

# *Procrustomachia*

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## A new species of *Chrysochroa* DEJ. (Coleoptera: Buprestidae) from China

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### Introduction

*Cyphogastra rugicollis* SND., as generally conceived, is a relatively common species widely distributed over the Indochinese Peninsula. Of the many described colour varieties only one, *C. r. fruhstorferi* WATH., has gained acceptance as valid subspecies: all the others are almost invariably treated as but nomenclaturally unavailable infrasubspecific variants. The parcel with buprestids sent me for examination by Vincent DUCHATEAU contained – beyond many interesting species of *Cyphogastra* DEYR. elaborated in my recent paper (HOLYŃSKI 2023) – an intriguing specimen of *Chrysochroa* DEJ. (sg. *Chrysoxantha* HOL.), which I initially supposed to represent *C. rugicollis* SND. v. *kerremansi* THY.; however, the examination of the series (11 ex.) of the latter form kindly sent me for comparison by L. SEKERKA from EONMP (I did not have any representative of it in my own collection) has raised serious doubts not only as to the taxonomic identity between the studied specimen and “var. *kerremansi*” but also as to the very status of the latter. Attempt to clarify these doubts has been the aim of the present paper.

### 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** BILÝ or **Coraeбина** BED.) are (or may easily become) “homonymous” (but valid!) with [sub-]generic ones (*Buprestina* OBB., *Melobasina* KERR., *Coraeбина* 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 ||. Determination (white, in the form like “*Chrysochroa errans* HOL., det. R. HOLYŃSKI” with year of determination written vertically on the left side) and type-designation [red for primary types, *e.g.* “*Chrysochroa errans* HOLYŃSKI, HOLOTYPE”, green for paratypes, *e.g.* “*Cyphogastra duchateaui* HOLYŃSKI, PARATYPE”] labels added by me are not cited.



**Fig. 1**

*C. rugicollis* SND. f. *typ.*  
♂ [BPhro], “Vientian, Tonquin”



**Fig. 2**

*C. rugicollis* f. *suturalis* KERR.  
♂ [BPhrn], Annam



**Fig. 3**

*C. rugicollis* f. *binotata* THY.  
♂ [BPhrp], “Annam Laos”



**Fig. 4**

*C. rugicollis* *kerremansi* THY.  
♂ [EONMP], Laos: Phongsali



**Fig. 5**

*C. rugicollis* *kerremansi* THY.  
♂ [BPma-], Laos



**Fig. 6**

*C. rugicollis* *kerremansi* THY.  
♂ [EONMP], Annam

### Abbreviations:

H	=	width of head with eyes
V	=	width of vertex between eyes
BP***	=	(e.g. BPm-w): specimen-identifying signature in my collection
≈	=	approximately equal
	=	sign separating data in different rows on the quoted labels

### Collection acronyms:

EONMP	=	Entomologické Oddelení Národního Musea, Praha [CZECHIA]
RBH	=	Roman B. HOLYŃSKI, Milanówek, POLAND
VD	=	Vincent DUCHATEAU, Hautmont, FRANCE

[for other followed conventions, explanations of terms, abbreviations &c. please – if needed – consult earlier parts of the Review].

**BUPRESTIDAE LEACH**  
**BUPRESTINAE LEACH**  
**Buprestini LEACH**  
**Chrysochroina CAST.**  
**Chrysochroa DEJ.**

**Chrysoxantha HOL.**  
*Chrysoxantha* HOLYŃSKI 2009: 129  
[type-species: *Buprestis buqueti* GORY 1833]

***Chrysochroa (Chrysoxantha) kerremansi* THY.**  
*Chrysochroa suturalis* var. *Kerremansi* THÉRY 1898: 368  
*Chrysochroa Buqueti* var. *Bourgoini* OBENBERGER 1928: 123-124

### Material examined:

**Holotype** [of *C. bourgoini* OBB.]: „Vientiane” „**TYPUS**” „*Chrysochroa* || *Buqueti* var. || *Bourgoini* m. Type || Det. D<sup>r</sup> Obenberger” [♀ (EONMP)]

