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## A new species of *Eupholus* BOISDUVAL from Papua New Guinea. (Coleoptera, Curculionidae, Entiminae)

Alexander RIEDEL & Thierry PORION

### Abstract

A new species of *Eupholus* BOISDUVAL 1835 is described from the Aseki area of Papua New Guinea: *Eupholus circulifer* sp. n. It is closely related to *E. nagaii* (PORION, 1993). Both of them belong to the *loriae*-group of *Eupholus*.

### Introduction

Weevils of the genus *Eupholus* BOISDUVAL 1835 are undoubtedly among the most beautiful examples of the Papuan fauna. Despite of their splendid coloration and large body size many species have only been described in recent years (LIMOGES & PORION, 2004, PORION, 1993, 2000; RIEDEL, 2002). Some are relatively common in their area of distribution, such as *E. schoenherri* (GUÉRIN-MÉNEVILLE, 1838) or *E. bennetti* GESTRO 1876, but others appear to be rare and / or difficult to collect. One more of these rare species is described below. Although the area of Aseki in Morobe Province of Papua New Guinea became accessible to the western world in the 1960s and although a large number of native insect collectors work in this region for the past 30 years, only recently one specimen of this conspicuous new species was collected.

### *Eupholus circulifer* sp. n. (Figs 1-2)

**Type material. Holotype:** PAPUA NEW GUINEA, Morobe Prov., Aseki, Hamoini village, 12.XI.2005, local collectors, obtained from M. HUDSON (presently stored in Thierry PORION Collection, Jaujac; later to be deposited at Muséum de Lyon, Rhône, France) [pinned through right elytron; genitalia dissected, in glycerol / microvial attached to pin; left ala cut at base, on cardboard attached to pin].

#### Description.

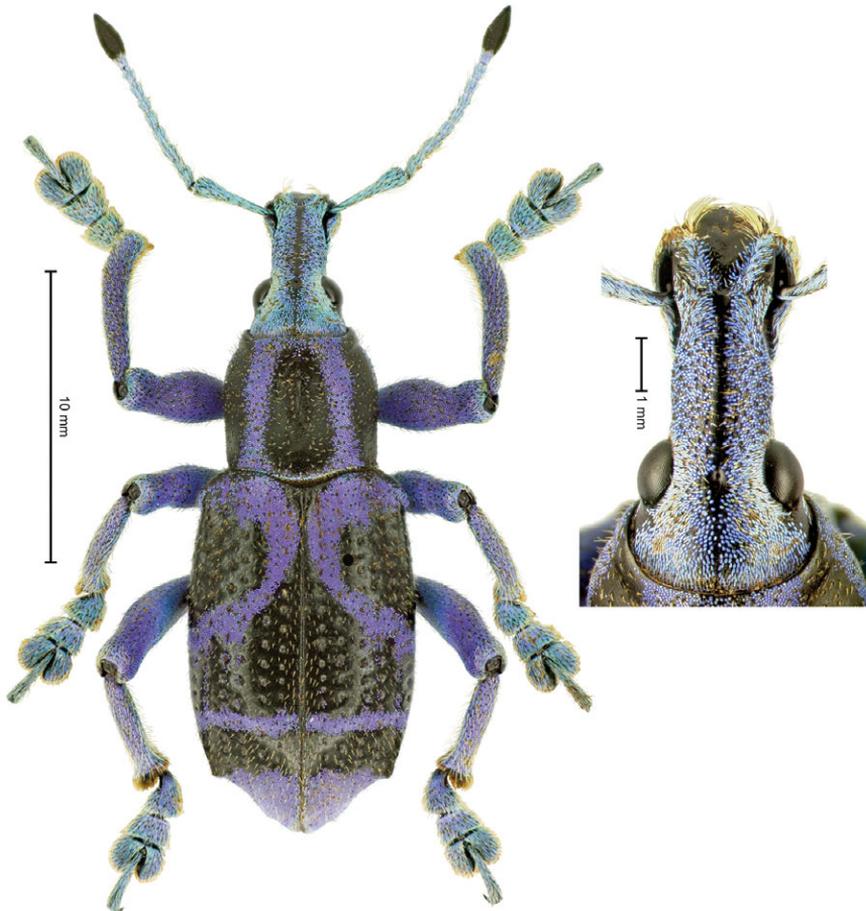
Holotype, male (Fig. 1). Coloration largely composed of areas densely covered with cobalt blue scales and of black subglabrous cuticle; scales usually isolated from each other, not overlapping.

