

ENZO COLONNELLI

THE SYSTEMATIC POSITION OF
CONALIOPHTHALMUS VOSS, WITH DESCRIPTION
OF TWO NEW SPECIES FROM MOZAMBIQUE,
AND NEW SYNONYMIES
(Coleoptera Curculionidae)

ABSTRACT - COLONNELLI E., 2009 - The systematic position of *Conaliophthalmus* Voss, with description of two new species from Mozambique, and new synonymies (Coleoptera Curculionidae).

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Is discussed the systematic position of *Conaliophthalmus* Voss, 1962 and *Ophthalmorrhynchus* Hoffmann, 1965, and the latter is newly placed under synonymy of the former. The tribes Dermatodini Emden, 1936 and Ophthalmorrhynchini Hoffmann, 1965 are both newly sunk as synonyms of Cneorhinini Lacordaire, 1863. Two new species of *Conaliophthalmus*, *C. carpanetoi* and *C. viridipes*, both from Mozambique, are described. A key to species of *Conaliophthalmus* is included.

KEY WORDS - Cneorhinini, Dermatodini, Ophthalmorrhynchini, *Conaliophthalmus*, *Ophthalmorrhynchus*, New synonymies, Mozambique, New species.

RIASSUNTO - COLONNELLI E., 2009 - Sulla posizione sistematica di *Conaliophthalmus* Voss, e descrizione di due nuove specie del Mozambico con nuove sinonimie (Coleoptera Curculionidae).

La posizione sistematica di *Conaliophthalmus* Voss, 1962 ed *Ophthalmorrhynchus* Hoffmann, 1965 è rivista, ed il secondo è posto in sinonimia del primo. Le tribù Dermatodini Emden, 1936 ed Ophthalmorrhynchini Hoffmann, 1965 sono considerate sinonime di Cneorhinini Lacordaire, 1863. Sono descritte due nuove specie di *Conaliophthalmus*, *C. carpanetoi* e *C. viridipes*, entrambi del Mozambico. Viene stilata una chiave dicotomica per tutte le specie di *Conaliophthalmus* finora descritte.

PAROLE CHIAVE - Cneorhinini, Dermatodini, Ophthalmorrhynchini, *Conaliophthalmus*, *Ophthalmorrhynchus*, Nuove sinonimie, Mozambico, Nuove specie.

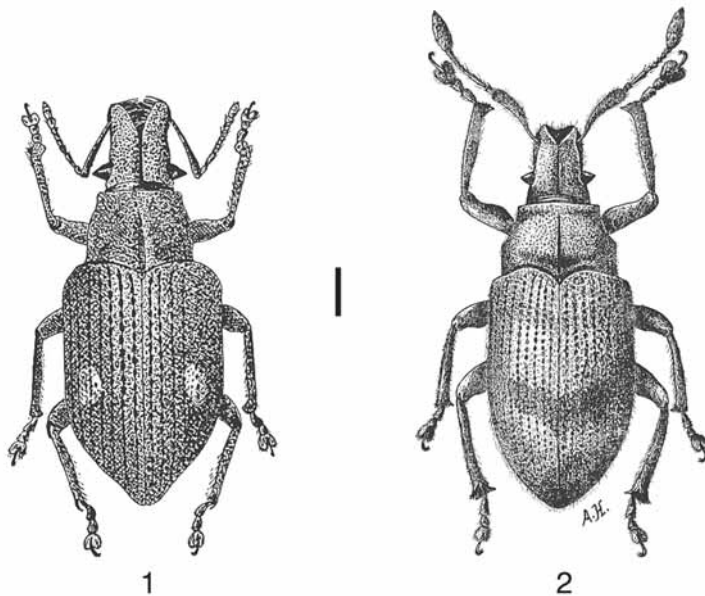
INTRODUCTION

The genus *Conaliophthalmus* Voss, 1962 was proposed by Voss (1962) for a peculiar species of brachyderine weevil from the Republic of Congo (formerly Zaire) collected in the Upemba National Park. The most striking feature of the type species *Conaliophthalmus albomaculatus* Voss, 1962 is the sharply conical shape of the eyes (fig. 1). Voss attributed with some doubt *Conaliophthalmus* to the entimine tribe Dermatodini, characterised by cavernose corbels (sensu van Emden, 1944), prominent humeri, sulcate rostrum with a transverse groove separating it from head, although *Conaliophthalmus albomaculatus* has not such a sulcus.

