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Cyphogastra clara KERR. – who are you?

(a taxonomical thriller)

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Introduction

The genus *Cyphogastra* DEYR., consisting of large, usually colourful species, is not only highly attractive for collectors, but its often strikingly distinctive forms provoke even serious taxonomists to *ad hoc* publication of faunistic or taxonomic contributions not supported by critical study; as, at the same time, more “synthetically” inclined systematists somewhat widely avoid this taxon [from the time of KERREMANS’ (1910) to my early (HOLYŃSKI 1992a, b) attempts, and then to the first part (HOLYŃSKI 2016) of my currently prepared series, no comprehensive review of the genus or any of its subgroups has appeared: the taxonomic structure or geographical distribution (to say nothing of bionomy) of *Cyphogastra* DEYR. are not significantly better known now than 100 years ago...]. As many of the described taxa remain known only from the types, it is no surprise that great proportion of specimens in collections are misidentified, and *e.g.* synonymic relations presented in publications – especially in catalogues (OBENBERGER 1926, BELLAMY 2008) – look like prepared by casting dice... Another by-product of this situation is multitude of enigmatic names, difficult to reliably attach to any specific taxon. One of such names is *Cyphogastra clara* KERR.

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 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 generic or subgeneric ones (*Buprestina* OBB., *Melobasina* KERR., *Coraebina* KERR.)]

Labels of type-specimens are quoted as exactly as possible, including *italics* and *handwriting* (both represented in my text by *italics*), CAPITAL LETTERS, SMALLCAPS, framing, and approximate colour of the label and/or the *text*.

Explanation of terminology

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

Anteromedian fovea of pronotum: small, often indistinct fovea placed midlaterally at apical margin

Fossae: deep laterobasal depressions of pronotum

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

Collection acronyms:

KBIN = Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, BELGIUM

MCGD = Museo Civico di Storia Naturale „Giacomo Doria”, Genova, ITALY

MNHN = Muséum National d’Histoire Naturelle, Paris, FRANCE

RBH = Roman B. HOLYŃSKI, Milanówek, POLAND

BP*** = (e.g. BPekg): specimen-identifying signature in my collection

Twenty years ago (in 2000) I had the opportunity to examine – among others – the type-specimen of *Cyphogastra clara* KERR. in Museo Civico di Storia Naturale “Giacomo Doria” [MCGD] in Genova; at that time my work was strongly focused on collecting data for the book on *Chysochroa* DEJ. (HOLYŃSKI 2009), so – having been badly short in time – I made only brief notes on some specimens of other genera. As regards *C. clara* KERR., I have only noted the sex (♂) and size (23×7 mm.) of the type, written down the labels:

“N.GUINEA S.E., Paumotu riv., LORIA, IX-XII 92”

“*clara* Kerr., Type” [KERREMANS’ handwriting]

“TYPUS”

”*clara* Kerrem.”

“HOLOTYPUS, *Cyphogastra clara* Kerremans, 1896”

”=*Bruyni* var., *Théry Ann.Soc.Ent.Belg.* 1926, p.71”

”Museo Civico di Genova”

and remarked “?=*C. bicolor* WATH. – differences slight, possibly sexual?”. Consequently, having no particular reason to doubt or perform more attentive investigation on what was not immediately relevant to the actually realized projects, I acknowledged *C. clara* KERREMANS 1896. as a senior synonym of *C. bicolor* WATERHOUSE 1914. Recently, however, my Czech colleague David FRANK called my attention to the fact that the MNHN collection contains specimens having evidently nothing to do with *C. bicolor* WATH. but determined (by KERREMANS!) as *C. clara* KERR., while in BELLAMY’s (2008) catalogue it is – in accord with the additional (hitherto simply ignored by me as “obvious error”) label attached to the MCGD type – listed among the synonyms of *C. bruyni* LSB.! Initially I left these observations unpursued, but now the work on the second (including the *Bruyni*-circle) part of the review of *Cyphogastra* DEYR. made the attempt to clarify the *C. clara* KERR.-problem unavoidable.

The situation was rather paradoxical: it would be difficult to find other pair of New Guinean *Cyphogastra* DEYR.-species *less* similar to one another (cf. **figs. 1** and **3**) than are *C. bruyni* LSB. [(**fig. 1**: slender, elytra (and usually pronotum) bright green, head and (at least partly) ventral side bluish-violet, pronotum markedly narrowed anterad, anterolateral angles subobliterated, fossae transformed into narrow oblique sulci, laterobasal reliefs not individualized (narrow, anteromedian angles obliterated), perihumeral dfp stripes prominent], distributed along the western part of the northern sea-shore of New Guinea, and *C. bicolor* WATH. [**fig. 3**: robustly built, elytra cupreous (rarely brownish), pronotum blue, ventral side green, pronotal sides subparallel, anterolateral angles distinctly accentuated, fossae strikingly broad (occupying practically entire lateral thirds of pronotal surface), laterobasal reliefs well developed (broad, right-angular), no trace of elytral dfp], inhabiting the remote south-east of the island; so, how could I have confused the former with the latter, and evaluate the

differences as “*slight, possibly sexual?*”, or how KERREMANS or THÉRY could have made mistake in the opposite direction? – both versions seemed absolutely unbelievable... Examination of the two *C. “clara” KERR.* specimens borrowed from the MNHN (fig 6) has shown that they do not have much in common with either *C. bicolor WATH.* or *C. bruyni LSB.*, but another, somewhat more “*bruyni-like*” (especially in development of pronotal fossae) beetle (fig 5) has been found in the KBIN material – how to interpret these facts? Let’s consult the original description!