**Length.** Total including rostrum 22 mm; pronotum + elytron 17 mm.

**Head.** Densely squamose except medially between eyes with glabrous fovea and laterally behind eyes with glabrous band separating dorsal and ventral vestiture; dorsally eyes bordered by dense clusters of pale-bluish, lanceolate scales; remainder with blue, ovate appressed scales. Vertical diameter of eye 1.43 X horizontal diameter.

**Rostrum.** (Fig. 1) 1.84 X as long as wide at base; maximum width in front of antennal insertion 1.39 X width at base. Dorsum in cross-section almost evenly rounded towards antennal scrobes; densely covered with ovate to amygdaloid appressed blue scales; interspersed with transparent recumbent to subrecumbent setae; both scale and setae pointing towards midline; medially with very low, glabrous costa. Epistome heart-shaped, sunken ventrad, posterior border sharply impressed but not bordered by distinct ridge. Antennal scrobes complete, but posteriorly becoming indistinct because of interspersed scales. Venter densely covered with appressed blue scales, densely interspersed with long suberect setae; medially with deep furrow, sublaterally bordered by pair of shallower furrows; anteriorly behind prementum with pair of clusters of each 5 stiff erect setae, subequal to length of prementum.

**Antenna.** Funicle slender, elongate; funicle + club 2.56 X length of scape; scape and funicle densely clothed with light blue, elongate, recumbent scales.



**Fig. 1.** Habitus of *Eupholus circularifer* sp. n., holotype; right: dorsal aspect of head and rostrum.

**Pronotum.** 1.06 X wider than long; medially with shallow, broad impression, its surface subglabrous, dull, microreticulate, sparsely punctate, with sparse suberect lanceolate setae; median subglabrous impression bordered by pair of blue bands of round, appressed scales and interspersed, suberect, lanceolate setae; sublaterally followed by pair of broad, subglabrous bands; in lateral aspect pronotum in ventral 2/3 densely squamose with appressed round to amygdaloid blue scales, in upper third black dorsal sublateral band and blue submedian band visible.

**Scutellum.** fully covered by elytra.

**Elytron.** 3.44 X longer than wide between humeri; greatest width ca. at middle, 1.10 X wider than between humeri. Interval 5 in apical 1/4 with distinct knob; humeri with weakly rectangularly projecting callus; interval 7 behind humeral callus somewhat swollen to level of metacoxa, but without forming a distinct ridge; with coarse striae, punctures each containing one minute recumbent seta and often a small amount of ferruginous substance; interstriae with 2-3 irregular rows of short stiff suberect setae, quite conspicuous when viewed against black surface of subglabrous areas; subglabrous areas moderately shining, but somewhat dull, weakly microreticulate, coriaceous; with following sophisticated pattern of cobalt blue squamose areas: apical declivity and band lateral of stria 9; subapical, narrow, transverse band from suture to lateral margin; in basal half with conspicuous ring-shaped band covering humeral callus, base of elytron, suture some distance from base, curving laterad shortly in front of middle, uniting with squamose band of lateral margin above metacoxa.

**Ala.** Length 17.5 mm.



**Fig. 2.** Male genitalia of *Eupholus circulifer* sp. n., holotype. Aedeagus in lateral aspect (left); in dorsal aspect (middle). Transfer apparatus (right).

**Thoracic venter.** Densely squamose with blue, round to lanceolate, recumbent scales; posterior process between forecoxae glabrous.

**Legs.** Femora and tibiae densely squamose with round, appressed scales, cobalt blue; vestiture interspersed with glabrous punctures each bearing a single, transparent, suberect seta; tarsi with lanceolate, recumbent scales, lighter blue.

