A neglected trichiine beetle from Costa Rica (Coleoptera: Cetoniidae)

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Key words: *Giesbertiolus*, Scarabaeoidea,Trichiini, new species, Costa Rica.
Giesbertiolus linnaei spec. nov. is described after a female from Costa Rica, in order to prevent this unusual beetle, collected as long ago as 1895, from falling into oblivion. It is compared with the two known *Giesbertiolus* species and with other Mesoamerican Trichiini. The ignorance as to the precise relationships of the three species included is briefly discussed.

Introduction

In the Leiden museum is a curious specimen of the beetle tribe Trichiini, collected in Costa Rica as long ago as 1895. It originally came from the collection of Oliver E. Janson (1850-1926), member of a family of dealers in insects in London (involved with such renown collectors as Alfred R. Wallace). Instead of selling, Janson kept the Cetoniinae and their relatives, in which he was a respected expert. After Janson, at least four coleopterists looked at the single available female, without consequent action. Janson himself, judged from a label written in his hand, thought it to represent a New World species of the Palaearctic genus *Gnorimus* Le Peletier & Serville, 1828 – actually not that far off the mark, certainly not in his days, as can be seen from a first impression (fig. 1). Others (like J. van Dalsum) dubbed it "*Iridognorimus*", judged from associated labels, indicating its special position. For a long time we hesitated to describe this beetle, hoping for the discovery of fresh material, including the male, but, as nothing has come up, it is now decided that, after over a century of stalling, a formal description is in order.

The closest named New World relatives of the Costa Rican trichiine seem to be in *Giesbertiolus* Howden, 1988 (see in addition to original paper, key in Delgado-Castillo & Morón 1991, Howden 1972, and Howden's 1968 review), but our female is plumper and larger — its body length being over 21 mm (the few reported *Giesbertiolus* are 10-15 mm). It has certain primitive features, like the presence of a virtually complete set of punctate elytral striae and more or less raised interstriae (many derived trichiines – we have seen virtually all trichiine genera – have a flat elytral disc, with the striae more or less effaced and/or confined to the disc). The two species in the equally related genus *Dialithus* Parry, 1849 differ from *Giesbertiolus* by their deeply excised clypeus and other characters, like large, symmetrically arranged, depressed iridescent markings. As our Costa Rican novelty is quite different from the two known *Giesbertiolus* species, there is no other option than to describe it under a new species name.

We are not at all sure whether the three known species are genuinely congeneric, although this new *Giesbertiolus* does not differ radically from Howden's original generic

Fig. 1. *Giesbertiolus linnaei* spec. nov. Habitus, oblique view. Scale line = 5 mm.

diagnosis; whatever the final conclusion, this beetle deserves a proper description, and the present allocation to *Giesbertiolus* is tentative. Our colleague Enrico Ricchiardi advises to establish a new genus – as done in a similar situation with another odd, neglected Janson specimen several years ago (Krikken, 1978). We still count, however, on a speedy discovery of the males to solve this question – perhaps the industrious Costa Rican community of biologists will find them following this publication. Note that the male sex may be quite different. Our colleague Angel Solís of INBio informs us that he has not seen this species. In the description some observations are added which might be relevant to a future generic reassessment of the Costa Rican beetle, and the pictures are also quite explicit. The topographic origin of the specimen is "Az[ah]ar de Cartago" (fig. 9) in Costa Rica, and Dr M. Kapelle (San José, CR) kindly commented on the nature of this locality (see below).

Systematic part

Giesbertiolus linnaei spec. nov.
(figs 1-8)

Material examined.— Holotype (Leiden museum), with several labels, two cited here:
1) "Azar de Cartago \ Costa Rica. \\ C.F.Underwood. \ 28.6.95." (figs. 9-10).
2) "Gnorimus \ politus Jans.\ Type ♀ [Janson's hand] \ apparently a \ nomen nudum \ J. v. Dalsum [Van Dalsum's hand] \\ ♀ \ Azahar Cartago June 28. \ 95 [Janson's hand?]".
Janson's species-group name remained unpublished.

Description.— Holotype (female). Length ca 21.5 mm (with head slightly bent down). Entirely black, shiny, with greenish-white iridescent tomentous markings; head appendages partly brownish. Pilosity pale yellow-brown, limited on dorsal, abundant on ventral side; many punctures with minute whitish seta.

