efogi (9°10'N-147°38'E), *ca.* 60 km. NE Pt. Moresby, on southwestern slopes of Owen Stanley Range.

Remarks: Relatively light brown elytral colouration, dfp depressions not distinctly pubescent with no trace of pulverulence, less extensive pronotal fossae, rather coarse puncturation of less conspicuously caudate elytra, numerous smooth elevations on proepisterna, distinct dfp depressions but no smooth “mirrors” on sides of sternites, and some minor details distinguish *C. incongruens sp.n.* from its apparently closest relative, *C. friendorum sp.n.*

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

Material examined:

Holotype: “NEW.GUINEA: NE., 18 km SE of Okapa, 1300 m, 2. VI. 1967” “*B. Gray Collector*” [♂ (BPBM)]

Paratypes: “NEW.GUINEA: NE., 18 km SE of Okapa, 1300 m, 2. VI. 1967” “*B. Gray Collector*” [1 ♂ (RBH: BPj-v)]; “NEW.GUINEA: NE., 18 km SE of Okapa, 1300 m, 2. VI. 1967” “G.A. Samuelson Collector, BISHOP MUSEUM” [1 ♀ (BPBM)]

Additional material: none

Holotype: Male 24.5×7.5 mm. Head and pronotum black (dfp bottoms of pronotal fossae bright golden-green), elytra green with cupreous-red lateroapical band extending all-over cuneate part of sides, and brightly carmine-red anterior half of epipleura (extreme tips of elytra black); ventral side black with slight bluish (on sternum) to brassy (abdomen) lustre.

Frontal depression deep, triangular, reaching very far beyond upper margins of eyes; periocular sulci deep; median stria sharply cut, front (including anterior cavity) with but few widely spaced punctures. Vertex moderately wide (V:H≈0.5), puncturation medially very sparse, behind upper margins of markedly protruding eyes much denser.

Pronotum widest at acute basal angles; sides before them slightly sinuate, then straightly parallel to oblique lateroapical truncations, no distinct collar; base shallowly bisinuate, apical margin rather deeply trisinuate. Median furrow not sharply defined, represented by wide sulcus relatively coarsely and rather densely punctured on bottom, puncturation becoming much finer and sparser near apical margin, longitudinal discal elevations almost impunctate; laterobasal fossae deep, D-shaped, broadly touching basal margin and extending to apical fourth of pronotal length, including anteromedian fovea (anterolateral one not developed), leaving almost smooth (punctured only at apical angles) anterolateral space; prehumeral relief triangular, finely and very sparsely punctulate; lateral margins bordering sides of fossae very narrow, smooth. Scutellum very small, trapezoidal, longitudinally depressed, micropunctulate.

Elytra very strongly caudate: sides obliquely truncated just behind base (no subhumeral protrusions), then almost straightly subparallel to midlength and deeply sinuately tapering to very narrow, somewhat obliquely truncated and sharply denticulate (sutural denticle definitely more protruding) apices (on sides similar, rather densely spaced and almost equally coarse denticulation abruptly ends *ca.* 2 mm. from apices). Elytral surface regularly convex; puncturation coarse at base, gradually finer to very fine at apex, longitudinal rows poorly developed; no dfp depressions.

Proepisterna dfp, covered with pale ochraceous pulverulence between numerous smooth elevations; median sulcus of prosternal process very wide (twice wider than smooth lateral rims), densely irregularly sculptured under very dense, long, semierect whitish pilosity; midline of metasternum broadly depressed, with similar sculpture and pubescence, sides of disk finely and sparsely punctulate, separated by narrow zone of much more coarse sculpture on sloping sides from dfp lateral parts and metepisterna; metacoxae with deep transverse dfp depression, coarsely but sparsely punctured otherwise. Ventral profile of 1. sternite straight, abdominal plaque high (apical slope equal in height to the length of 2. sternite behind), sparsely and rather finely covered with somewhat elongate punctures; abdomen otherwise rather coarsely and not sparsely punctured between strikingly extensive (covering *ca.* half of the surface) dfp areas (continuous, wide lateral band and midlateral dfp stripe). Apical emargination of anal sternite broadly rectangularly triangular, flanking lobes regularly rounded. Caudal surface of meso- and metafemora with prominent “brushes” of dense erect whitish pubescence.

Variability: Male paratype somewhat larger (26.5×8 mm.), elytra with slight bronzed hue, ventral dfp areas still more extensive; female (28.5×9 mm.) also with bronzed tones on green elytra, dfp areas on abdomen somewhat less expansive, apex of anal sternite almost regularly rounded with but slight indication of minute shallow incision at tip, femoral brushes less prominent; otherwise all virtually identical.

Geographical distribution: Known only from type series collected in vicinities of Okapa (Eastern Highlands Pr., PNG).