**Additional material:** 5 ♂ and 5 ♀ labelled: “Laos” [3 ex.], “Laos: Gnot-ou, Phongsali” [1], “Laos: Vientiane” [1], “Annam” [4], “Vietnam N: Hoa binh (Ha son binh)” [1]

**Remarks:** Described as extreme variety of *C. suturalis* KERR. (itself in fact no more than the darker – showing little yellow in basal half of elytra – end of the range of variability of *C. rugicollis* SND.), and hitherto almost invariably treated as taxonomically insignificant infrasubspecific colour variant. However, the material sent me from EONMP has revealed some facts persuasively suggesting different interpretation:

1). First signal came from morphology: in *C. rugicollis* SND. the extent of yellow at elytral base seems tightly correlated with that forming the post-median transverse band [Figs. 1-3], so if “*v. kerremansi*” represents simply the extreme – completely lacking any peribasal yellow – end of the range of variability of *C. rugicollis* SND., its postmedian band should also be lacking or extremely reduced; in fact, the opposite is true: no indication of significant reduction evident, all examined specimens show broad, fully developed band [Figs. 4-6, 8]! Such situation suggests different genetical mechanisms underlying variability in elytral colouration: e.g. perhaps while in *C. rugicollis* SND. the (apparently multiallelic) gene determining the extent of basal yellow (or that of dark colour masking the yellow) is apparently tightly linked to (forming a supergene with) that responsible for the development of transverse postmedian band, in “*v. kerremansi*” they have been disconnected and vary (within drastically restricted limits) separately.

2.) Geographical distribution [Map 1] – even if poorly understood because of scarcity of verifiable material and mostly inexact and/or unreliable labeling [the majority of examined

specimens bear labels like “Annam”, “Laos” or “Annam Laos”, where “Annam” was apparently understood in terms of historical area extending over almost entire eastern part of modern Laos (thence labels like “Annam Vientiane”!), so that the extent of sympatry (none? marginal? extensive? full?) with other forms remains open to more or (usually...) less informed guesses – seems restricted to but a fraction of the area of *C. rugicollis* *SND. s.l.*

3) The *aedoeagus* of “*v. kerremansi*” [Figs. 4-6] (darker, more constricted in basal and apical thirds) seems slightly but consistently different from that of *C. rugicollis* *SND.* [Figs. 1-3]! Thus, in my opinion, there is little doubt that the “*varietas*” described by THÉRY and OBENBERGER is in fact a valid taxon rather than infrasubspecific form; open – pending more exact and reliable locality data have been accumulated – remains only the question if it should be ranked as a subspecies of *C. rugicollis* *SND.* or separate species.



**Fig. 7**

*C. rugicollis fruhtstorferi* WATH.  
♂ [BPiq], Tonkin: Than Moi

**Fig. 8**

*C. rugicollis kerremansi* THY.  
♀ [EONMP: *bourgoini* T], Laos: Vientiane

**Fig. 9**

*C. errans* *sp.n.*  
♀ [VD], China: Nanning

***Chrysochroa (Chrysoxantha) errans* *sp.n.***

**Material examined:**

**Holotype:** “2021·5 || Guang Xi || Nanning || Fenglingmanlu” [♀ (VD)]

**Additional material:** none

**Holotype [Fig. 9]:** Female 43×14.5 mm. Head and pronotum dark purplish; elytra dark blue with broad yellow postmedian band; sternum and metacoxae dark purplish-violaceous, abdomen dark blue with purplish lateral depressions of sternites, femora and tibiae violaceous-blue, tarsi blackish-blue, antennae black. Ventral side covered with rather long brownish pubescence, which on prosternal process is dense and erect, along midline of sternum erect but sparse, on sternal sides dense semierect, and on abdomen also semierect but sparse; pronotum and elytra glabrous.

Front longer than wide, *ca.* twice wider at epistome than at vertex, sides sinuately divergent; frontal depression moderately deep, triangular, not reaching distinctly beyond

upper margins of eyes, coarsely and densely irregularly punctured; punctulation of vertex fine, not very dense, regular; V:H≈0.3. First antennal joint club-shaped, robust, *ca.* 2.5× longer than thick; 2. somewhat wider than long, *ca.* 4× shorter and much thinner than 1.; 3. flattened, elongately subtriangular but with completely obliterated outer apical angle, *ca.* as long and wide as 1.; 4. definitely triangular (outer angle acute), slightly shorter but distinctly wider than 3.; 5.–10. progressively shorter, narrower and more rhomboidal: 10. only as wide as and 3× shorter than 3.; 11. narrower but slightly longer than 10., asymmetrically subovate.

