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# THE EUMOLPINAE OF SÃO THOMÉ, PRÍNCIPE & BIOKO ISLANDS FROM THE COLLECTIONS OF THE MUSEO CIVICO DI STORIA NATURALE "G. DORIA", GENOA

(COLEOPTERA, CHRYSOMELIDAE)

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## INTRODUCTION

This contribution is mainly based on the material collected in the years 1900-1902 by Leonardo Fea at São Thomé, Príncipe and Bioko (formerly Fernando Poo) Islands for the Museo Civico di Storia Naturale of Genoa. The lot includes 22 species of Chrysomelidae Eumolpinae.

Previous publications dealing with the Eumolpinae of these Islands are only those of Berlioz (1919), with the description of *Lymidus variicolor* from São Thomé, and Pic (1953a), who described seven new taxa and a "var. *pallidior*" for *Paraivongius viridescens* Pic, 1952 from Bioko Island. The species described by Pic and preserved in the Muséum National d'Histoire Naturelle in Paris are reviewed here. As far as I know, no Eumolpinae species were reported from Príncipe Island before.

The total number of taxa here reported for the three islands is 26, 9 of which are here described as new to science, plus two still unidentified *Paraivongius* species.

In the following descriptions, the reported length of the specimens includes the head, with the proximal edge of eyes close to the distal edge of pronotum.

The dissected aedeagi are glued on the same card, or on a card pinned together with the related specimen. The dissected feminine apparatuses are preserved in plastic micro-vials, pinned together with the specimen.

* Stefano Zoia, Via Ponte Nuovo 109/4, I-20128 Milano, Italy;
e-mail: stefano.zoia@chrysomelidae.it

Photos of mentioned type specimens which are not included here are available on the author's website: http://www.chrysomelidae.it/afr_Eum

The following acronyms are used:
MDcoll - Mauro Daccordi collection (Verona, Italy)
MFNB - Museum für Naturkunde (Berlin, Germany)
MSNG - Museo Civico di Storia Naturale "G. Doria" (Genoa, Italy)
MNHN - Muséum National d'Histoire Naturelle (Paris, France)
NHML - The Natural History Museum (London, Great Britain)
SZcoll - Stefano Zoia collection (Milan, Italy)

Due to their different locations in the MNHN, type specimens belonging to the ex-coll. Pic and to the ex-coll. IFAN (Institut français d'Afrique Noire) are separately mentioned.

## RESULTS

### *Typophorini*

***Afroeurydemus variicolor*** (Berlioz, 1919) **n. comb.**

*Lymidus variicolor* Berlioz, 1919: 88.

Examined material. Is. Príncipe, Roca Inf. D. Henrique, III.1901, 100-300 m, L. Fea (6 ♂♂, 2 ♀♀ MSNG; 1 ♂ SZcoll); Is. Príncipe, Roca Inf. D. Henrique, IV.1901, L. Fea (4 ♀♀ MSNG; 1 ♂, 2 ♀♀ SZcoll); Is. Príncipe, Roca Inf. D. Henrique, V.1901, L. Fea (5 ♂♂, 2 ♀♀ MSNG; 1 ♂ SZcoll); W Africa: Principe I., 12.xii.1932, W.H.T.Tams., B.M.1933-39 (1 ♀ NHML); Is. S. Thomè, Agua-Izè, XII.1900, 400-600 m, L. Fea (3 ♂♂, 5 ♀♀ MSNG; 2 ♂♂, 2 ♀♀ SZcoll).

Redescription. Habitus as in Figs 108-109; body length 3.4-4.1 mm (♂♂), 4.5-5.4 mm (♀♀).

Body and head reddish, pronotum reddish, usually with a black irregular spot in the middle of the discus, elytra reddish with the 2nd, 4th and 6th interstria black at base, humeral calli in part or totally blackish; oblong black spots are present on the 4th interstria beyond its mid-length, on the 6th interstria at about mid-length and on the 8th interstria. Epipleura dark brown to blackish. Black

spots are subject to a discrete variability as shown in Figs 1-2, with no differences between the populations of the two islands. Some immature specimens are totally yellow-reddish, without dark spots. Labrum and palpi reddish, mandibles dark brown; antennomeres 1st-4th reddish, 5th-11th dark brown to black, 9th-11th paler at the apices; legs reddish, pro- and metafemora partially darkened distally, apex of tibiae somewhat darkened, tarsi brown to black, usually with the last tarsomere paler.

Frons moderately convex, punctation strong, sparse; surface between punctures smooth, the distance between two punctures on average greater than the diameter of a puncture; clypeus separated from the frons, punctured, its distal border concave. Penultimate article of maxillary palps nearly so long as wide, the ultimate conical, nearly 1.5 times longer than the penultimate. Antennae (Fig. 4) slender, exceeding 2/3 of the body length in males, a little shorter in females. Antennomeres slender, the 7th-11th feebly widened. Length of the antennomeres of a ♂ left antenna, in mm: 0.26-0.19-0.22-0.29-0.34-0.29-0.35-0.32-0.37-0.29-0.38; length/width ratio: 2.6-2.4-3.5-4.5-5.2-4.5-2.7-3.3-3.3-2.6-3.0.

Eyes large and protuberant, deeply emarginate on the inner side, the space between the inner border of the eyes in frontal view nearly 0.8 times the width of an eye in males, 0.9 times in females.

Pronotum 1.4-1.5 times wider than long, the maximum width nearly at 1/3 of the length in males, at the basal fourth in females; the base wider than the distal edge, both finely bordered; lateral edge, as seen from above, more convex on the basal half, the border moderately thin; proximal and distal angles produced outwards in a small tooth bearing a seta; surface with strong spaced punctures, smooth between the punctures, glabrous.

Scutellum nearly so long as wide, the sides convergent to rear, the apex rounded, finely microreticulated, without punctures, reddish or blackish.

Hypomera smooth; distal margin of hypomera nearly straight, of prosternum straight; prosternum nearly so long as wide between the coxae, feebly convex, sparsely punctured. Ventral side of body nearly glabrous, with few very thin hairs present mostly on the metaventrite and abdomen.

Mesoventrite smooth, with a few punctures; mesocoxae closer to each other than the procoxae; mesoepimera not punctured, smooth.

Metaventrite not punctured, smooth; metacoxae a little more spaced than procoxae; metathoracic episterna tapering to rear, nearly 3.5 times longer than wide, with a very fine microreticulation and a few vanishing punctures.

Elytra convex, oblong, 1.2 times longer than wide at the humeri [in a ♂ (Figs 108-109): elytral length in dorsal view 2.5 mm, distance from the base of scutellum to elytral apex 2.8 mm; maximum width 2.0 mm], with transversal posthumeral impressions; humeri covering the elytral sides in dorsal view; elytral sides nearly straight from the base up to their distal third; apices in a slightly acute angle; elytral striae regular, more strongly impressed at the basal third, reaching the elytral apex with relatively strong punctures; interstriae convex, smooth. Epipleura moderately wide, gradually tapering to rear, smooth, a little darker than the adjacent elytral surface. Metathoracic wings fully developed.

Legs long and relatively thin; pro- and metafemora with a strong acute tooth at level of the distal 3/4, mesofemora with a smaller tooth, all femora moderately swollen; tibiae nearly straight, meso- and metatibiae emarginate at apex. Pro- and mesotarsi with the first tarsomere widened in males (Fig. 3). Claws bifid, with the inner tooth very thin, not reaching half length of the claws.

Aedeagus as in Figs 5-6; tegmen reduced to a poorly sclerified plate (Fig. 7) only partially covering the basal orifice (median foramen) of the median lobe.

Spermatheca as in Fig. 8; styli short, cylindrical, sclerotized; spiculum gastrale moderately long and thin.

N o t e . *Lymidus variicolor* was described of "Ile San-Thomé (A.-F. de Seabra)" and compared by Berlioz (1919) with *Lymidus coquereli* Fairmaire, 1901 (La Réunion), yet mentioning with doubts its possible relationships with other genera of Typophorini already known at that time for continental Africa. The species was reported as leaf feeding on *Theobroma cacao* L., 1753 (Berlioz, 1919; De Seabra, 1920; Navel, 1921). Depository of syntypes is unknown to me and no specimens were found in the collections of MNHN.

The specimens in MSNG perfectly match with the description of Berlioz, hence the attribution to the genus *Afroeurydemus* Selman, 1965 already appears the most appropriate. Based on Berlioz (l.c.) and the material in the MSNG I here formalize the new combination.

Although different values in the length/width ratio of prosternum can be detected among different *Afroeurydemus* species, the wide prosternum - already mentioned by BERLIOZ (l.c.) - is a characteristic of this species, distinguishing it from other known taxa in its group.

*Afroeurydemus variicolor* resembles *A. maculipennis* (Jacoby, 1900) (Democratic Republic of Congo, Uganda, Sudan) in the punctation of pronotum and general habitus, yet the tooth on the inner margin of femora is by far smaller in *A. maculipennis*. Moreover, the two species differ in the pattern of black spots on pronotum and elytra: in *A. maculipennis* the pronotum is reddish along its midline, with two oblong blackish spots at the sides of the discus and other two small lateral spots which do not reach the lateral border; the spots at the base of the elytra are shorter and the ones beyond elytral mid-length, if present, are wider and partially fused; moreover tibiae are blackish proximally and the antennomeres 7th-11th are only partly darkened. Another related species, *A. nigrostriatus* (Jacoby, 1897) (Zambia, Zimbabwe), has a large part of pronotum which is black and the elytral spots are partially fused and with not well-defined limits, meso- and metafemora are unarmed and profemora have a very small median tooth. Other species in the group, with punctured pronotum (*A. obscurellus* Selman, 1972 and *A. basilewskyi* Selman, 1972, both from Democratic Republic of Congo) have a different color pattern as illustrated by SELMAN (1972: 20) and a small tooth on each pro- and mesofemora, not as large as in *A. variicolor*.

### ***Paraivongius*** Pic, 1936

subgen. *Paraivongius* Pic, 1936: 31 (type species: *P. metallicus* Pic, 1936 - Tanganika).
subgen. *Micromenius* Pic, 1953a: 166, **n. stat.** (type species: *M. concolor* Pic, 1953).

Redefining the African genera of Typophorini (sub "Nodini"), SELMAN (1965) listed 59 taxa in the genus *Paraivongius*, 51 of which previously ranged in the genera *Liniscus* Lefévre, 1885 (actually = *Zohrana* Aslam, 1968) (1 species), *Rhembastus* Harold, 1877 (29 species) and *Menius* Chapuis, 1874 (21 species). Later the same author (SELMAN, 1972, 1973) added other taxa to this genus. With the present contribution, the number of taxa included in *Paraivongius* rises to 83, this genus being among the most comprehensive within the African Typophorinae.

*Paraivongius* species can be divided into two groups by means of the morphology of the ocular sulci and frons. In a first group (*Paraivongius* s. str.), the ocular sulci are finer, usually not strongly widened to rear, at their distal end their relative distance is usually a little greater than, or equal to the space between the inner sides of the antennal insertions; the ocular sulci are moderately impressed and the frons is not protruded (Fig. 9).

In a second group - which includes *Micromenius concolor* Pic, 1953 - the ocular sulci are more strongly widened to rear and nearly straight and convergent distally so that at their distal end they are so close as, or closer to each other than the inner sides of the antennal insertions; at least in their median portion the bottom of the ocular sulci is on a well lower level in relation to the frons, which is more or less prominent in the middle and gradually restricted distally (Fig. 10). Selman (1965) seems not to give particular importance to this distinction inside *Paraivongius*, mentioning only that the eyes have "a sulcus above which may be large", and both groups are present among the taxa that he included in this genus.