Remarks: Within the *C. [friendorum]*-superspecies *C. oculata sp.n.* is distinctive by green elytra with relatively small but conspicuous lateroapical cupreous spot, bright carmine-red anterior half of epipleura, very large (broadly touching pronotal base, extending to beyond anterior fourth and including anteromedial – and, if developed, also anterolateral – foveola) D-shaped pronotal fossa, and very extensive ventral dfp areas (especially broad medial sulcus of prosternal process).

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

Material examined:

Holotype: „P.N.Guinea, Morobe Prov, Bulolo II 1987” [♂ (RBH: BPfum)]

Paratype: „on vines, Lower Watut, M. Dist.” “3/III/73, B. Gray” [1 ♂ (RBH: BPezu)]

Additional material: none

Holotype: Male 26.5×8.5 mm. Head and pronotum black with bright cupreous dfp bottoms of pronotal fossae and inconspicuously green densely punctulate midline strip; elytral disk green, separated from dark purplish lateroapical band (vanishing at *ca.* the level of metacoxae) by oblique cupreous-red stripe extending between apex and humeral protuberance; bronzed to (basally) bronzed-black suture flanked with narrow violaceous lines, also rudiment of 2. elytral costa bronzed-black; extreme apices golden, apical denticles black; epipleura bronzed (basally) to black (in apical half); ventral side black with slight dark-green lustre, only apical margin of anal sternite purplish.

Frontal depression deep, triangular, reaching very far beyond upper margins of eyes; periocular sulci deep; median stria sharply cut, front (including anterior cavity) with but few widely spaced punctures. Vertex moderately wide (V:H≈0.5), very sparsely punctulate at middle, much denser so behind moderately protruding eyes.

Pronotum *ca.* as wide at acute basal as at not protruding but well marked anterolateral angles; sides rather deeply sinuate just before base, then very slightly divergent; lateroapical truncations almost straight, no distinct collar; base shallowly bisinuate, apical margin rather deeply trisinate. Narrow, finely and densely punctulate strip along midline vanishes at apical third, longitudinal midlateral elevations to both sides of it very sparsely but somewhat coarser punctured; laterobasal fossae deep, somewhat obliquely pear-shaped, basal end rather broadly rounded, apex obliquely subtruncated with narrowly cuneate, sparser but somewhat coarser punctured, extensions towards anterolateral and anteromedian foveae; space between foveae uneven, almost smooth; laterobasal relief triangular, finely and rather sparsely punctulate; lateral margins bordering sides of fossae very narrow, smooth. Scutellum very small, somewhat cordate, smooth.

Elytra very strongly caudate: sides obliquely truncated just behind base (subhumeral protrusions barely discernible), then almost straightly subparallel on basal $\frac{2}{5}$ and arcuately-sinuately tapering to very narrow, somewhat obliquely truncated and sharply denticulate (sutural denticle definitely more protruding) apices (denticulation on sides abruptly ends *ca.* 3 mm. from apices); dorsal profile very deeply concave on apical half. Elytral surface regularly convex except some short irregular longitudinal dishes (including anterior seventh of suture) and indication of 2. costa at base; puncturation very coarse at middle of base, gradually finer to almost indistinct lateroapically; longitudinal rows almost regular on disk; no dfp depressions.

Proepisternal dfp restricted to numerous small foveae on smooth elevated surface; median sulcus of prosternal process slightly wider than impunctate lateral rims, densely irregularly sculptured under rather long, erect grayish pubescence; midline of metasternum deeply depressed, with similar but less extensive sculpture and pilosity, sides of disk with but few fine punctures, lateral parts and metacoxae covered with irregular mixture of dfp foveae between smooth elevations; metepisterna entirely dfp. Ventral profile of 1. sternite straight, abdominal plaque high (apical slope equal in height to the length of 2. sternite behind), very sparsely and rather finely covered with somewhat elongate punctures; lateral band and midlateral dfp stripe on abdomen continuous, moderately wide; surface between them rather coarsely but very sparsely punctured. Apical emargination of anal sternite broadly and deeply arcuate, flanking lobes regularly rounded. Metafemoral brushes well developed, mesofemoral inconspicuous.

Variability: Paratype smaller (22×7 mm.), markedly differing in colouration (green tones along pronotal midline inappreciable; elytral disk almost entirely cupreous; sutural stripe violaceous-blue, linearly flanked with bluish-green; lateroapical bands broader, extending almost to base, black; tips purplish-black; abdominal apex concolorous, greenish-black; anterior spaces before pronotal fossae rather coarsely and densely punctured) but without other appreciable differences.

Geographical distribution: Both type specimens collected in vicinities of Bulolo (Morobe Pr., PNG).

Remarks: One of the most colourful representatives of the genus, similar in colour pattern to the extreme variants of *C. albertisi* GESTRO but clearly differing in shape of pronotal fossae, much more strongly caudate elytra, and many other details. I have a great pleasure to dedicate the species to famous Polish tennis player, Agnieszka RADWAŃSKA, in admiration of her achievements, but especially of the incomparable finesse and ingeniousness of her style.

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