Pronotum transversely trapezoidal,  $1\frac{3}{4}$ × wider at base than at apex, sides sinuately convergent; basal angles broadly rounded, basal margin straight on both sides of prominent triangular prescutellar lobe; anterior margin inconspicuously sinuate on both sides of broadly truncated median lobe. Puncturation somewhat coarser but shallower on lustrous median third of disk, slightly finer but deeper, “sharper” and denser on mat and uneven sides; pair of small midlateral smooth reliefs at very base conspicuous. Scutellum invisible.

Elytral sides subparallel in basal fourth, then regularly arcuate (with maximum width at midlength) to inconspicuously truncated apices; lateroapical angle totally obliterated, suturoapical accentuated with sharp denticle. Each elytron with four distinct, very sparsely (median two) or almost normally (3. and 4.) punctulate costae, vanishing or almost so on basal and apical fifths; puncturation between them fine but very dense.

Sides of prosternal process sinuate, apex tridentate, lateral denticles small but sharply right-angled and distinctly projecting outwards, tip of median one broadly rounded; surface slightly convex, flattened along midline, rather coarsely and densely irregularly punctured; puncturation of proepisterna coarse, unevenly distributed: generally very dense but much sparser or even lacking on some places; metasternum broadly depressed and sparsely punctured along finely carinulate midline, finely and very densely punctulate on sides and metacoxae; each sternite transversely depressed on both sides, leaving only median fourth regularly depressed and sculptured similarly to median part of metasternum; sides of abdomen very densely, finely, regularly punctulated; apex of anal sternite broadly biarcuate with small triangular incision at middle.

**Geographical distribution [Map 1]:** China: prov. Kuang-hsi; known only from the holotype.

**Remarks:** *C. errans sp.n.* differs but very slightly, mainly in colouration (dark parts of elytra blue rather than violaceous, pronotum and sternum darker purplish – somewhat intermediate between those of *C. rugicollis* SND. and *C. fruhstorferi* WATH. [Fig. 7] – rather than carmine red) from *C. kerremansi* THY., the validity and status of both being rather poorly corroborated, but at the present state of our knowledge, with the currently available data, their taxonomic separation seems definitely warranted.

**Revised key to the identification of species of the sg. *Chrysoxantha* sg.n.**

- 1 (4) Sides of pronotum contrastingly different in colour from median zone
- 2 (3) Both apical denticles of elytra sharp ..... *C.(C.) buqueti* (GY.)
- 3 (2) Lateroapical denticle of elytra obliterated ..... *C.(C.) mirabilis* THS.
- 4 (1) Pronotum unicolorous
- 5 (8) Elytral base and/or suture on basal half at least partly yellow
- 6 (7) Pronotum carmine red ..... *C. (C.) rugicollis* SND.
- 7 (6) Pronotum dark purplish-blue ..... *C.(C.) fruhstorferi* WATH.
- 8 (5) Basal half of elytra entirely darkblue or violaceous ..... *C. (C.) rugicollis* SND.
- 9 (10) Pronotum carmine red ..... *C. (C.) kerremansi* THY.
- 10 (9) Pronotum purplish ..... *C.(C.) errans* sp.n.



**Map 1**

**Geographical distribution of the *C. rugicollis* SND. s.l.**

[only exact localities of exactly (up to the “variety”) identified specimens included]

● – *C. rugicollis* SND. s.str.; ● – *C. kerremansi* THY.; ● – *C. fruhstorferi* WATH.; ● – *C. errans* sp.n..

**Acknowledgements:**

I am greatly indebted to Vincent DUCHATEAU for having kindly sent me this interesting specimen for examination and study, and to Dr. Lukáš SEKERKA for having sent the series of *C. (C.) kerremansi* (THY.) [including the type of *var. bourgoini* OBB.] for comparison.

**Literature:**

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