Strangely, *Micromenius* is not mentioned in Selman (1965, 1972) and possibly this author never examined the type of *M. concolor*. On the basis of Selman's publications (l. c.) I have no reason to consider *Micromenius* as a separate genus and I suggest to downgrade it at subgenus level to name the second group defined above, including a part of the taxa here revised. Future examination of other *Paraivongius* species is likely to lead to move further taxa to the subgenus *Micromenius*, besides the ones here recognized.

The morphology of frons in the subgenus *Micromenius* somewhat recalls that of *Menius* species, in which however the ocular sulci are even wider and deeper and the frons is more projecting forwards. Head sutures are distinct in *Paraivongius*, but not so deep as in *Menius*; the first antennomere is more elongated and twice, or less, the second in diameter (in *Menius* it is wider and stouter, bulbous, twice the second in diameter); the femora have a small tooth on the ventral surface; in both genera the anterior setae of pronotum are on a level with or above the level of the lateral edges of pronotum. In general, in comparison to *Menius*, *Paraivongius* species are usually smaller (2-6.5 mm in length, versus 5-9 mm in *Menius*), with a shorter and proportionally broader body and less robust legs with protibiae not turned outward distally.

Besides the taxa belonging to the faunas of Bioko and Príncipe Islands, the following species are here transferred from the genus *Menius* after examination of type specimens:

*Paraivongius* (*Micromenius*) *ruficeps* (Pic, 1939) **n. comb.** for *Menius ruficeps* Pic, 1939 (Gabon: Ogowe - Holotype Pic's coll. MNHN)

*Paraivongius* (*Micromenius*) *rufus* (Pic, 1949) **n. comb.** for *Menius rufus* Pic, 1940 (Angola: Chimporo - Holotype Pic's coll. MNHN)

*Paraivongius* (*Micromenius*) *simplex* (Weise, 1909) **n. comb.** for *Menius simplex* Weise, 1909 (Kilimandjaro: Kibonoto - Syntypes MFNB and MNHN)

***Paraivongius* (*Micromenius*) *concolor*** (Pic, 1953) **n. comb.**

*Micromenius concolor* Pic, 1953a: 166.

Examined type specimens. Syntypes (1 ♀ MNHN ex-coll. Pic; 1 ♂ MNHN ex-coll. IFAN): Mioko, Fernando-poo, 1700-2000 m., 8.XII.51 [handwritten white label]; 8.XII.51, De Keyser Lepesme et A. Villiers [handwritten white label]; *Micromenius* n. g. *concolor* n. sp. [handwritten white label] (further 9 specimens in MNHN ex-coll. Pic).

Note. As discussed above, a new combination for *Micromenius concolor* is formalized.

Length of the examined ♂ 3.2 mm, ♀ 3.4 mm. Habitus as in Figs 110-111, uniformly reddish-ocher, glossy. Ocular sulci very wide and feebly impressed proximally, their surface flat, finely microreticulated and with a seta; in their middle-length they are more deeply impressed in relation to the surface of the frons, distally the sulci converge and are a little closer to each other than the inner edge of the base of antennae (Fig. 10); frons very finely punctated, the surface glossy. Antenna of ♀ as in Fig. 11, segment 1st reddish-ocher, 2nd-6th yellowish, 7th-11th blackish; length of segments of the ♀ right antenna, in mm: 0.21-0.23-0.15-0.19-0.19-0.16-0.21-0.22-0.22-0.20-0.25; length/width ratio: 1.9-3.3-3.0-3.8-3.8-2.7-2.8-2.9-2.9-2.8-3.3. Sides of pronotum nearly straight, shortly bent before the base, the surface with a scattered punctation and a transverse oblong and punctured impression on each side. Elytral striae complete, the punctures moderately impressed on the discus, more strongly so at sides, very fine on the apical slope; interstriae flat, smooth. Legs

relatively long, femora with a thin tooth; pro- and mesotarsi moderately widened in ♂.

Spermatheca as in Figs 13-14, vagina with a light flat sclerotization at the insertion of the ductus spermathecae (Fig. 14). Styli short, sclerotized, spiculum gastrale thin and moderately long (Fig. 12).

### ***Paraivongius* (*Micromenius*) *feai* n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea [white printed label]; Holotypus *Paraivongius* (*Micromenius*) *feai* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (2 ♂♂, 3 ♀♀): Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea (1 ♂, 1 ♀ MSNG; 1 ♀ SZcoll); Congo Francese, Ndjolè, XI-XII.1902, L. Fea (1 ♀ MSNG; 1 ♂ SZcoll).

Diagnosis. A *Paraivongius* of moderately large size, with antennomeres 7th and 11th darker than 8th-10th, and distinct in the morphology of aedeagus and the sclerotized structure at the insertion of the ductus spermathecae.

Description. Habitus as in Figs 116-117; body length of the ♂ holotype 4.3 mm, of the ♂♂ paratypes 3.8 mm and 4.5 mm, of the ♀♀ paratypes 4.5-4.8 mm.

Body dark reddish brown, with abdomen and elytra paler; labrum reddish, palpi yellow, mandibles dark brown; antennae raw Sienna with segments 7th and 11th darker.

Frons moderately convex with a thin median sulcus; surface smooth, with few fine and sparse punctures, glabrous; ocular sulci wide and pubescent proximally, deeply impressed distally and here a little closer to each other than the distance between the inner edge of the insertions of antennae; clypeus separated from the frons by a sulcus, finely punctated, its distal border concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly 2.5 times longer than the penultimate. Antennae (Fig. 19) slender, nearly reaching half-length of elytra in males, a little shorter in females. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.24-0.23-0.24-0.31-0.31-0.28-0.36-0.32-0.34-0.34-0.38; length/width ratio: 1.6-2.8-3.4-4.4-4.4-4.0-4.0-4.0-3.8-3.8-3.8.

Eyes relatively large, the space between the inner border of the eyes in frontal view is nearly 1.8 times the width of an eye in ♂, 2.0 times in ♀.

Pronotum nearly 1.5 times wider than long (1.2×1.7 mm in the holotype), the maximum width at the base; the base 1.5 times wider than the distal edge, both finely bordered; lateral edges, as seen from above, feebly bent throughout, bordered; surface with moderately strong and irregularly arranged punctation, the distance between two adjacent punctures greater than the diameter of a puncture; the surfaces between the punctures smooth, glabrous; a light transversal and punctured impression is present at both sides in the mid-length of pronotum, the extreme sides and the surface near the rear and anterior corners impunctate. Anterior seta arising on a level with the lateral edge of the pronotum.

Scutellum a little longer than wide, the maximum width at the base, the apex in an acute angle, smooth, without punctures.

Surface of hypomera not punctured, with a dense microreticulation, the distal margin convex, produced frontwards, covering a part of the eyes, separated from the edge of prosternum by deep sulci to receive the antennae, each sulcus with a small acute tooth at the distal margin. Prosternum nearly 1.2 times longer than wide between the procoxae, surface with a fine microreticulation and scarcely pubescent, sides risen in a rib, distal edge feebly concave and turned downwards. Ventral side of body nearly glabrous, with sparse and very thin hairs present on the meso- and metasternum and on the abdominal sternites.

Mesoventrite a little wider than long, flat in the middle, with a smooth tooth in the middle of each side; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite not punctured, glossy; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 4.5 times longer than wide, with a fine microreticulation.

Elytra strongly convex, oblong, 1.3 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 3.1 mm, distance from the base of scutellum to elytral apex 3.4 mm; width at humeri 2.4 mm, maximum width 2.5 mm); elytral sides widening from the humeri to about mid-length, then regularly bent till

the apices; apices in a slightly acute angle in males, shortly produced downwards in females; elytral striae regular, relatively strongly impressed at the base and on the discus of the elytra, more light on the apical slope; interstriae convex, more raised on the elytral sides in males, smooth, with scattered very thin punctures. Epipleura moderately wide at the base, gradually tapering to rear, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, with an acute tooth, which is smaller on profemora; pro- and metatibiae nearly straight, mesotibiae slightly bent inwards, meso- and metatibiae emarginate near the apex. Pro- and mesotarsi feebly widened in male (Fig. 18). Claws bifid, with the inner tooth thin, as long as nearly two thirds of the length of the claw.

Aedeagus as in Figs 16-17; tegmen thin, distally with very short lateral arms.

Spermatheca as in Figs 23-24 with spermathecal gland divided in two tubes; vagina with a light sclerotization at the insertion of the ductus spermathecae as in Figs 21-22; styli short, moderately thin, sclerotized, spiculum gastrale thin and relatively long (Fig. 20).

Derivatio nominis. The new species is dedicated to his collector, Leonardo Fea, who spent his life travelling to grow the collections of the Genoa Museum.

### ***Paraivongius* (*Micromenius*) *nitidissimus*** (Pic, 1953) **n. comb.**

*Menius nitidissimus* Pic, 1953a: 166, Fig. 22.

Examined type specimen. Holotype (♀ MNHN ex-coll. IFAN): Moka, Fernando-poo, 1300 m, XII.51 [handwritten white label]; De Keyser Lepesme A. Villiers [handwritten white label]; Type [printed red label]; *Menius nitidissimus* n. sp. [handwritten white label].

Note. *Menius nitidissimus* fully agree with the characteristics of genus *Paraivongius* as stated by Selman (1972, 1973) and the characteristics of subgenus *Micromenius* as discussed above; I here formalize the new combination.

Length of holotype 5.2 mm. Coloration of body raw Sienna, with hypomera and abdomen paler. Habitus as in Figs 112-113,

uniformly raw Sienna, glossy. Ocular sulci very wide proximally, moderately impressed, their surface flat, finely microreticulated; ocular sulci more deeply impressed distally in relation to the surface of the frons, convergent and distally closer to each other than the inner edge of the bases of antennae; frons finely punctated, the surface glossy, with a fine microreticulation. Antenna as in Fig. 15, segments 1st-6th and 8th-10th raw Sienna, 7th and 11th dark brown; length of segments of the right antenna, in mm: 0.28-0.25-0.25-0.29-0.30-0.28-0.33-0.34-0.33-0.31-0.40; length/width ratio: 2.0-2.8-3.6-4.1-4.3-4.3-3.3-3.8-3.3-3.1-3.1. Pronotum with sides feebly bent distally, moderately bent in the basal fourth where is the maximum width of the pronotum, the surface with a scattered punctation and a transverse oblong and punctured impression on each side of the discus. Punctures of the elytral striae moderately impressed on the discus and at sides of the elitra, very fine on the apical slope; interstriae flat, smooth. Legs relatively long, femora with a small acute tooth.

The specimen lacks two legs and a part of the right antenna; it was infested by mould and this suggested not to dissect it.

***Paraivongius* (*Micromenius*) sp.** cfr. ***plagiatus*** (Lefévre, 1891)

Examined material. Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII-IX.1901, L. Fea (1♀ MSNG).

Note. The holotype of *P. plagiatus* (Lefèvre) is a ♀ (MNHN, labelled: V$^{x}$ Calab.; Type; ex Musaeo Lefévre 1894), the specimen is 3.3 mm in length. The specimen from Bioko I. (Figs 114-115) is somewhat smaller in length (3.1 mm), but nearly identical to the type of *P. plagiatus*, except for that it completely lacks the oblong costa on the 7th interstria, which is instead obvious in *P. plagiatus*, and that the first two articles of protarsi are not lightly incised along the median line as they are in *P. plagiatus*. The antennae of the holotype of *P. plagiatus* are missing, except for the first two antennomeres which are fulvous; nevertheless, in the specimen of the MSNG the antennomeres 1st-6th are fulvous and 7th-11th black, which could agree with the description of Lefévre (1891): "... *antennis (basi excepta) piceis*".