**Abdomen.** Densely squamose with blue, round to amygdaloid, recumbent scales; ventrites 2-5 posteriorly with fringe of lanceolate, pale blue to white scales.

**Genitalia.** Aedeagus (Fig. 2.) with sides weakly converging to apical orifice, then in straight line converging to rounded apex; in lateral aspect sinuate to flattened tip. Endophallus with compact, symmetrical transfer apparatus.

**Differential diagnosis.** The color pattern of elytra and pronotum is diagnostic of this species and similar ones can be seen in only two other *Eupholus* species, *E. vlasimskii* BALKE & RIEDEL 2002 and *E. nagaii* (PORION, 1993). *E. vlasimskii* possesses also a circle pattern in the basal half of the elytron, but its pronotum is evenly covered with green scales, whereas *E. circulifer* sp. n. and *E. nagaii* have a black median area. Furthermore, these two species possess a subapical transverse band, whereas *E. vlasimskii* possesses another subapical circle. In *E. nagaii*, the “circle” is basally opened and extends further posteriad, being rather U-shaped. It is connected to the subapical transverse band. The apical declivity is evenly squamose in *E. circulifer* sp. n., but with a black center in *E. nagaii*. The scales are usually isolated from each other in *E. circulifer* sp. n., but overlapping in *E. nagaii*.

**Etymological note.** This epithet is a combination of the Latin noun *circulus* (ring) and the suffix *-fer* (carry, bear). It refers to the ring-shaped pattern on the elytra.

## Discussion

The Aseki area of Papua New Guinea is a traditional “hunting ground” for commercial insect collectors, so the late discovery of this new species is a surprise. Although *Eupholus bennetti* has been collected there in large numbers, only one specimen of *E. circulifer* **sp. n.** was captured so far. This raises the number of *Eupholus* species endemic to this area to four: besides *E. circulifer* **sp. n.**, *E. euphrosyne* (PORION, 1993) as well as another undescribed species (RIEDEL, in prep.) are recorded exclusively from the Aseki-valley; *E. bennetti* is also found in the Bulolo-valley and in neighboring areas of the Gulf province, but not in the Eastern Highlands or the Papuan peninsula. So, this is a clear indication that the entomofauna of the Aseki area is remarkably diverse and endemic – a fact not so obvious from the study of birds and mammals, groups that conservation biologists usually focus on.

Phylogenetically, *E. circulifer* **sp. n.** is closely related to *E. nagaii* from Maprik (Prince Alexander Mountains, East Sepik Province). Both belong to the *E. loriae*-group of RIEDEL (2002) as evident from the structure of the male transfer apparatus (Fig. 2, right) and by the dorsally rounded rostrum. Although at first glance the elytral color pattern looks different, the circle on the elytron of *E. circulifer* **sp. n.** is probably homologous with the U-shaped marking of *E. nagaii*. As in other members of the *E. loriae*-group, their scutellum is largely covered by the elytra. *Eupholus vlasimskii* is a second species with circle-shaped elytral marks. A comparison between *E. vlasimskii* and *E. circulifer* **sp. n.** is impeded by the fact that the former is known from a female, and the latter from a male specimen only. However, the presence of a fully exposed scutellum, its rostrum with a median furrow, and its elytral morphology with interval 9 visible from above in the basal quarter indicate that *E. vlasimskii* is not a member of the *E. loriae*-group. Therefore, the similarity of its elytral pattern is presumably the result of convergence.

## Acknowledgements

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## Zusammenfassung

Eine neue Art der Gattung *Eupholus* BOISDUVAL 1835 wird aus der Aseki-Region von Papua Neu Guinea beschrieben: *Eupholus circulifer* **sp. n.** Sie ist nahe verwandt mit *E. nagaii* (PORION). Beide Arten gehören zur *loriae*-Gruppe von *Eupholus*.

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Author's adresses:

Alexander RIEDEL  
 Staatliches Museum für Naturkunde  
 Erbprinzenstr. 13  
 D-76133 Karlsruhe  
 Germany.  
 email: riedel@smnk.de

Thierry PORION  
 Les Plots  
 07380 Jaujac  
 France.

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