After few years Hoffmann (1965), clearly overlooking the paper by Voss (1962), proposed for a species from the then French Congo the genus *Ophthalmorrhynchus*, the description and figure of which matches in all points that of *Conaliophthalmus*. In addition, Hoffmann (1965) described the new tribe Ophthalmorrhynchini to accommodate his new species *Ophthalmorrhynchus descarpentriesi* Hoffmann, 1965 (fig. 2). In one of his latest publications Voss (1971), very likely unaware of the Hoffmann's paper, described another *Conaliophthalmus* from Tanzania, pointing out once more the lack of basal transverse groove of rostrum, replaced by a frontal concavity. Alonso-Zarazaga and Lyal (1999) listed *Conaliophthalmus* and *Ophthalmorrhynchus* as distinct genera, the first under Dermatodini, and the second under Ophthalmorrhynchini: these authors, however, cast doubts about the separation of Dermatodini from Cneorhinini.

The discovery of two additional new species from Mozambique contributes to clarify the taxonomic position of these African curculionids, whose main characteristic is still the conical shape of the eyes. Both species from Mozambique have the usual transverse groove at the base of rostrum which characterizes all the rest of Dermatodini (and most of the Cneorhinini), but clearly cannot be separate at generic level from the central African species apparently lacking of the rostral sulcus. This implies the following new synonymy: *Conaliophthalmus* Voss, 1962 (= *Ophthalmorrhynchus* Hoffmann, 1965, syn. n.). In consequence *Ophthalmorrhynchus descarpentriesi* Hoffmann, 1965 must be moved to *Conaliophthalmus* (comb. rev.).

Understanding of the relationships between the tribes of the vast subfamily Entiminae is currently far from satisfactory (Yunakov and Nadein 2006), and only few attempts (Marvaldi 1997, Morimoto 1962, Thompson 1992, Zherichin and Egorov 1991) have been made to eluci-



Figs 1-2. Habitus. Fig. 1: *Conaliophthalmus albomaculatus* Voss, 1962 from Voss (1962); fig. 2: *C. descarpentriesi* (Hoffmann, 1965) from Hoffmann (1965). Scale bar: 1 mm.

date true affinities versus mere resemblances. Kania and Dąbrowska (1995) pointed out that the definition of the entimine tribes is based mostly on characters of practical rather than of phylogenetical importance, and in consequence the present system is highly artificial (Kuschel 1995).

Apart the well out of date, but still somewhat useful work by Lacordaire (1863), and the key to the world genera of the brachyderine weevils by Emden (1944), the main contributions towards the knowledge of the African broadnoses are by Faust (1889), Marshall (1919, 1942, 1943, 1944a, 1944b, 1944c), Hustache (1939), Voss (1949a, 1949b, 1956), Oberprieler (1988), Kania (1994), Kania and Dąbrowska (1995). However, almost all of the above papers are at regional level, so that it is at the moment difficult to find out clear boundaries between tribes.