***Paraivongius* (*Micromenius*) sp.**

Examined material. Is. Príncipe, Roca Inf. D. Henrique, V.1901, L. Fea (1 ♀ MSNG); idem, but IV.1901 (1 ♂ immature MSNG).

Note. Seemingly related to *Paraivongius rufus* (Pic, 1940) (Angola) from which differs in the more shining dorsal integuments, the narrower and very finely punctured frons (roughly and densely punctured in *P. rufus*), the more regularly bent sides of pronotum (nearly straight in the basal third in *P. rufus*), the convex elytral interstriae, with the 9th more strongly raised (nearly flat in *P. rufus*).

***Paraivongius* (*Paraivongius*) *apricus* n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea [white printed label]; Holotypus *Paraivongius* (*Paraivongius*) *apricus* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (5 ♂♂, 4 ♀♀): Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (2 ♂♂, 3 ♀♀ MSNG; 2 ♂♂, 1 ♀ SZcoll); Congo Francese, Fernand-Vaz, IX-X.1902, L. Fea (1 ♂ MSNG).

Diagnosis. A *Paraivongius* characteristic in having the epipleura turned outwards, nearly vertical, with their surface widely exposed outwards till the apical angle of the elytra.

Description. Habitus as in Figs 118-119; body length of the holotype 2.8 mm, of the ♂♂ paratypes 2.7-3.2 mm, of the ♀♀ paratypes 3.1-3.3 mm.

Body reddish-brown, including head, pronotum and elytra; labrum paler, mandibles dark brown, palpi yellowish; antennae with segments 1st-6th light ocher, 7th-11th dark brown; legs uniformly reddish-brown.

Frons moderately convex with a short median sulcus; surface smooth, not punctured, glabrous; ocular sulci thin, close to the eyes; clypeus separated from the frons, smooth, its distal border concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly 1.5 times longer than the penultimate. Antennae (Fig. 28) slender, reaching nearly half length of elytra, antennomeres 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.16-0.17-0.17-0.19-

0.19-0.15-0.21-0.23-0.24-0.24-0.30; length/width ratio: 1.6-2.8-3.4-3.8-3.8-3.2-2.7-2.6-2.8-3.0-3.7.

Eyes moderately wide, in frontal view the space between the inner border of the eyes is nearly 1.8 times the width of an eye, with no difference between sexes.

Pronotum nearly twice wider than long (0.7×1.5 mm in the holotype), the maximum width at the basal fourth; the base 1.7 times wider than the distal edge, both finely bordered; lateral edge, as seen from above, in a wide regular arch, bordered; surface smooth, with a few superficial spaced punctures, glabrous. Anterior seta arising on a level with the lateral edge of pronotum.

Scutellum longer than wide, triangular, the apex in an acute angle, smooth, without punctures.

Surface of hypomera not punctured, smooth, the distal margin convex, strongly produced frontwards, covering the genae and a large part of the eyes, separated from the edge of prosternum. Prosternum nearly 1.3 times longer than wide between the coxae, smooth, glabrous, concave with sides and distal edge raised, with deep sulci to receive the antennae. Ventral side of body nearly glabrous, with sparse and very thin hairs present on the median line of the abdominal sternites.

Mesoventrite smooth; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite not punctured, smooth; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3 times longer than wide, with a very fine microreticulation.

Elytra strongly convex, short, 1.1 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 2.1 mm, distance from the base of scutellum to elytral apex 2.4 mm; width at humeri 1.9 mm, maximum width 2.0 mm); elytral sides bent throughout, widening behind the humeri till half length; apices in a slightly acute angle; elytral striae regular, more strongly impressed at their basal third, superficial on the apical slope; interstriae flat, the 5th and 6th lightly convex, smooth; striae 8th and 9th more superficial, with a few strongly impressed punctures behind the humeri. Epipleura (Fig. 120) wide at base, turned outwards, nearly vertical from the basal fourth - at the level of the base of first abdominal sternite - to the elytral apices, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, with a small acute tooth; tibiae straight, meso- and metatibiae strongly emarginate near the apex. Pro- and mesotarsi not widened in males, so large as in females (Fig. 27). Claws bifid, with the inner tooth thin, reaching half length of the claws.

Aedeagus as in Figs 25-26; tegmen thin, distally with very short lateral arms.

Spermatheca as in Fig. 31 with spermathecal gland divided in two long tubes; vagina with two small, symmetrical sclerotizations near the insertion of the ductus spermathecae (Fig. 30); styli short, moderately thin, sclerotized, spiculum gastrale long and thin (Fig. 29).

Derivatio nominis. From the latin *ăprīcus* (exposed to the sun), referring to the exposed epipleura, characteristic of the species.

Note. Seemingly, no secondary sexual characters are present in *P. apricus* and sex can be checked by dissection only.

### ***Paraivongius* (*Paraivongius*) *brevicornis* n. sp.**

Type specimens. Holotype ♀ MSNG: Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea [white printed label]; Holotypus *Paraivongius* (*Paraivongius*) *brevicornis* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (1 ♂, 12 ♀♀): Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea (2 ♀♀ MSNG; 1 ♀ SZcoll); idem, but I.1902 (1 ♂, 1 ♀ MSNG); Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (4 ♀♀ MSNG; 2 ♀♀ SZcoll); Is. Fernando Poo, Bahia de S. Carlos, I-1902, 200 m, L. Fea (1 ♀ MSNG); idem, but III-1902, 0-200 m (1 ♀ SZcoll).

Diagnosis. A *Paraivongius* of moderately large size and dark metallic color, with relatively short antennae, flat elytral interstriae and distinct in the morphology of aedeagus and the sclerotizations of the vagina at the insertion of the ductus spermathecae.

Description. Habitus as in Figs 121-122; body length of the ♀ holotype 4.9 mm, of the ♂ paratype 4.6 mm, of the ♀♀ paratypes 4.2-5.6 mm.

Body dark reddish to black, head, pronotum and elytra metallic black, in the holotype and some other specimens with a feeble bluish reflection; labrum and palpi yellow to reddish, mandibles

dark brown; antennae with segments 1st-6th ocher, 7th-11th usually somewhat darker; legs uniformly reddish or dark brown.

Frons moderately convex with a thin median sulcus; surface smooth, with fine and sparse punctation, glabrous; ocular sulci moderately wide; clypeus separated from the frons by a thin nearly straight sulcus, finely punctated, its distal border concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly 1.8 times longer than the penultimate. Antennae (Fig. 35) slender, hardly going beyond the humeral calli (the single ♂ paratype lacks both antennae). Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♀ holotype, in mm: 0.26-0.21-0.22-0.21-0.24-0.19-0.27-0.29-0.28-0.27-0.36; length/width ratio: 2.3-2.3-3.1-3.0-3.4-2.5-2.4-2.6-2.5-2.3-3.3.

Eyes moderately wide, the space between the inner border of the eyes in frontal view is nearly 2.1 times the width of an eye in male, 2.6 in females.

Pronotum nearly twice wider than long (1.2×2.4 mm in the holotype), the maximum width at the basal fourth; the base 1.7 times wider than the distal edge, both finely bordered; lateral edge, as seen from above, feebly bent distally, more strongly bent from the widest point to the base of pronotum, bordered; surface with moderately strong and irregularly arranged punctation, the distance between two adjacent punctures greater than the diameter of a puncture; the surfaces between the punctures smooth, with a very fine micro-punctation hardly visible, glabrous. Anterior seta arising on a level with the lateral edge of pronotum.

Scutellum nearly as long as wide, the maximum width in middle, the apex in an acute angle, smooth, without punctures.

Surface of hypomera not punctured, glossy, the distal margin convex, produced frontwards, covering a part of the eyes, separated from the edge of prosternum by deep sulci to receive the antennae; prosternum nearly 1.8 times longer than wide between the coxae, surface irregular, glabrous, sides risen in a thin rib, distal edge feebly concave. Ventral side of body nearly glabrous, with sparse and very thin hairs present on the metasternum and on the abdominal sternites.

Mesoventrite short, strongly convex transversally; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite not punctured, smooth, distal border incised in the middle; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 4 times longer than wide, with a fine microreticulation.

Elytra strongly convex, oblong, 1.2 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 3.6 mm, distance from the base of scutellum to elytral apex 4.1 mm; width at humeri 3.0 mm, maximum width 3.3 mm); elytral sides nearly straight till the beginning of the apical slope in the male, bent throughout in females, the maximum elytral width in females beyond mid-length; apices in a slightly acute angle; elytral striae regular, impressed on the whole elytral surface; interstriae flat on the discus, from the 5th to the 9th lightly convex, smooth, with scattered very thin punctures. Epipleura wide at base, gradually tapering to rear, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs moderately long; femora moderately swollen, with an acute tooth which is smaller on profemora; tibiae straight in females, slightly bent in the male, meso- and metatibiae emarginate near the apex. Pro- and mesotarsi moderately widened in male (Fig. 34). Claws bifid, with the inner tooth thin, shorter than half length of the claw; the inner tooth is longer than half-length of the claw in the male protarsi.

Aedeagus as in Figs 32-33; tegmen thin, distally with very short lateral arms.

Spermatheca as in Fig. 36 with spermathecal gland divided in two tubes; vagina with two small, symmetrical light sclerotizations near the insertion of the ductus spermathecae (Fig. 37); styli short, moderately thin, sclerotized, spiculum gastrale thin (Fig. 38).

Derivatio nominis. The name is a combination of the latin words *brevĭs* (short) and *cornū* (antenna).

### ***Paraivongius* (*Paraivongius*) *castaneus* n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea [white printed label]; Holotypus *Paraivongius* (*Paraivongius*) *castaneus* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (1 ♂, 1 ♀): Is. Fernando Poo, Bahia de S. Carlos, XII.1901, 200-300 m, L. Fea (1 ♀ MSNG); idem, but III.1902, 0-200 m (1 ♂ SZcoll).

D i a g n o s i s . A *Paraivongius* characteristic in the strongly transverse pronotum, uniform reddish-brown coloration, morphology of the aedeagus and presence of peculiar sclerotizations of the vagina at the insertion of the ductus spermathecae.

D e s c r i p t i o n . Habitus as in Figs 123-124; body length of the ♂ holotype 3.8 mm, of the ♂ paratype 4.1 mm, of the ♀ paratype 4.0 mm.

Body, head and pronotum nut-brown, abdominal sternites a little paler, elytra reddish-brown; labrum nut-brown, palpi light brown, mandibles dark brown; antennae brown, segments 7th-11th darker; legs uniformly reddish-brown.

Head deeply set in the prothorax, hardly visible from above. Frons moderately convex with a thin median sulcus; surface smooth, nearly impunctate and nearly glabrous for the presence of very small, light and sparse punctures with fine hairs visible at over 50x; ocular sulci very thin distally, moderately widened to rear; clypeus separated from the frons by a thin arched sulcus, smooth, impunctate, its distal border narrow and concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly twice as long as the penultimate. Antennae (Fig. 42) slender, reaching the basal third of the elytra. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♀ holotype, in mm: 0.20-0.19-0.21-0.24-0.26-0.23-0.28-0.29-0.31-0.31-0.38; length/width ratio: 1.4-2.3-3.0-3.4-3.7-3.0-3.3-3.4-3.1-2.9-3.2.