The first sentence (“... *d’un beau vert doré en dessus avec la suture et l’apex bleus; dessous vert émeraude*”) of the diagnosis (KERREMANS 1896: 356), strengthened by the last remark (“*La coloration du dessus se rapproche de celle [entirely bright green – fig. 2] de Cyph. violaceiventris Kerr., ...*”) further increased the confusion: this pattern fits neither *C. bicolor WATH.*, nor *C. bruyni LSB.*, nor the *C. ‘clara KERR.’* specimens borrowed from MNHN and KBIN [having pronotum bright cupreous, elytra green, ventral side cupreous-bronzed]! However, further reading leads to “*Pronotum presque carré avec les angles antérieurs tronqués, ... fossettes latérales grandes, envahissant la moitié des côtés de la base au sommet*”, what agrees well with *C. bicolor WATH.*, much less so with KBIN and MNHN beetles, and definitely not with *C. bruyni LSB.* (the remaining characters mentioned in the description are utterly non-diagnostic, fitting equally well all three options)! Thus, leaving for the moment aside colouration, all informative features point to *C. bicolor WATH.*, but none (colour including!) seems to favour *C. bruyni LSB.* – so, how could have THÉRY (1926) arrived at the conclusion that *C. clara KERR.* is a variety of the latter?

The most likely explanation I can think of is that he probably had not seen the type, but had in his collection [see below!] a specimen determined by KERREMANS as *C. clara KERR.* and identifiable as such with KERREMANS’ (1910) key, whose pronotal fossae showed some resemblance to those in *C. bruyni LSB.*! Well, but to arrive at *C. clara KERR.* one must select “41. *Pronotum plus cuivreux ou plus bleu que les élytres, ou bien noir*”, rejecting the alternative, “*Pronotum de la couleur des élytres*” [leading to *C. violaceiventris KERR.*, to whose dorsal coloration that of *C. clara KERR.* had been originally (KERREMANS’ 1896) compared ...]; then one must accept “48. *Pronotum cuivreux*”, and “50. *Suture élytrale concolore*” – none of these agreeing with the original description! Had KERREMANS (1910) described another species with the same name?

No: the description in *Monographie des Buprestides* (pp. 232-233) is almost literally exact copy of that published 14 years earlier! But “*almost*” seems to make here a significant difference: one additional sentence, inserted *en passant* in the text (“*Un exemplaire de la collection Théry, que je rapporte à cette espèce, a tout le pronotum, sauf les bords latéraux de [a typo for “et”?] la marge antérieure d’un cuivreux brillant*”), seems to clarify the situation! It is known that, writing his *Monographie*, KERREMANS had no direct access to his collection (earlier sold to BMNH) any more; so, unable to check the characters on the type, he has apparently built his key using the above-mentioned THÉRY’s specimen (similar, if not identical, to that from KBIN – see fig. 5), resembling what he remembered as the characteristics of *C. clara KERR.*: the difference (as compared to the original description) in colour seemed probably to him insignificant, whereas relatively very large (rather uncommon in *Cyphogastra DEYR.*) pronotal fossae might – despite discrepant details – have recalled the “*fossettes latérales grandes, envahissant la moitié des côtés de la base au sommet*”. Later he determined as *C. clara KERR.* beetles matching the characters of his key, and so did also THÉRY who, having noticed the similarity in pronotal fossae (extended to large sulciform anteromedian fovea) and colouration to *C. sulcicollis KERR.* (considered by him a variety of *C. bruyni LSB.*), declared *C. clara KERR.* to be also a form of the LANSBERGE’s species.