One character of surely overestimated importance is that of the basally sulcate rostrum. In several apparently close broadnoses, not only African, there is such a great deal of variation of the shape and development of this groove, even within the same genus (Marshall, 1916), that one can wonder whether it can be reliably used for taxonomic purposes.

es. Presently, Dermatodini are thought to be characterised to some extent by their bulging eyes, sulcate rostrum which is generally divided from head by a more or less deep transverse groove, usually at least a little protruding humeri (*Antinia* Pascoe, 1871 excepted), cavernose corbels, connate claws, and vestiture in general formed by dense scales. All the above features, however, do not allow their separation from the current concept of Cneorhinini, so that, in accordance with Alonso-Zarazaga and Lyal (1999), it seem justified to propose the following new synonymies: Cneorhinini Lacordaire, 1863 (= Dermatodini Emden, 1936, syn. n.; = Ophthalmorrhynchini Hoffmann, 1965, syn. n.).

The middle to large-sized members of Cneorhinini occur primarily in tropical Africa, and only some genera are known from the Palaearctic and Oriental regions, and Australia (Alonso-Zarazaga & Lyal 1999), whereas the systematic position of the two genera from tropical America, *Mestorus* Schoenherr, 1840 and *Pseudopantomorus* Champion, 1911 should be probably revised.

It is worthy to mention that also members of *Hypotactus* Marshall, 1956, an unrelated genus of otiorhynchine Celeuthetini from the Bismarck Archipelago (Marshall 1956) have sharply conical eyes.

For measurements of specimens was used a binocular Wild M5, and the photos were made with a JVC GC-X1 camera associated to the same. Terminology, particularly that of rostral regions, follows van den Berg (1972), Oberprieler (1988) and Thompson (1968, 1992). Being the rostrum and head quite short so that errors due to the head flexibility are insignificant, the length of the specimens is measured from the tip of rostrum to elytral apex.

Labels are reported as written, semicolons indicate a change of line, and additional information is in square brackets.

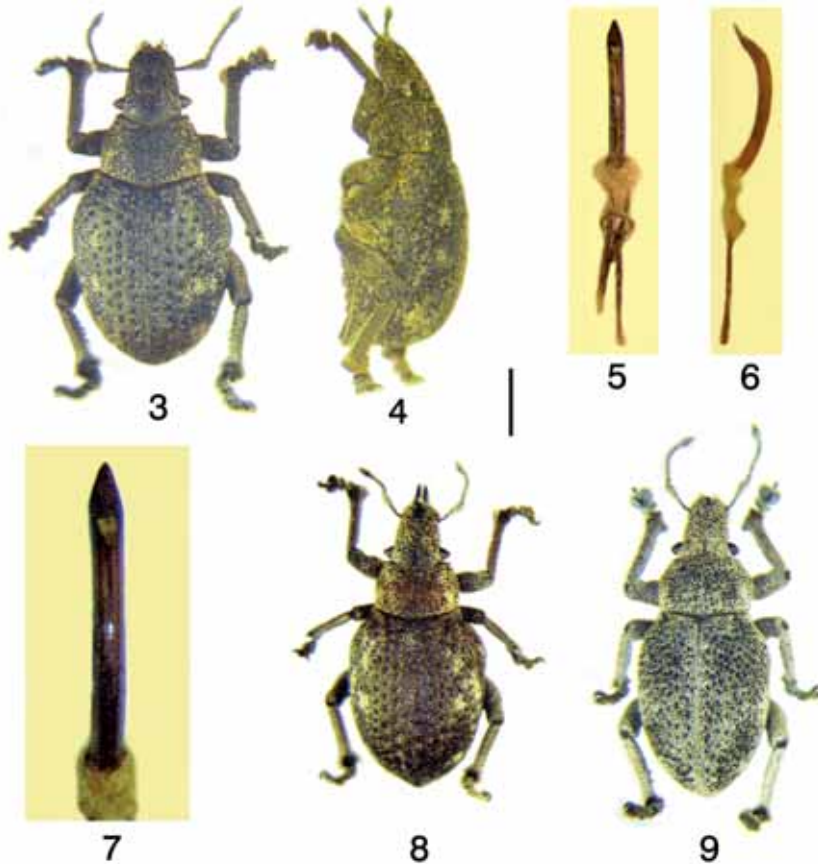
Conaliophthalmus carpanetoi n. sp.