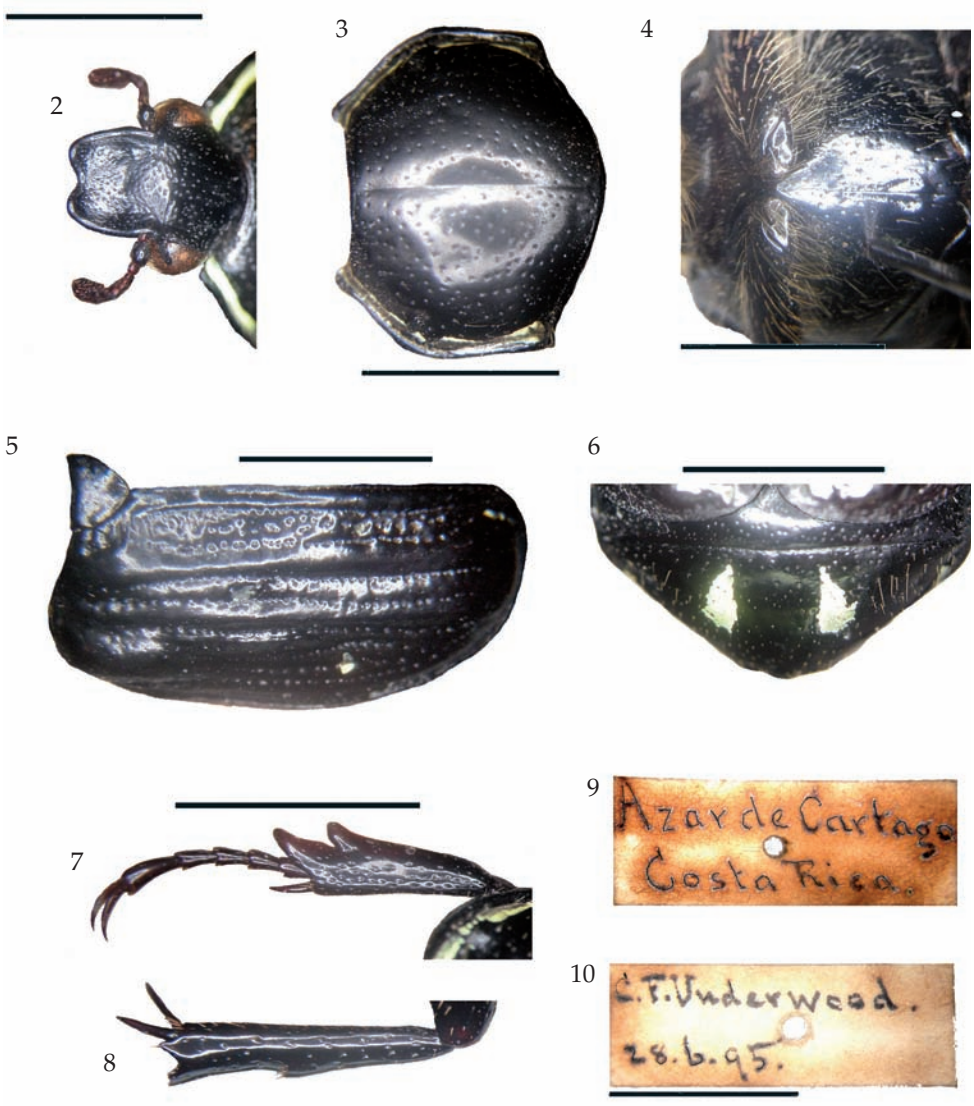
Clypeus anteriorly bisinuate, tips rounded, median emargination shallow, margins raised, surface laterally concave; clypeal surface (apart from margin) abundantly finely punctate, size of punctures larger on convex intergenal surface and frons (larger punctures are more or less umbilicate; entire upper surface of head glabrous).

Pronotum subheptagonal, with distinct anterolateral and posterolateral angles, and widely arcuate sides; lateral borders very distinctly marginate, on inner side lined with distinct, iridescent band, which is interrupted halfway. Apex immarginate, base finely marginate from scutellar corner to near humeral elytral umbone, antescutellar border immarginate, posterolateral area depressed, with margination obsolescent. Disc with shallowly indented midline over virtually entire length, on either side a very shallow paramedian depression. Pronotum with numerous scattered, distinct, isodiametric, seta-bearing punctures, separated by 3-8 times their diameter; setae on disc very short, hardly distinct at x75, semierect, their length increasing laterad to long, distinct, recurved, brownish setae (long, more or less erect on posterolateral angle).

Scutellum broadly semielliptic, with sparse, fine, scattered punctation, glabrous. Elytra with transversely convex general surface, with ten strial rows of punctures from suture to epipleural border, five of them between suture and somewhat elongate humeral umbone; strial punctures coarse, densely arranged, mostly filled with some whitish tomentum; apical umbone distinct; apicolateral border widely rounded to shortly rounded apicosutural section; epipleuron narrowing quickly caudad, changing into marginate elytral border. Each elytron with discal interstriae 1, 3 and 5 evenly, slightly convex (virtually impunctate), 2 and 4 flat (2 abundantly coarsely punctate, 4 less so); interstria 2 with iridescent spot at ca 0.3 from apex and at apex; interstria 4 with iridescent spot halfway interstrial length, interstriae 7-8 with joint iridescent spot at ca 0.3 from apex.

Mouthparts unmodified, mentum shallowly emarginate anteriorly, in accordance with clypeal shape; maxillae robust, with unmodified 4-segmented palpi. Antennae 10-segmented, scapus strongly claviform, all elements unmodified. Preprosternum simply tectiform, lateral surface slightly concave; posterolateral ventral surface of prothorax concave. Most of ventral side of thorax and abdomen abundantly to densely (hemi-) punctate-setose. Ventrolateral surface of prothorax densely punctate-setose, setae long, semierect, directed laterally. Postprosternum unmodified.