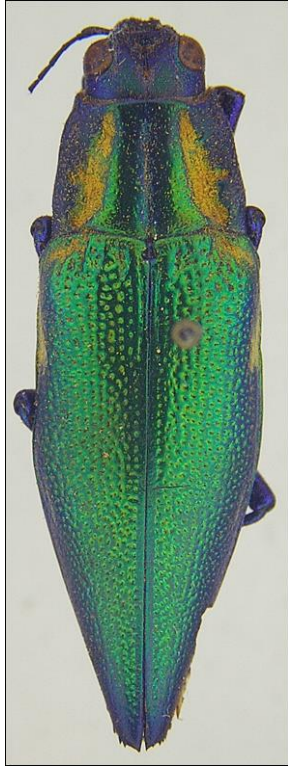


Fig. 1
C. bruyi LSB.
 ♀ [BPeiu], NW-N.Guinea: Sarmeh

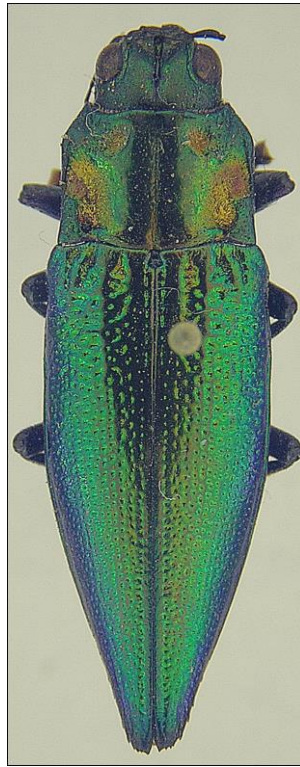


Fig. 2
C. violaceiventris KERR.
 ♀ [BPejt] PNG: 45 km. W Madang



Fig. 3
C. bicolor WATH.
 ♀ [BPekg], SE-N.Guinea: Iloilo



Fig. 4
C. sulcicollis KERR.
 ♀ [BPejg], PNG: 9 km. N Madang: Riwo

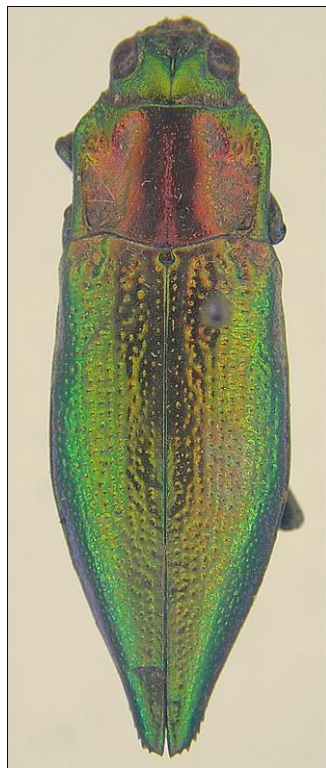


Fig. 5
C. "clara" KERR.
 ♀ [KBIN] PNG: Astrolabe Bay



Fig. 6
C. "clara" KERR.
 ♀ [MNHN], New Guinea

The KBIN and MNHN specimens of *C. "clara" KERR.* are, at the first sight, deceptively similar, but their conspecificity does not seem uncontestedly sure: closer examination reveals several significant differences – which of them (if any...) might have sufficiently resembled KERREMANS' idea of *C. clara KERR.* to consider them conspecific, and then suggest to THÉRY the conspecificity with *C. bruyni LSB.*? KERREMANS (1910) refers to a specimen from the "collection Théry" of "localité indéterminée", what may suggest rather Paris (both specimens from MNHN bear only the labels "Nouv. Guin., Meyer D.", whereas the locality of the KBIN example is more precise: "Astrolabe Bay"); however, only in the latter "les bords latéraux et la marge antérieure" of pronotum are different from the disk, and it is preserved in KERREMANS' "home" collection, so I suppose this is the very "exemplaire de la collection Théry" mentioned in *Monographie des Buprestides* (the label "*clara Kerr.*, A. THÉRY det., *Astrolabe Bay*" [blue ink handwriting presented here as italics] – seemingly incompatible with the qualification "localité indéterminée" – was apparently added subsequently by THÉRY, and may only reflect his evaluation of *C. clara KERR.* as a variety of *C. sulcicollis KERR.*, whose distribution is centered just in that area). On the other hand, this is the only (among the three) specimen whose prominent sulci connecting pronotal fossae to anteromedian foveolae, and dfp stripes anterolaterally encircling humeri, truly suggest affinity to *C. bruyni LSB. s.l.*, so it is the most likely candidate for the one which persuaded THÉRY of the conspecificity with the latter.



Fig. 7
C. cognita HOL.
 ♀ HT [BPfue], PNG: Aseki

But what, then, is the true *C. clara KERR.*? Is it taxonomically identical to *C. bicolor WATH.* as I believed hitherto? In 2000, having previously seen no more than some 3 or 4 specimens (all females) of the latter, I (like, apparently, KERREMANS in 1910) could underestimate the difference in colouration as "slight, possibly sexual?", but my meanwhile accumulated experience (tens of specimens – both females and males – examined during the

last 20 years) convincingly suggests that such interpretation is highly improbable: entirely (dorsal and ventral) bright green colouration is definitely out of the range of *C. bicolor* WATH. variability. So, *C. clara* KERR. seems closely related to, but not conspecific with, *C. bicolor* WATH., being almost certainly a member of the “montane” *C. [caudata]*-superspecies of the *Albertisi*-circle, similar (or, perhaps, even identical – although rather remote type-locality does not seem to support the synonymy) to what I have recently (HOLYŃSKI 2019) described as *C. cognita* HOL. (fig 7).

Acknowledgments

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