Eyes moderately wide, oblong, the space between the inner border of the eyes in frontal view nearly 2.2 times the width of an eye in the male, 2.1 in female.

Pronotum nearly 2.1 times wider than long (2.1x1 mm in the holotype), the maximum width near the base; the base 1.8 times wider than the distal edge, the base finely bordered, the distal edge with a wider border; lateral edges, as seen from above, in a wide arch, more strongly bent near the base of pronotum, bordered; surface with moderately large, superficial punctures, irregularly arranged, vanishing towards the sides of pronotum, the distance between two adjacent punctures greater than the diameter of a puncture; the surface between the punctures smooth, glabrous. Anterior seta arising on a level with the lateral edge of pronotum.

Scutellum 1.2 times longer than wide, the sides nearly parallel till half length, the apex in an acute angle, smooth, without punctures.

Surface of hypomera not punctured, glossy, the distal margin convex, strongly produced frontwards, covering a large part of the eyes and the genae, separated from the edge of prosternum by deep sulci to receive the antennae. Prosternum nearly 1.7 times longer than wide, surface irregular, glabrous, sides lightly risen, a short longitudinal rib is present on each side between the coxal cavity and the base of prosternum, distal edge nearly straight. Ventral side of body nearly glabrous, with sparse and very thin hairs present on the abdominal sternites.

Mesoventrite short, transversally convex, smooth; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite not punctured, smooth, distal border incised in middle; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3.8 times longer than wide, with a fine microreticulation.

Elytra strongly convex, oblong, 1.2 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 3.2 mm, distance from the base of scutellum to elytral apex 3.4 mm; width at humeri 2.6 mm, maximum width 2.8 mm); elytral sides lightly bent from the humeri to about mid-length, at the widest point of elytra; apices in a slightly acute angle, shortly rounded and a little produced downwards; elytral striae regular, the punctures impressed on the discus and at sides, gradually vanishing on the apical slope; each puncture with a darker halo; interstriae 1st and 2nd nearly flat, from the 3th to the elytral sides lightly convex, smooth, nearly impunctate. Epipleura wide at base, gradually tapering to rear, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, with an acute tooth; tibiae straight, meso- and metatibiae strongly emarginate near the apex. Pro- and mesotarsi moderately widened in male (Fig. 41). Claws bifid, with the inner tooth thin, shorter than half length of the claw.

Aedeagus as in Figs 39-40; tegmen thin and relatively wide, distally with short and relatively strong lateral arms.

The spermatheca of the only available female is lost; vagina with a light symmetric sclerotization near the insertion of the ductus spermathecae, the final part of ductus in a tight spiral (Fig. 43); styli short, moderately thin, sclerotized, spiculum gastrale thin and relatively long (Fig. 44).

Derivatio nominis. The specific epithet is from the Latin *castănĕa* (chestnut), referring to the color of elytra.

### ***Paraivongius* (*Paraivongius*) *diversicolor*** Pic, 1953

*Paraivongius diversicolor* Pic, 1953a: 167.

Examined type specimens. Syntypes (1 ♂ MNHN ex-coll. IFAN; 1 ♂ MNHN ex-coll. Pic): Mioko, Fernando-poo, 1700-2000 m., 8.XII.51 [handwritten white label]; De Keyser Lepesme et A. Villiers [handwritten white label] (further 2 specimens in MNHN ex-coll. Pic.)

Examined material. Is. Fernando Poo, Bahia de S. Carlos, XII.1901, 200-400 m, L. Fea (1 ♂ MSNG); Is. Fernando Poo, Punta Frailes, X-XI.1902, L. Fea (3 ♂♂ MSNG; 1 ♂ SZcoll).

Note. Length of examined specimens 3.5-3.9 mm. The habitus of a male syntype (MNHN, coll. Pic) is in Figs 125-126, right antenna in Fig. 48, left protarsus in Fig. 47. Aedeagus in Figs 45-46; all examined specimens are males and somewhat immature and this reflects on a slight deformation of the drawn aedeagus.

### ***Paraivongius* (*Paraivongius*) *humeralis* n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea [white printed label]; Holotypus *Paraivongius* (*Paraivongius*) *humeralis* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (6 ♂♂, 11 ♀♀): Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea (1 ♂, 2 ♀♀ MSNG; 1 ♂, 1 ♀ SZcoll); Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII-IX.1901, L. Fea (2 ♂♂, 1 ♀ MSNG; 1 ♂, 1 ♀ SZcoll); Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (1 ♂ MSNG); Is. Fernando Poo, Bahia de S. Carlos, 0-400 m., XII.1901, L. Fea (1 ♀ MSNG); Is. Fernando Poo, Moka, 1000-1600 m., III.1902, L. Fea (1 ♀ MSNG);

Mid Fernando Poo: 3.ix.1959, P. H. Langton, B. M. 1960-51 (2 ♀♀ NHML, 1 ♀ SZcoll); Moka, Fernando-poo, 1300 m, XII-51, De Keyser Lepesme A. Villiers (1 ♀ MNHN).

D i a g n o s i s . A *Paraivongius* of moderately small size and dark metallic color, distinct in the prominent humeri, particularly in females, morphology of aedeagus and the peculiar sclerotized plate at the insertion of the ductus spermathecae.

D e s c r i p t i o n . Habitus as in Figs 127-128; body length of the ♂ holotype 2.7 mm, of the ♂♂ paratypes 2.5-3.1 mm, of the ♀♀ paratypes 3.1-3.4 mm.

Body dark metallic bluish, with dark reddish abdomen and episterna, ventral side more extensively dark reddish in some specimens; head, prothorax and elytra metallic black with bluish or greenish hue, the head with clipeus reddish in its distal half; labrum reddish, palpi yellow, mandibles dark brown; antennae raw Sienna with segments 7th and 11th a little darker; legs raw Sienna.

Frons moderately convex with a thin median sulcus; surface smooth, with a nearly vanished sparse punctation, nearly glabrous; ocular sulci a little widened to rear with a single seta, distally thin and close to the eyes; clypeus separated from the frons by an arched sulcus, very finely punctated, its distal border concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly 2.3 times longer than the penultimate. Antennae (Fig. 57) slender, hardly reaching the half-length of elytra in males, a little shorter in females. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.22-0.25-0.27-0.30-0.31-0.28-0.35-0.35-0.38-0.38-0.46; length/width ratio: 1.4-2.3-3.4-3.7-3.4-3.1-2.7-2.9-3.2-3.4-3.3.

Eyes relatively large, the space between the inner border of the eyes in frontal view is nearly 2.2 times the width of an eye in the male, 2.3 in females.

Pronotum nearly 1.5 times wider than long (0.8×1.2 mm in the holotype), the maximum width near the base; the base 1.4 times wider than the distal edge, both finely bordered; lateral edge, as seen from above, feebly bent throughout, bordered; surface with moderately strong and irregularly arranged punctation, finer at sides of pronotum, the distance between two adjacent punctures as wide as, or wider than the diameter of a puncture; the surfaces between

the punctures smooth, in some specimens with a secondary very fine punctation, glabrous. Anterior seta arising on a level with the lateral edge of pronotum.

Scutellum nearly so long as wide, smooth, without punctures, sides a little bent, the apex in an acute angle.

Surface of hypomera glossy, not punctured, the distal margin convex, strongly produced frontwards, covering a part of the eyes and the antennomeres 1st and 2nd when in a defense position, separated from the edge of prosternum by deep sulci to receive the antennae. Prosternum nearly 1.3 times longer than wide between the procoxae, surface moderately wrinkled, glabrous, sides a little risen, distal edge concave and somewhat turned downwards. Ventral side of body nearly glabrous, with sparse and very thin hairs present mainly on the abdominal sternites.

Mesoventrite nearly 1.6 times wider than long, transversally convex, with sides a little risen distally; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite with a few superficial punctures, glossy; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3.1 times longer than wide, with a fine microreticulation.

Elytra convex, oblong, 1.2 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 2.0 mm, distance from the base of scutellum to elytral apex 2.4 mm; width at humeri 1.6 mm), with an impression beyond the humeri which is deeper in females; elytral sides in males feebly bent till the apical slope, slightly widening from the humeri to about one third of their length; elytral sides in females a little more widened from the humeri to about mid-length; apices in a nearly right angle; elytral striae regular, more impressed at the base and on the discus of the elytra, very light on the apical slope; interstriae 1st-5th nearly flat in males, from the 6th onwards feebly convex, slightly raised beyond the humeri, smooth, with scattered very thin punctures; interstriae in females more strongly convex on elytral sides. Humeri protuberant, particularly in females. Epipleura moderately wide at the base, gradually tapering to rear, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, profemora unarmed in males, with a small acute tooth in females, meso- and metafemora with an acute tooth; tibiae nearly straight, meso- and metatibiae emarginate near the apex. Pro- and mesotarsi widened in males (Fig. 56). Claws bifid, with the inner tooth thinner, longer than mid- length of the claw.

Aedeagus as in Figs 54-55; tegmen thin, distally with very short lateral arms.

Spermatheca as in Figs 59-60; vagina with two sclerotizations, close each other, at the insertion of the ductus spermathecae as in Fig. 61; styli short, moderately thin, sclerotized, spiculum gastrale thin and moderately long (Fig. 58).

Derivatio nominis. The name *humeralis* refers to the prominent humeri, particularly to those of females, which are more noticeable than in the other species here examined.

### ***Paraivongius* (*Paraivongius*) *inexspectatus* n. sp.**

*Paraivongius viridescens*, Pic 1953a: 168 (pars).
*Paraivongius viridescens* var. *pallidior* Pic, 1953a: 168 **n. syn.**

Type specimens. Holotype ♂ MNHN: Moka, Fernando-poo, 1300 m, XII.51 [handwritten white label]; De Keyser Lepesme A. Villiers [handwritten white label]; Holotypus *Paraivongius* (*Paraivongius*) *inexspectatus* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (18 ♂♂, 14 ♀♀): Moka, Fernando Poo, 1300 m, XII.51, De Keyser Lepesme A. Villiers (6 ♂♂, 2 ♀ MNHN; 1 ♀ SZcoll); Moka, Fernando Poo, 1300 m, XII.51, De Keyser Lepesme A. Villiers, type, *Paraivongius viridescens* v. n. *pallidior* (1 ♀ MNHN); X-XII.51 De Keyser Lepesme A. Villiers [supposed same location as above] (1 ♂ MNHN); Mioko, Fernando-poo, 1700-2000 m, 8-XII-51, De Keyser Lepesme A. Villiers (2 ♂♂, 3 ♀♀ MNHN); Moka, Fernando-poo, 1700-2000 m, 9-XII-51, De Keyser Lepesme A. Villiers (1 ♀ MNHN); Is. Fernando Poo, Moka, II.1902, 1300-1500 m, L. Fea (1 ♀ MSNG); Fernando Po: Moka, 28.I-3.II.1933, W. H. T. Tams, B.M. 1933-39 (6 ♂♂, 4 ♀♀ NHML; 1 ♂, 1 ♀ SZcoll); W. Africa: Príncipe I., 12.xii.1932, W. H. T. Tams, B.M: 1933-39 (1 ♂ NHML; 1 ♂ SZcoll).

D i a g n o s i s . A *Paraivongius* close to *P. viridescens* Pic from which it mainly differs in the more uniform coloration of body and elytra, the more conspicuous transversal impressions at sides of pronotum, the finer punctation of the elytral striae and the morphology of the aedeagus.