Diagnosis

Conaliophthalmo viridipedi n. sp. ex *Africa australi similis et affinis, sed apice oculorum acuto, tarsorum dorso squamulis castaneis praedito, elytris regulariter striatis abunde distinctus.*

Type series

«Mozambique, Zambezia / Res. Nat. do Gilé, Nakokolo [38°18 S 16°31 E] / 28-31.I.2001 G.M. Carpaneto leg.», 1 male holotype (Museo



Figs 3-9. Habitus. Fig. 3: *Conaliophthalmus carpanetoi* n. sp., holotype in dorsal view; fig. 4: the same in lateral view; fig. 8: *C. carpanetoi* n. sp., paratype in dorsal view; fig. 9: *C. viridipes* n. sp., holotype in dorsal view. Aedeagus. Fig. 5: *C. carpanetoi* n. sp., holotype in dorsal view; fig. 6: the same in lateral view; fig. 7: apex of the same in dorsal view. Scale bar: 2 mm (figs 2, 4, 8, 9); 1 mm (figs 5, 6); 0.5 mm (fig. 7).

di Zoologia del Dipartimento di biologia, Università Roma Tre, Rome) and 1 female paratype (Enzo Colonnelli collection, Rome).

Holotype

Length: mm 11.08 (mm 9.10 excluding rostrum). Black. Dorsal surface covered by appressed dense greyish and golden round scales which are tessellate and partly embricate on head, rostrum, pronotal sides and on ill-defined spots on elytral interstriae 5, 7 and 8. Under surface with

the same kind of vestiture plus some elongate tessellate golden scales condensed in a line along the anterior margin of hind coxae. Legs and antennae, club excepted, entirely covered by dark grey dense and even imbricate elongate loose scales and semierect setae. Club setose. Rostrum 0.78 as long as wide, tapered anteriorly, dorsal surface coarsely and densely punctured, on under side the bisetose mentum is shortly trapezoidal and bordered by two exceedingly thin sulci. Epifrons at base as wide as the distance between inner edges of eyes, quite flat, with weak longitudinal carina and with rather deep transversal sulcus at base, partly obscured by vestiture. Frons and epistome V-shaped and ill-defined, frontal setae long. Mandibles multisetose. Scrobes in lateral view curved and rather deep, with distinct margins anteriorly, feebly enlarged posteriorly, directed towards eyes and visible from above anteriorly of antennal insertion. Eyes comparatively small, conical with sharp apex. Antennae robust, scape clubbed, funicle 7-segmented, first two desmomerites elongate and of about the same length, rest of segments rather appressed each other, not transverse, club fusiform and about as long as the preceding 4 segments. Head feebly convex, deeply sulcate along midline, coarsely but not much densely punctured. Pronotum 0.60 as long as wide, quite strongly narrowing on anterior half towards frontal margin, less so towards base, sides feebly rounded, disc feebly convex, with coarse and large punctures, and shallowly sulcate at basal third. Elytra oval, 1.25 as long as wide, widest at basal fourth, base weakly marginate, humeral and preapical tubercles wanting. Interstriae almost flat, striae formed by very large deep punctures arranged in not much regular rows. Legs short and robust. Femora weakly clubbed and edentate. Tibiae thick, widened at apex, external margin almost straight, internal one slightly bisinuose, metatibiae with a series of denticles on inner edge, apical mucros of mesotibiae small and concealed by the fringes of apical setae, that of metatibiae larger as to be a little more visible. Tarsi short, all tarsomeres strongly transverse except the first segment of hind tarsi which is as long as wide and curved at base. Claws closely connate. Metasternum and first visible ventrite with a large common shallow depression, ventrite 1 more than twice longer than 2, this slightly longer than 3 which is as long as 4, ventrite 5 almost crescent-shaped. Aedeagus very elongate (figs. 5, 6 and 7). See also figs. 3, 4 and 11.