Mesocoxae narrowly separated, mesometasternal transition convex, lacking distinct protrusion. Metasternal disc deplanate, sparsely punctate-setose, shiny, density of fine, distinct punctation and associated pilosity increasing to anterolateral surface of metasternal wings. Abdomen with 7(1+6) visible sternites, their lateral dorsoventral transition rounded; sternites 3-5 laterally with small iridescent markings (invisible from above); sternites laterally, and entire anal sternite (7) more densely punctate-setose than rest of abdominal surface. Pygidium strongly transverse, general surface slightly convex, apex near margin sharply reflexed, reflexed ridge medially slightly, but distinctly protruding. Pygidium with larger iridescent marking on either side of midline and smaller spot in lateral corner. Propygidium and pygidium sparsely, finely punctate,



Figs 2-10. *Giesbertiolus linnaei*. 2, head (with antennae), full-face view; 3, pronotum, dorsal; 4, scutellum and left elytron, dorsal; 5, right protibia and tarsus, upperside; 6, right metatibia, underside; 7, pygidium, dorso-caudal; 8, mesometasternal transition between mesotrochanters, ventral (rostral side is to the left); 9-10, upper- and underside of collection event label (Janson's handwriting). Scale lines all = 5 mm.

shiny; subapical margin of pygidium abundantly punctate-setose, reflexed surface punctate-rugulate-setose.

Protibia robust, with two large external denticles and long acuminate terminal spur; underside with low longitudinal ridge; surface with numerous distinct, punctures (underside with long setae). Protarsus long, with large, sickle-shaped claws. Femora all

slender, unmodified, abundantly hemipunctate-setose. Metacoxa broad laterally, posterolateral angle shortly rounded. Meso- and metatibiae straight, unmodified, with external spine-bearing transverse ridge at ca 0.4 from apex; tibial apices trilobate-angulate, with pair of long, acuminate terminal spurs. Meso- and metatarsi long and slender, with large sickle-shaped claws (metatarsi partly missing).

Compare scale lines with figures for measurements.

Diagnosis.— The combination of the strial-interstrial sculptural pattern of the elytra, the shape of the clypeus, the distribution of the iridescent markings, and the large size distinguish *G. linnaei* from all other New World trichiines, including *Dialithus*. See table 1 for differences between the three *Giesbertiolus* species.

Note that the white colour of the iridescent markings is dependent on the viewing angle (hence the differences between the pictures).

Collector and locality.— Cecil F. Underwood (1867-1943) was not merely a casual collector. Born in London, he lived most of his life in Costa Rica, where he worked as a taxidermist-collector and one finds his name as species eponym (*underwoodi*) of several Central American mammals and birds (see Goodwin, 1946, who also gives a picture of him). We saw other authentically labelled trichiines he collected for Janson and, consequently, there can be no doubt as to the Costa Rican origin of the material.

The locality name varies on the labels, but our correspondent Maarten Kapelle assures us that it must indeed be spelled Azahar, is near Cartago, adding that the place might be named after trees (*Clusia* sp.) in the area. The approximate location would then be: Llano Grande: Azahar, 09°56′ N / 83°54′ W, altitude 2270 m. This is on the slopes of the Irazú Volcano. The other *Giesbertiolus* are from humid upland forest in South Mexico and Central Panama (and possibly Costa Rica, undocumented records of *G. ornatus* on the Web) .

Derivatio nominis.— Dedicated to the classic innovator of biological nomenclature: Carolus Linnaeus, who 300 years ago published his 10th edition of the Systema Naturae.

Table 1. List of species of *Giesbertiolus* and their differences.

Giesbertiolus Howden 1988, three species, Mesoamerica

G. ornatus Howden 1988 (type-species, original designation; both sexes known) – Panama: Panama Prov, Costa Rica?

G. festivus (Howden, 1972, in *Dialithus* Parry; male only) – Mexico: Chiapas & Guerrero States (Morón et al. 1997)

G. linnaei spec. nov. (female only) – Costa Rica: Cartago Prov.

Tentative differences between:	*linnaei* spec. nov.	*festivus*	*ornatus*
Elytral striae	5 (disc) +5 (side)	5 (disc)	5 (disc)
Body length mm ca	21.5	14.5-15.5	10-12
Iridescent markings head	absent	marginal line	marginal line
Iridescent markings pronotum	lateral margin only	midline + margin	midline + margin

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Three colleagues, Jan van Tol (Leiden, Netherlands), Enrico Ricchiardi (Turin, Italy), and Angel Solís (Instituto Nacional de Biodiversidad / INBio, Costa Rica), kindly commented on a draft of this paper. Maarten Kapelle (San José, Costa Rica) promptly responded to our question about the locality. René Dekker (Leiden, Netherlands) pointed to Goodwin's paper.

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