D e s c r i p t i o n . Habitus as in Figs 129-130 and 131; body length of the ♂ holotype 3.5 mm, of the ♂♂ paratypes 3.2-3.9 mm, of the ♀♀ paratypes 3.6-4.3 mm.

Body dark ocher, including head and pronotum, elytra and a part of abdominal sternites reddish-brown; labrum brown, mandibles dark brown, palpi yellowish; antennae ocher, with antennomeres 7th-11th a little darker; legs uniformly ocher.

Frons moderately convex with a median longitudinal sulcus; surface with a relatively strong punctation, on average the distance between two adjacent punctures shorter than the diameter of a puncture; surface smooth between the punctures, glabrous; ocular sulci moderately widened to rear; clypeus separated from the frons, with relatively strong punctation, its distal border concave. Penultimate article of maxillary palp nearly so long as wide, the ultimate conical, nearly 1.8 times longer than the penultimate. Antennae (Fig. 65) slender, hardly reaching the half-length of elytra. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.20-0.17-0.19-0.21-0.23-0.20-0.27-0.27-0.27-0.28-0.36; length/width ratio: 2.1-2.3-3.2-3.0-2.7-2.7-2.7-2.7-3.0-3.5-4.2.

Eyes moderately wide, the space between the inner border of the eyes in frontal view is nearly 1.9 times the width of an eye in males, 2 times in females.

Pronotum nearly 1.5 times wider than long in males (0.8×1.3 mm in the holotype), 1.6 times in females, the maximum width at the basal third; the base 1.3 times wider than the distal edge, both finely bordered; lateral edge, as seen from above, in a wide regular arch in males, more bent and restricted to rear in females, bordered; surface with a relatively strong punctation, similar to that of the head, smooth between the punctures, glabrous; a transversal impression with closer punctures present in the middle of each side of pronotum. Anterior seta arising on a level with the lateral edge of pronotum.

Scutellum nearly triangular, smooth, without punctures, a little wider than long, the apex in an acute angle.

Surface of hypomera not punctured, densely microreticulated, the distal margin convex, strongly produced frontwards, covering the genae and a part of the eyes, separated from the edge of prosternum by deep sulci. Prosternum nearly 1.7 times longer than wide between the procoxae, smooth, with a few very thin hairs, nearly flat, the distal edge risen. Ventral side of body nearly glabrous, with few sparse and very thin hairs present.

Mesoventrite smooth; mesocoxae nearly so spaced as the procoxae; mesoepimera not punctured, with a fine microreticulation.

Metaventrite not punctured, smooth, distal border incised in middle; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3.5 times longer than wide, smooth and glabrous.

Elytra convex, oblong, 1.5 times longer than wide at the humeri in males (in the holotype: elytral length in dorsal view 2.7 mm, distance from the base of scutellum to elytral apex 2.9 mm; width at humeri 1.8 mm, maximum width 1.9 mm), 1.4 times longer than wide in females; elytral sides nearly straight and somewhat widening from the base to the distal third, then regularly bent to the apices; apices in a slightly acute angle; elytral striae regular and impressed also on the apical slope; interstriae flat on the discus, moderately convex at sides. Epipleura relatively thin, tapering to rear, glabrous, smooth, impunctate. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, with a small acute tooth; tibiae straight, meso- and metatibiae emarginate near the apex. Pro- and mesotarsi with the first article a little widened in males (Fig. 64). Claws bifid, with the inner tooth thin, exceeding half-length of the claw.

Aedeagus as in Figs 62-63; tegmen distally with very short lateral arms.

Spermatheca as in Figs 67-68, with spermathecal gland divided in two tubes; vagina with two small symmetrical sclerotizations near the insertion of the ductus spermathecae (Fig. 69); styli short, moderately thin, sclerotized, spiculum gastrale a little longer than the genital segment (Fig. 66).

D e r i v a t i o  n o m i n i s . From the latin *ĭnexspectātus* (unexpected) for having been confused with another taxon for so long.

N o t e . The examined specimens of *P. inexspectatus* n. sp. from MNHN were misidentified by Pic as *P. viridescens* (Pic, 1952) and reported under this name for Fernando Poo I. (PIC 1953a: 168). In the same publication, Pic described a variety (var. *pallidior*, 1 ♀ MNHN - ex IFAN coll.) (Fig. 131) here identified as a slightly immature specimen of *P. inexspectatus* n. sp. and included in the paratypes of the new taxon.

The name "*pallidior*" was proposed by Pic with the intention to refer to a infrasubspecific entity; this appears evident from the description, as it refers to a single specimen within a small series with same collecting data, from the examination of the material preserved in Pic's collection and in general from the use of the term "var." in other Pic's publications of the same period where both "subs." (subspecies) terms and "var.", or "v." (variety), are used in the same contribution with different meanings. As a consequence, the use of the name "*pallidior* Pic" at a specific or subspecific rank is excluded by means of the International Code of Zoological Nomenclature, Article 45.6.4 (I.C.Z.N. 1999). Moreover, the citation of the binomial form "*P. pallidior* Pic" in SELMAN (1965: 162) does not represent a nomenclatural act in itself, being a mere citation without any reference to a taxon (Art. 11.5.2) and not fulfilling the requirements of Articles 11-18. Based on the above, the name *pallidior* must be considered not available.

*P. inexspectatus* n. sp. and *P. viridescens* clearly differ in the morphology of the aedeagus: in *P. inexspectatus* n. sp. the apex of the aedeagus has a nearly regular round shape with a very small point in the middle (Fig 62), whereas in *P. viridescens* the apex has a small distal flat plate (Fig 70). Moreover, *P. inexspectatus* n. sp. significantly differs from *P. viridescens* in a more uniform overall coloration, more elongated antennomeres 1st and 2nd, more evident transversal impressions on the sides of pronotum and a finer punctation of the elytral striae.

### ***Paraivongius* (*Paraivongius*) *mimicus*** Pic, 1953

*Paraivongius mimicus* Pic, 1953a: 167.

E x a m i n e d t y p e s p e c i m e n s . Syntypes (1 ♀ MNHN ex-coll. IFAN; 1 ♀ MNHN ex-coll. Pic): Mioko, Fernando-poo, 1700-2000 m, 8.XII.51 [handwritten white label]; De Keyser Lep-

esme et A. Villiers [handwritten white label]; *Paraivongius* (*Paraivongius*) *mimicus* n. sp. [handwritten white label] (1 further specimen in MNHN ex-coll. Pic).

N o t e . Length of examined specimens: 5.2 mm and 5.4 mm. Habitus as in Figs 132-133. Coloration of body dark brown, with metallic bluish reflections on the hypomera and abdominal sternites; dorsum metallic, dark-bluish. Ocular sulci thin, moderately impressed, close to the inner edge of the eyes; frons with a moderately dense punctation, the surface smooth between the punctures. Antenna of ♀ as in Fig. 49, segments 1st-6th yellowish, 7th-11th blackish (in a specimen partially reddish at their base); length of segments of the right antenna in the figured ♀ Syntype, in mm: 0.23-0.22-0.23-0.24-0.26-0.21-0.30-0.30-0.30-0.30-0.38; length/width ratio: 1.7-2.4-3.3-3.4-3.5-2.6-3.1-2.7-2.7-2.5-2.9. Pronotum with the maximum width at the base, sides regularly bent throughout, surface with a scattered, moderately strong punctation, the surface between the main punctures with a secondary very fine punctation. Elytral striae 1st-7th complete, the punctures moderately impressed on the elytral discus, finer on the apical slope, the punctation on elytral sides in large part confused; interstriae flat on the elytral discus, smooth, with a secondary very fine punctation. Legs moderately robust, femora with a small tooth.

Spermatheca as in Figs 52-53, vagina without a sclerotized plate, somewhat strengthened by a lightly sclerotized ring near the insertion of the ductus spermathecae (Fig. 51). Styli short, sclerotized, spiculum gastrale thin and moderately long (Fig. 50).

### ***Paraivongius* (*Paraivongius*) *viridescens*** (Pic, 1952)

*Syagrus* (*Paraivongius*) *viridescens* Pic, 1952: 506.
*Paraivongius viridescens,* Selman, 1965: 158.

E x a m i n e d t y p e s p e c i m e n . Syntype MNHN: IFAN 1950, Aledjo Togo - 850 m [handwritten and partially printed white label]; IFAN 1950 2 Juin A. Villiers [handwritten and partially printed white label]; TYPE [printed red label]; *Paraivongius viridescens* n. sp. [handwritten white label].

N o t e . *P. viridescens* was described from Togo (Aledjo and Klouto) and Benin (Dahomey: Abomey). The type from Aledjo

(Figs 134-135), bearing the original Pic's handwritten label, is not "viride metallicus" (PIC 1952): body, head and pronotum are dark brown, elytra reddish-brown, paler than pronotum, antennomeres 1st-5th yellowish, 6th-11th brown, legs raw Sienna with femora somewhat darkened distally. There are no traces of metallic hue. Aedeagus as in Figs 70-71.

PIC (1953a) reported this taxon for Fernando Poo Island, describing also a new chromatic variety. The specimens on which this citation is based proved to belong to a different species, here described as *P. inexspectatus* n. sp. This subject is dealt with in the note to the description of *P. inexspectatus* n. sp. (see above).

Based on the examined material, *P. viridescens* seems not present in Bioko I. and in the other islands of the Gulf of Guinea.

KEY TO *PARAIVONGIUS* SPECIES OF BIOKO AND PRÍNCIPE ISLANDS.

1 - Ocular sulci more strongly widened to rear, more deeply impressed in the middle, nearly straight and convergent distally so that at their base they are closer to each other than the inner sides of the antennal insertions, the frons more prominent (Fig. 10) (subg. *Micromenius*). . . . . 2

1' - Ocular sulci not or feebly widened to rear, their relative distance at the distal end wider than or so wide as the inner sides of the antennal insertions, frons slightly prominent (Fig. 9) (subg. *Paraivongius*). . . . . 7

2 - Elytral interstriae more or less convex, particularly starting from the 4th interstria towards the elytral sides, the punctures of the striae more deeply impressed and wider (on the elytral discus the width of an interstria is no more than 2.5 times the diameter of a puncture) . . . . . 3

2' - Elytral interstriae flat, the 7th interstria sometimes costate in females, the punctures of the striae usually smaller and not deeply impressed (on the elytral discus the width of an interstria is more than 2.5 times the diameter of a puncture) . . . . . 5

3 - Pronotum narrower, no more than 1.5 times wider than long, with large unpunctured areas at sides; antennae with

segments 7th and 11th blackish, also the 6th frequently darkened distally; aedeagus as in Figs 16-17; spermatheca and sclerotizations of the vagina as in Figs 21-24; length 3.8-4.8 mm . . . . . *feai* n. sp.