Paratype

Length: mm 10.67. This female is slightly immature and in consequence its integument is partly reddish-brown, and the specimen still

preserves the deciduous mandibular processes (figs. 8 and 12); for the rest it is similar to the holotype, apart the lack of tibial mucros. In addition, its first ventrite is almost flat and the fifth one is triangularly-shaped with quite sharp posterior margin.

Etymology

The species is named after its collector, my friend Giuseppe Maria Carpaneto.

Remarks

This new species is close to *Conaliophthalmus viridipes* described below, differing from it by its much darker vestiture, shorter rostrum, much thinner sulci that separate the rest of the under surface of rostrum from the short mentum, sharply conical eyes, elytral striae formed by punctures much larger than those of pronotum, under side of tarsi with brownish scales.

Conaliophthalmus viridipes n. sp.

Diagnosis

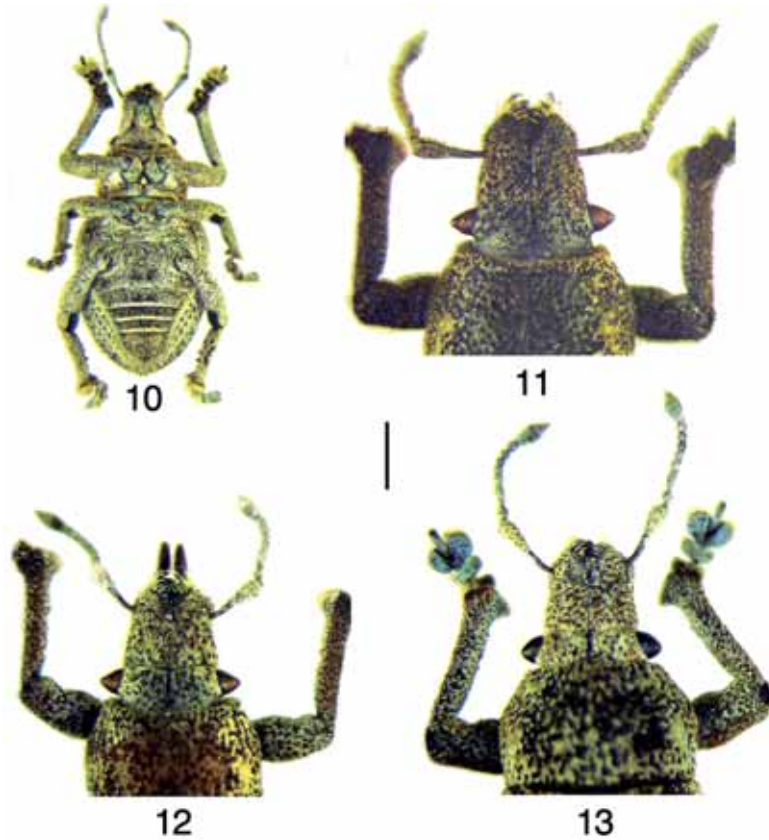
Praecedenti in multo similis, subito tamen differt apice oculorum minus acuto, tarsorum dorso squamulis viridibus induto, strigis elytrarum plurimis et confusis.

Type

«Mozambik-C / 50 Km S Inchopa / S 19°36' E 33°55' / 160 m. 17.12.2005 / lgt. M. Kadlecová», 1 male holotype (collezione Enzo Colonnelli, Rome).

Holotype

Length: mm 10.33 (mm 8.14 excluding rostrum). Black. Dorsal surface covered by appressed dense light grey, whitish and nacreous round scales mostly tessellate and partly embriate on head, rostrum, pronotal and elytral sides, along suture and on spots at base of elytral interstriae 3 and 4. Under surface with the same kind of rather thick greyish vestiture, and with golden scales at head base, plus some elongate tessellate greenish scales on mesosternum and along the anterior margin of hind



Figs 10-13. Habitus. Fig. 10: *Conaliophthalmus viridipes* n. sp., holotype in ventral view. Head from above. Fig. 11: *C. carpanetoi* n. sp., holotype; fig. 12: *C. carpanetoi* n. sp., paratype; fig. 13: *C. carpanetoi* n. sp., holotype. Scale bar: 2 mm (fig. 10); 1 mm (figs 11, 12, 13).

coxae. Antennae entirely covered by light grey tessellate hairlike scales plus a few semierect setae. Legs, in addition to some half-lifted grey setae, clothed with appressed roundish light grey tessellate scales intermingled with some greenish ones which are prevalent on upper sides of tarsi. Rostrum as long as wide, slightly tapered anteriorly, dorsal surface coarsely and densely punctured, on under side the bisetose mentum is trapezoidal elongate and limited by two obvious sulci. Epifrons at base as wide as the distance between inner edges of eyes, quite flat, with very weak longitudinal carina and with deep obvious transversal sulcus at base. Frons, epistome, mandibles and scrobes like in the preceding spe-

cies. Eyes comparatively large, conical with rather blunt apex. Antennae robust, scape clubbed, funicle 7-segmented, first two desmomerer elongate, second clearly longer than first, for the rest similar to those of *C. carpanetoi*. Head very feebly concave, rather deeply sulcate along midline, coarsely but not very densely punctured. Pronotum 0.60 as long as wide, quite strongly constricted on anterior half towards anterior margin, and very weakly narrowing towards base, sides rounded, disc feebly convex, with coarse and large punctures and very feebly depressed on basal third. Elytra 1.31 as long as wide, widest at basal fifth, base almost immarginate, humeral and preapical tubercles wanting. Interstriae almost flat and punctured, so that it is difficult to individuate the striae formed by deep irregular punctures which are not much larger than those on pronotum, and look as black small spots. Legs similar to those of *C. carpanetoi*, but also the inner margin of mesotibiae shows a short series of small teeth. Metasternum and ventrites like those of the preceding species. Aedeagus not studied to avoid damaging the single specimen known. See figs. 9, 10 and 13.

Etymology

The name, meaning in Latin «with green feet», comes from the colour of the scales clothing the upper surface of tarsi.

Remarks

In addition to the characters given in the diagnosis and the key below, *C. viridipes* differs from the preceding species by its paler vestiture, more elongate rostrum, obvious sulci that separate the rest of the under surface of rostrum from the rather elongate mentum, quite blunt apex of larger eyes, confuse elytral striae formed by punctures much smaller than those on pronotum, dorsal side of tarsi with green scales. Differences from the central African species are in the key below.

KEY TO SPECIES OF *CONALIOPHTHALMUS*

- 1 - Rostrum with a distinct basal groove separating it from head.
Mozambique 2
- 1' - Basal groove separating rostrum from head wanting or indistinct. Central Africa 3

- 2 - Apex of eyes sharply conical. Dorsal surface of tarsi clothed with brownish scales. Elytra with whitish patches and strongly punctate regular striae. Sulcus separating head from rostrum rather shallow *carpanetoi* n. sp.
- 2' - Apex of eyes somewhat blunt. Dorsal surface of tarsi clothed with green scales. Elytra with rather confuse whitish bands and less strongly punctate confuse striae. Sulcus separating head from rostrum quite deep *viridipes* n. sp.
- 3 - Dorsal surface for the most part clothed by round green shining scales. Apex of eyes not very sharp. Tanzania *interruptus* Voss, 1971
- 3' - Scales on dorsal surface not as above 4
- 4 - Elytra with a rather large whitish patch on apical third (fig. 1). Democratic Republic of Congo *albomaculatus* Voss, 1962
- 4' - Elytra with a more or less evident transverse dark band on apical third (fig. 2). Congo *descarpentriesi* (Hoffmann, 1965)

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