3' - Pronotum wider, more than 1.6 times wider than long, more diffusely punctured; antennae differently colored . . 4

4 - Body, elytra and legs uniformly ocher-reddish, antennae with articles 7th-11th black; punctation of pronotum sparse and relatively deep, absent at sides of pronotum near the rear angles; length 4.0 mm. . . . . [*chalceatus* (Lefèvre, 1891)] (species from Cameroon, Mali and Ivory Coast, not reported for the Islands examined)

4' - Body, elytra, legs and antennae uniformly ocher-reddish; punctation of pronotum sparse and relatively deep on nearly the whole surface; length 3.4-4.2 mm. . . . . .sp. (cfr. *rufus* Pic)

5 - Larger species (5.2 mm), antennae ocher with the only antennomeres 7th and 11th black . . . . . .*nitidissimus* (Pic)

5' - Smaller species (<4 mm), antennomeres 1st-6th ocher, 7th-11th black . . . . . 6

6 - Body, elytra and legs reddish; the elytral punctation on the apical slope very fine, almost evanesced; spermatheca and sclerotizations of the vagina as in Figs 13-14; length 3.2-3.4 mm. . . . . *concolor* (Pic)

6' - Body and legs raw Sienna, elytra in large part dark brown to black with a narrow border raw Sienna at their base, suture, apex and epipleura; elytral punctation on the apical slope less impressed than on discus but evident; length 3.1 mm . . . . . .sp. [cfr. *plagiatus* (Lefèvre)]

7 - Epipleura, starting from half-way the elytral length, turned outwards, nearly vertical, gradually restricted only distally, their surface widely exposed outwards till the apical angle of the elytra; aedeagus as in Figs 25-26; spermatheca and sclerotizations of the vagina as in Figs 30-31; length 2.7-3.3 mm . . . . . *apricus* n. sp.

7' - Epipleura facing downwards, or at least sloping in respect to the lateral surface of the elytra . . . . . 8

8 - Legs usually darker, reddish-brown; aedeagus as in Figs 32-33; spermatheca and sclerotizations of the vagina as in Figs 36-37; length 4.6-5.6 mm . . . . . *brevicornis* n. sp.

8' - Legs yellowish or light brown, rarely the femora lightly darkened distally . . . . . 9

9 - Body reddish-brown, elytra without evident metallic hue. 10

9' - Darker coloration, with metallic hue on pronotum and elytra . . . . . 12

10 - Body stouter; pronotum strongly transverse (width/length ratio about 2.1) with the base clearly wider than the distal edge; punctation of pronotum finer, sparse and superficial; frons smooth, nearly impunctate; aedeagus as in Figs 39-40; sclerotizations of the vagina as in Fig. 43; length 3.8-4.1 mm . . . . . *castaneus* n. sp.

10' - Body more elongated; pronotum less transverse (width/length ratio nearly 1.5) and restricted at the base which is a little wider than the distal edge; punctation of pronotum stronger and closer; frons with strong and dense punctation . . . . . 11

11 - Habitus less elongated, elytral length/width at humeri ratio nearly 1.2, pronotum without transverse impressions at sides and with stronger punctation, punctation of elytral striae more deeply impressed; aedeagus as in Figs 70-71; length 3-4 mm . . . . . [*viridescens* Pic] (species from Togo and Benin, not reported for the treated islands)

11' - Habitus more elongate, elytral length/width at humeri ratio nearly 1.5, pronotum with a feeble transverse impression at sides, punctures of elytral striae finer; aedeagus as in Figs 62-63; spermatheca and sclerotizations of the vagina as in Figs 67-69; length 3.2-4.3 mm . . . . . *inexspectatus* n. sp.

12 - Body larger (5.2-5.4 mm), punctation of elytra confused at sides behind the humeri, length of the elytra/length of

pronotum ratio nearly 3.5; spermatheca as in Figs 52-53, vagina strengthened by a thin ring as in Fig. 51 . *mimicus* Pic

12' - Body smaller (<4 mm), striae of punctures well defined and regular also on the elytral sides of the elytra, elytra proportionally shorter (length of the elytra/length of pronotum ratio nearly 2.8-3.1) . . . . . 13

13 - Humeri protruded, covering the elytral edge in dorsal view; the surface behind the humeri projecting in a short low carina; elytra more strongly convex, with lateral edges not visible from above; pronotum narrower, length of elytra/width of the base of pronotum ratio nearly 1.6-1.7; aedeagus as in Figs 54-55; spermatheca and sclerotizations of the vagina as in Figs 59-61; length 2.5-3.4 mm. . . . . *humeralis* n. sp.

13'- Humeri less projecting, not covering the elytral lateral edges in dorsal view; the 9th interstria of the elytra moderately convex; elytra less convex at sides, the lateral edge visible from above; pronotum wider, length of elytra/width of the base of pronotum ratio nearly 1.4; aedeagus as in Figs 45-46; length 3.5-3.9 mm . . . . . *diversicolor* Pic

## ***Rhembastus piceus*** **n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Príncipe, Roca Inf. D. Henrique, III.1901, 100-300 m, L. Fea [white printed and partially handwritten label]; Holotypus *Rhembastus piceus* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (2 ♀♀): Is. Príncipe, Roca Inf. D. Henrique, V.1901, L. Fea (1 ♀ MSNG; 1 ♀ SZcoll).

Diagnosis. A characteristic of *Rhembastus piceus* n. sp. is the trapezoid shape of pronotum, with the width of the distal edge nearly half the width of the base and sides only slightly bent. *R. piceus* n. sp. somewhat recalls *Gaberella costata* (Baly) in its habitus, although smaller in size, with somewhat more elongated elytra, less raised elytral interstriae and poorly widened male protarsi.

Description. Habitus as in Figs 136-137; body length of the holotype 2.8 mm, of the ♀♀ paratypes 3.1 mm and 3.2 mm.

Body pitchy black, including pronotum and elytra; head pitchy black, clypeus and mouth parts reddish; antennae reddish with antennomeres 7th-11th dull and darker; legs uniformly reddish.

Frons moderately convex, its sides subparallel between the ocular sulci; surface finely punctated, smooth between the punctures, the distance between two punctures greater than the diameter of a puncture; ocular sulci V-shaped, widening to rear; clypeus separated from the frons, finely punctured, its distal border concave. Penultimate article of maxillary palps nearly so long as wide, the ultimate conical, nearly 1.5 times longer than the penultimate. Antennae (Fig. 76) slender, reaching nearly half body length. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.19-0.16-0.18-0.17-0.19-0.19-0.24-0.22-0.24-0.26-0.30; length/width ratio: 1.7-2.5-3.3-3.7-3.4-3-2.7-2.8-2.7-3.2-3.2.

Eyes moderately wide, the space between the inner border of the eyes in frontal view nearly 1.6 times the width of an eye in ♂, 1.8 times in ♀.

Pronotum 2 times wider than long (0.7×1.5 mm in the holotype), the maximum width at the base; the base twice wider than the distal edge, both finely bordered; lateral edge, as seen from above, in a wide arch, finely bordered; surface with moderately strong and spaced punctures, the distance between two adjacent punctures wider than the diameter of a puncture; surface smooth between the punctures, glabrous. Anterior seta arising well below the lateral edges of pronotum.

Scutellum smooth, without punctures, longer than wide, the sides subparallel at base and convergent to rear, the apex in an acute angle.

Surface of hypomera not punctured, densely microreticulated, the distal margin convex. Prosternum with deep sulci to receive the antennae; prosternum nearly 1.2 times longer than wide between the procoxae, densely microreticulated. Ventral side of body nearly glabrous, with sparse and very thin hairs present on the metaventrite and abdomen.

Mesoventrite smooth; mesocoxae more spaced between each other than the procoxae; mesoepimera not punctured, with a dense microreticulation.

Metaventrite not punctured, smooth; metacoxae a little more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3 times longer than wide, with a very fine microreticulation.

Elytra convex, oblong, 1.2 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 2.1 mm, distance from the base of scutellum to elytral apex 2.4 mm, width at humeri 1.8 mm, maximum width 1.9 mm); elytral sides shortly widening behind the humeri, feebly bent till the apical slope; apices in a slightly acute angle; elytral striae regular, more strongly impressed at their basal third, reaching the elytral apex with relatively strong punctures; interstriae convex, smooth; punctures of striae 5th-9th stronger and partially confused. Epipleura wide at base, thin in the distal half, smooth. Metathoracic wings fully developed.

Legs relatively long; femora moderately swollen, with a small acute tooth; tibiae nearly straight, meso- and metatibiae emarginate near the apex. Pro- and mesotarsi with the first tarsomere moderately widened in male (Fig. 75). Claws bifid, with the inner tooth very thin and short, not reaching half-length of the claws.

Aedeagus as in Figs 72-73; tegmen reduced to a poorly sclerified plate (Fig. 74) covering the basal orifice (median foramen) of the median lobe.

Spermatheca as in Fig. 77; styli short, moderately thin, sclerotized (Fig. 78); spiculum gastrale as long as nearly 1.5 times the length of the genital segment.

Derivatio nominis. The name refers to the uniform pitchy black color of the body.

Note. The habitus of *Rhembastus piceus* n. sp. recalls that of *Gaberella costata*, more than other known *Rhembastus* species. In particular, with *Gaberella* it shares the trapezoid shape of the pronotum and the position of the setae on the anterior corners of the hypomera, well below the lateral edges of prothorax. These characteristics, together with the strongly raised interstriae of the elytra, are highlighted by SELMAN (1965) in the description of the genus *Gaberella*, to distinguish it from *Rhembastus*. Nevertheless, the differences in the aedeagic characteristics (see forward the description of *G. costata*) convinced me to go beyond said aspects and to ascribe this species to the genus *Rhembastus* with which the new species shares the more elongated elytra, the less widened male protarsi, the aedea-

gic characteristics. Moreover, the flatness or convexity of the elytral interstriae and the exact position of the setae at the distal corners of pronotum show differences among *Rhembastus* species, in this case suggesting a cautious use of their taxonomic value.

### ***Gaberella costata*** (Baly, 1878)

*Menius costatus* Baly, 1878a: 178.
*Rhembastus sjoestedti* Jacoby, 1903: 228.
*Gaberella costatus*, Selman 1965: 159; 1972: 48.

Examined material. Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (4 ♂♂, 9 ♀♀ MSNG; 2 ♂♂, 2 ♀♀ SZcoll); Is. Fernando Poo, Bahia de S. Carlos, XII.1901, 0-400 m, L. Fea (3 ♂♂, 1 ♀ MSNG; 1 ♀ SZcoll); Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea (2 ♂♂, 7 ♀♀ MSNG; 1 ♂, 1 ♀ SZcoll); Cameroun, Rte de M'Balmayo, 29-X-1970, L. Matile rec., cacaoyère (1 ♂ MNHN); NE Gabon, Ogooué-Ivindo Prov., Makokou, Parc National Ivindo, 12°43.00'E 0°28.00'N, 0°30'N 12°48'E Ipassa, XII.2013, F. Gallizia leg. (1 ♀ SZcoll); NE Gabon, Makokou, Parc Nat. Ivindo, Ipassa, 16.II/1.III.2012, 400 m, S. Biondi leg. (2 ♀♀ SZcoll); Congo Belge, Lubutu: Masua, 10-ix-1929, A. Collart (1 ♀ SZcoll); Republique du Congo, P. N. d'Odzala, Mbandza, XI.1992, G. Carpaneto leg. (1 ♂ SZcoll); Congo Belge, P.N.G. Miss. H. De Saeger Aka/2, 22-v-1952, H. De Saeger 3514 (1 ♂, 1 ♀ MDcoll); Congo Belge, P.N.G. Miss. H. De Saeger, Pidigala, 23-iv-1952, H. De Saeger 3358 (1 ♀ MDcoll); Congo Belge, P.N.G. Miss. H. De Saeger, Pidigala, 23-iv-1952, H. De Saeger 3327 (1 ♀ MDcoll).

Note. *G. costata* was described from Cameroon and "Guinea" (name, at that era, referred to the whole region around the Gulf of Guinea) and then cited for the Ivory Coast, Congo, Democratic Republic of Congo, Sudan, Uganda. Here it is reported for the first time for Bioko Island and Gabon.

The genus *Gaberella* Selman, 1965 was proposed as monotypic for *Menius costatus* Baly and included in the keys to the genera of African Eumolpinae (Selman 1965, 1972).

Males of *G. costata* (Figs 138-139) are characteristic in their highly enlarged first protarsomera, as reported by Baly 1878; very possibly, Jacoby (1903) described his *Rhembastus sjoestedti* (Came-

roon) on females only, as he did not mention this feature, and said nothing about the sex and number of examined specimens. Three ♀♀ are preserved in the NHML with the label "Camerun; Sjöstedt.; Jacoby Coll./1909-28a", one of which bearing a label "HT". I agree with M. Geiser (NHML, pers. comm.), who suggests considering these three specimens as syntypes of the taxon described by Jacoby. A further ♀ Syntype, with same collecting data and the label "Jacoby 2nd Coll.", is in the Museum of Comparative Zoology at Harvard University (http://140.247.96.247/mcz/Species_record.php?id=9547). The synonymy of *R. sjoestedti* with *G. costata* was formalized by Selman (1965).

Illustrations of the aedeagus (Figs 79-82) and spermatheca (Figs 83-84) are here provided for the first time. The aedeagus has very unusual characteristics and deserves an adequate description. The median lobe is stout, wide, strongly sclerotized, occupying a large part of the abdomen. The basal hood is nearly missing and the base of endofallus (Fig. 80: enb) exceeds the median lobe. The apex of the median lobe has the ostium (Fig. 82: ost) opening distally, directed frontward, at the base of and between two long horn-like productions. The ventral surface of distal half of the median lobe is transversally concave, limited distally by said horn-like productions and proximally by a wide flat protruding plate (Fig. 80: fpl). A rectangular, nearly flat plate (Fig. 80: rfp) starts from the ventral base of the two horn-like productions: it is directed to rear, a little raised from the ventral wall of the median lobe. Other two oblong structures (Fig. 80: obs) are present ventrally, close to the median flat plate: they are less sclerotized than the other parts of the median lobe and seem to be not rigid at their base. The tegmen (Fig. 80: tgm) is wide, poorly sclerotized, covering the ventral part of the base of the endophallus.

In both sexes, abdominal ventrites are somewhat turned dorsally at sides, more so the 5th apparent ventrite, being the tergites narrower than the abdomen width. The last two apparent abdominal tergites have two common symmetrical patches of opaque and very finely rugose surface (Fig. 140): these patches seem to correspond to a possible position of the plate (Fig. 80: fpl) of the aedeagus while breeding.

These peculiar features must be taken into consideration also in comparison with the close genus *Rhembastus* in which the aedeagus has the usual tube-like aspect, bent near its base and with a well

developed basal hood. On the other side, the differences between the two genera based on exoskeletal morphology are not always evident, as discussed in the note to *Rhembastus piceus* n. sp.

Spermatheca as in Figs 83-84. Ductus nearly straight, feebly sclerotized near the insertion to the vagina, where two small sclerotized plates are present (Fig. 85). Spermathecal gland exceptionally long and thin. Styli short, thin and moderately sclerotized; spiculum gastrale short, not exceeding the length of the 9th abdominal segment.

## Platycoryni

### ***Platycorynus nigripes*** (J. Thomson, 1858)

*Euryope nigripes* Thomson, 1858: 208.

Examined material. Mid Fernando Poo, 3.ix.1959, P.H.Langton, B.M.1960-51 (1 ♂ NHML)

Note. First report for Bioko of a species described from Gabon.

## Eumolpini

### ***Colasposoma dentaticolle*** Pic, 1953

*Colasposoma dentaticolle* Pic, 1953a: 169, Fig. 27.

Examined Syntypes (1 ♂ MNHN ex-coll. IFAN; 1 ♂ MNHN ex-coll. Pic): Moka, Fernando-Poo, 1300 m, XII.51 [handwritten white label]; De Keyser Lepesme A. Villiers [handwritten white label]; Syntype [printed red label]; *Colasposoma dentaticolle* n. sp. [handwritten white label].

Examined material. Fernando Poo, Basilè, 400-600 m.s.m., VIII-IX.1901, L. Fea (1 ♂, 1 ♀ MSNG); idem, but IX.1901 (2 ♂♂ MSNG; 1 ♀ SZcoll); Is. Fernando Poo, Moka, II.1902, 1300-1500 m, L. Fea (1 ♂, 1 ♀ MSNG; 1 ♂ SZcoll); Is. Fernando Poo, Musola, 500-800 m.s.m., I-III.1902, L. Fea (1 ♀ MSNG).

Note. Habitus of a syntype in Figs 141-142. Body length of the two examined syntypes: 8.3 mm and 8.7 mm. The specimen from the ex-coll. IFAN was partially infested by mold, dorsum

is blackish with some bluish to bronze metallic reflection and no longer shows the greenish metallic hue which is evident in the specimen from the ex-coll. Pic.

Pic (1953a) compares *C. dentaticolle* with *C. sheppardi* Jacoby, 1904 (Mozambique: Beira) justifying the choice with their similar coloration of the dorsum; the two species are very different indeed and this choice among the many species of the genus *Colasposoma* looks definitely inappropriate. Habitus of *C. dentaticolle* closely recalls that of *C. abdominale* Baly, 1864 instead, from which it seemingly differs in the slightly more elongated body, finer punctation of prothorax and elytra of females without any rugosities at sides, less widened male protarsi. Color of body in the examined *C. dentaticolle* varies from piceous, with some green metallic hue, to metallic green or cupreous. *C. abdominale* is described from Lake N'Gami (Botswana) and reported by Burgeon (1941b) for a few locations in the Democratic Republic of Congo (Kaniama; Sampwe; Kapiri; Nieuwdorp; Elisabethville [Lubumbashi]).

### ***Cheiridella principis*** **n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Príncipe, Roca Inf. D. Henrique, I-IV.1901, 100-300 m, L. Fea [white printed and partially handwritten label]; Holotypus *Cheiridella principis* n. sp. S. Zoia det. 2017 [printed red label].

Paratypes (2 ♂♂, 3 ♀♀): Is. Príncipe, Roca Inf. D. Henrique, III.1901, L. Fea (1 ♀ MSNG); idem, but I-IV.1901 (1 ♀ SZcoll); São Tomé, 1324 m, Antenna, Bom Successo 00°16'31"N, 06°36'14"E (21-29) .x.2016, Malaise, Turner, C.R., Tasane, T., BMNH(E) 2017-11 TripRef:ST-001 (ANHRT 21) (1 ♂, 1 ♀ NHML; 1 ♂ SZcoll).

Diagnosis. A *Cheiridella* species mainly distinguished from *C. zambesiana* Jacoby, 1904 in the smaller body size, darker coloration, antennomeres 6th-11th blackish, confused punctation on a large part of the elytral surface.

Description. Habitus as in Figs 143-144; body length of the male holotype 2.7 mm, of the ♀♀ paratypes 3.0 mm and 3.7 mm.

Body black, head, pronotum and elytra dark brown (an immature ♀ paler, with ventral parts yellowish); clypeus and mouth parts

reddish; antennae with antennomeres 1st-4th ocher, 5th partially darkened, 7th-11th dark brown; legs uniformly ocher.

Frons convex, ocular sulci absent; surface with a relatively strong and close punctation and fine, moderately long pubescence; clypeus not separated from the frons, strongly punctured proximally, smooth distally, its distal border concave. Penultimate article of maxillary palp a little longer than wide, the ultimate conical, nearly so long as the penultimate. Antennae (Fig. 89) slender, reaching the mid-length of elytra in ♂, somewhat shorter in ♀. Antennomeres slender, 7th-11th feebly widened. Length of the antennomeres of the left antenna of the ♂ holotype, in mm: 0.14-0.08-0.17-0.17-0.23-0.22-0.21-0.21-0.21-0.21-0.23; length/width ratio: 1.7-1.3-4.0-3.6-4.7-4.6-3.9-4.1-3.7-3.7-3.7-4.1.

Eyes moderately wide, the space between the inner border of the eyes in frontal view is nearly 2.8 times the width of an eye in ♂, 2.9 times in ♀.

Pronotum nearly 1.3 times wider than long (0.9×0.7 mm in the holotype), the maximum width at the basal third in the ♂♂, at mid-length in the ♀♀; the base only a little wider than the distal edge, both finely bordered; lateral edge, as seen from above, in a wide arch, the lateral margins of pronotum with a thin border; the four angles in a small tooth with a seta; surface with dense ocellate punctation, each puncture bearing a hyaline seta showing golden reflections, the pubescence similar to that of the frons.

Scutellum longer than wide, sides convergent to rear, apex rounded, surface with a fine microreticulation and pubescent.

Surface of hypomera not punctured, densely micro-reticulated, with a continuous ventral sulcus nearly reaching the distal prothoracic corners at one side and the proximal prothoracic corners at the other end. Distal edge of prosternum concave; prosternum thin, nearly 2.5 times longer than wide between the procoxae. Ventral side of body with a fine and relatively long pubescence, glabrous along the metasternum midline.

Mesoventrite with a few punctures; mesocoxae nearly so spaced each other as the procoxae; mesoepimera not punctured, with a fine microsculpture.

Metaventrite not punctured in the midline, smooth; metacoxae more spaced than mesocoxae; metathoracic episterna tapering to rear,

nearly 3.4 times longer than wide, densely punctured and pubescent.

Elytra oblong, 1.6 times longer than wide at the humeri (in the holotype: elytral length in dorsal view 1.9 mm, distance from the base of scutellum to elytral apex 2.0 mm; width at humeri 1.2 mm); humeri moderately prominent; elytral sides subparallel up to two thirds of the elytral length; apices in a nearly right angle; elytral punctation confused, the punctures relatively small and in large part confluent on the whole surface; traces of striae hardly visible; pubescence as on pronotum. Epipleura regularly tapering to rear, in large part turned outwards, punctated and pubescent. Metathoracic wings fully developed.

Legs moderately long and slender; femora moderately swollen, each with an acute tooth; tibiae nearly straight, meso- and metatibiae not emarginate near the apex. Pro- and mesotarsi with the first tarsomere moderately widened in male (Fig. 88). Claws appendiculate and wide open.

Aedeagus as in Figs 86-87.

Spermatheca as in Fig. 91; styli short, sclerotized (Fig. 90); spiculum gastrale thin, a little longer than the genital segment.

Derivatio nominis. The name refers to Príncipe Island, origin of the first specimens I had the opportunity to examine.

Note. Available specimens are slightly immature, this explains a slight deformation of the drawn aedeagus of the holotype. A ♀ paratype (MSNG) proves to be more immature in the paler coloration and not complete distension of the elytra.

Previously, the genus *Cheiridella* Jacoby, 1904 (*Chiridella* in Clavareau, 1914 and in Selman 1965, 1972) included the only *C. zambesiana* Jacoby, 1904. The original description of *C. zambesiana* reports the locality "Estcourt, Natal", which could be a mistake looking at the taxon epithet and the material preserved in the NHML: one specimen labelled as type ("H.T.") and another specimen without a type indication, both bearing the label "Bradshaw Zambesi 1878 Geschenk v. Ulsen" (M. Geiser, NHML, pers. comm.). I agree with Geiser that both specimens must be considered as syntypes of *C. zambesiana*.

Despite the geographic distance between the two taxa, *C. principis* n. sp. matches the main characteristics of the genus, as described by Jacoby (1904: 265). The "elytra finely punctured in rows" is not

found in *C. principis* n. sp., yet this is due to the stronger punctation of the elytra which largely hides the elytral striae. JACOBY (l.c.) reports the presence of a strong tooth on the pro- and metafemora, saying nothing about the mesofemora: in *C. zambesiana* the mesofemora too bear an evident tooth, as it is in *C. principis* n. sp.

Besides said differences in the elytral punctation, the two species clearly differ in body size (2.7-3.7 mm in *C. principis* n. sp.; 3.6-5 mm in *C. zambesiana*), coloration of antennae (uniformly ocher in *C. zambesiana*), punctation of pronotum (the ocellate punctures are wider and very close to each other in *C. zambesiana*), shape of prothorax (the maximum width is in the distal half in *C. zambesiana*), aspect of the ventral sulcus on the hypomera (which is less impressed and very light on the proximal half in *C. zambesiana*). I examined the aedeagus in specimens which I refer to as *C. zambesiana*, collected in Botswana (Kasane, 1.1.1994 lgt. M. Šnižek): the main characteristics are the same as in *C. principis* n. sp., with a long and thin median lobe, bent at a nearly right angle at about one third of its total length (Figs 92-93). Nevertheless, except for the large difference in size, a more complete comparison of the aedeagi could only be carried out by examining further completely mature specimens of *C. principis* n. sp., not available at present.

## Adoxini

### ***Dermoxanthus fulvus*** Baly, 1859

*Dermoxanthus fulvus* Baly, 1859: 126.

Examined material. Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII.1901, L. Fea (1 ♀ SZcoll); idem, but IX.1901 (1 ♀ MSNG).

Note. *D. fulvus* was described from "Old Calabar" (Nigeria) and then reported for Cameroon (JACOBY 1903) and the Guinea-Ivory Coast boundary (BRYANT 1954). The specimens from Bioko I. (Figs 147-148) perfectly match all the characteristics of an examined type specimen (NHML). In particular, pronotum and elytral punctation, nearly flat interstriae on the elytral discus, wide 3rd tarsomere, body size and coloration are the same. The apex of tibiae instead is pitchy black in the two specimens from Bioko I., while

the only metatibiae are somewhat darkened in the type of *D. fulvus*. Another closely related species, *D. clavareaui* Burgeon, 1941 from Cameroon, has the same coloration of legs but differs in the confused elytral punctation. The scarcity of the examined material, both from Bioko I. and the mainland, does not permit to check the variability of these characteristics.

The few studied spermathecae in the genus *Dermoxanthus* (Zoia 2010) are characteristic, within the other known in the Eumolpinae, in their shape and are rather well sclerotized, with a wide, sufficiently rigid ductus. Their characteristics look promising for taxonomic studies, more than in other genera. The spermatheca of *D. fulvus* from Bioko I. is as in Fig. 98: the spermathecal ductus is wide and closely curled up near the spermathecal body; towards the vagina, the ductus clearly increases in diameter at the end of this "ball" and then a moderately wide section of ductus joins the insertion to the vagina.

On the other side, in *Dermoxanthus* the aedeagi seem to have a relatively uniform morphology.

### ***Dermoxanthus piceipes*** **n. sp.**

Type specimens. Holotype ♂ MSNG: Is. Fernando Poo, Musola, 500-800 m.s.m., III.1902, L. Fea [white printed label]; Holotypus *Dermoxanthus piceipes* n. sp. S. Zoia det. 2017 [printed red label].

Diagnosis. A *Dermoxanthus* species close to *D. fulvus* and *D. clavareaui* from which it mainly differs in the regularly striate elytra, black legs, less widened 3rd tarsomeres and slender antennae.

Description. Habitus as in Figs 145-146; body length 7.4 mm.

Body, head, pronotum and elytra reddish; labrum and palpi yellowish, mandibles reddish at base, in large part black distally; antennae with antennomeres 1st reddish, 2nd-5th yellowish, the 5th partially darkened, 6th-11th dark brown, dull; legs pitchy black, the metafemora partially reddish in the proximal half of the outer side.

Frons convex, ocular sulci moderately deep in their distal half, more superficial proximally; surface of frons and clypeus with sparse strong punctation, the distance between two adjacent punctures nearly twice the diameter of a puncture; the surface between the

main punctation with a very fine microreticulation and dense micropunctation, glabrous; clypeus not separated from the frons, its distal border in a wide arch. Penultimate article of maxillary palps nearly 1.8 times longer than wide, the ultimate nearly so long as the penultimate. Antennae (Fig. 97) slender, reaching the elytral basal third. Antennomeres lengthened, 6th-11th moderately widened. Length of the antennomeres of the left antenna, in mm: 0.29-0.17-0.39-0.36-0.45-0.49-0.50-0.43-0.44-0.40-0.50; length/width ratio: 1.5-1.5-3.5-3.4-3.3-2.6-2.4-2.3-2.4-2.2-2.2.

Eyes moderately wide, lightly emarginate at the inner border; in frontal view the space between the inner borders of the eyes nearly 2.5 times the width of an eye.

Pronotum hardly wider than long (2.1×2 mm), the maximum width at the base; the base bordered, only a little wider than the distal edge which is bordered only at sides; lateral edge, as seen from above, sinuate, the lateral margins of pronotum with a very thin border; the basal angles in a small tooth with a seta; the insertion of the setae on the distal edge at level of the lateral border of pronotum; punctation as on head, with a dense micropunctation between the main punctures, glabrous.

Scutellum 1.3 times longer than wide, lightly tapering to rear, the apex rounded, the surface with a fine microreticulation and small punctures, glabrous.

Surface of hypomera with fine and dense microreticulation and sparse fine punctation, and with a continuous sulcus nearly reaching the distal prothoracic corner at one side - where it is deeper - and the proximal prothoracic corner at the other end; distal edge convex, strongly protruded frontwards and partially covering the eyes and genae; distal edge of prosternum concave; prosternum nearly so long as wide at the base, trapezoid, with a very strong punctation and long fine pubescence.

Mesoventrite with corrugated surface and very fine sparse pubescence; mesocoxae a little closer to each other than the procoxae; mesoepimera with a fine microreticulation.

Metaventrite not punctured, smooth; metacoxae more spaced than pro- and mesocoxae; metathoracic episterna tapering to rear, nearly 4.5 times longer than wide, with a fine microreticulation, glabrous.

Elytra oblong, 1.7 times longer than wide at the humeri (elytral length in dorsal view 5.4 mm, distance from the base of scutellum

to elytral apex 5.6 mm; width at humeri 3.2 mm); humeri not prominent; elytral sides nearly straight up to more than two thirds of the elytral length; apices in a nearly right angles; each elytron with nine complete and regular striae, equally impressed from the base to the elytral apex, a short stria of punctures along the base of the suture and a complete line of punctures along the fold of the elytral side which is briefly doubled beyond the humerus; the 6th stria not reaching the elytral base, but starting beyond the humerus; interstriae nearly flat, with the exception of the one between the striae 8th and 9th, which starts from the humerus and is wider, convex and gradually more elevated to rear. Surface of the interstriae with dense micro-punctation. Epipleura tapering to rear, glabrous, with a line of punctures. Metathoracic wings fully developed.

Legs moderately long, robust; femora swollen, unarmed; tibiae nearly straight, meso- and metatibiae not emarginate near the apex. Pro- and mesotarsi with the first tarsomere somewhat widened (Fig. 96); second tarsomere in a triangle which continues the outline of the third tarsomere which is as wide as the length of the onychium. Claws appendiculate and wide open.

Aedeagus as in Figs 94-95.

Derivatio nominis. The name is a combination of the Latin words *pĭcĕus* and *pēs* and refers to the pitchy black coloration of legs.

Note. *D. piceipes* n. sp. is very close to *D. fulvus* (see above) and *D. ruficolor* Pic, 1953b (Cameroon), from which it differs in a darker reddish coloration, the very regular elytral striae, with the 6th stria ending before the humerus (in *D. fulvus*, and in the other taxa here mentioned, it nearly reaches the elytral base), the almost completely pitchy black legs. The same characteristics separate *D. piceipes* n. sp. from *D. clavareaui*, in which moreover the pronotoum is wider, with a finer punctation near the base, and the elytral punctation is even more confused. *D. fraternus* Baly, 1859, from Nigeria, has a reddish coloration of the dorsum, more similar to that of *D. piceipes* n. sp., and legs in large part black, but the elytral striae are not so regular and made in part by a doubled punctation, the punctures have a darkened halo which is not present in the other species, the lateral interstriae are convex.

The aedeagus of *D. piceipes* n. sp. does not differ from that of an examined *D. fulvus* from South Kameroon (Bipindi, X-XII.96

G. Zenker S.), this looks coherent with the found uniform morphology of the examined aedeagi in this genus.

### ***Heteraspis viridimaculata*** (Jacoby, 1877)

*Scelodonta viridimaculata* Jacoby, 1877: 514.
*Scelodonta jacobyi* Baly, 1878a: 177.
*Scelodonta viridimaculata*, Burgeon 1941c: 184.

Examined material. Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (1 ♂, 1 ♀ MSNG); Is. Fernando Poo, Musola, 500-800 m.s.m., I.1902, L. Fea (1 ♀ SZcoll).

Note. First citation for Bioko I. of a species described from Cameroon.

Burgeon 1941c observed only light differences in size and coloration between *H. viridimaculata* and specimens of *H. bidentata* (Baly, 1877) with reduced green coloration of the dorsum. On this base Burgeon suggested the possibility that the two taxa must be regarded as synonyms.

Examined specimens of *H. viridimaculata* from Bioko I. seemingly do not differ in coloration, size and aedeagic characteristics from others from Cameroon. A comparison with a *H. bidentata* ♂ from Ghana (Ashanti Reg., Umg. Kumasi) highlighted the following differences: the posthumeral transversal green spot in *H. viridimaculata* is separated from the sutural green strip and is produced frontwards along the inner side of humerus till the fore edge of the elytron; in *H. bidentata* this transversal spot always reaches the green zone along the suture and is not produced frontwards near the humeri, where the surface is black; the transversal green band on the apical slope is separated from the sutural strip in *H. viridimaculata*, connected to the sutural strip in *H. bidentata*. Light differences are present in the apex of aedeagus, which looks somewhat more sinuate in lateral view in *H. viridimaculata*: these differences are very light and further studies on a more abundant material are needed.

### ***Ennodius murrayi*** (Chapuis, 1874)

*Enipeus murrayi* Chapuis, 1874: 295.

Examined material. Is. Fernando Poo, Punta Frailes, X.1901, L. Fea (1 ♂ MSNG).

N o t e . First citation for Bioko I. of a species described from Southern Nigeria and diffused in Western Central Africa.

### ***Nerissus femoralis*** Lefévre, 1875

*Nerissus femoralis* Lefévre, 1875: 129.

E x a m i n e d m a t e r i a l . Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII.1901, L. Fea (1 ♂ MSNG).

N o t e . First citation for Bioko I. of a species described from Southern Nigeria (Old Calabar).

*N. femoralis* is reported from several countries in the Gulf of Guinea, from the Ivory Coast to Cameroon. The specimen from Bioko I. seemingly fully agrees in its characteristics (genitalia not examined) with the var. *prior* described by KUNTZEN (1912: 55) from Northern Cameroon, with entirely black legs.

### ***Nerissus sculptilis*** (J. Thomson, 1858)

*Colasposoma sculptilis* J. Thomson, 1858: 210.
*Macrocoma sculptilis*, LEFÉVRE 1885: 87.
*Nerissus sculptilis*, SELMAN 1970: 259.

E x a m i n e d m a t e r i a l . Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII.1901, L. Fea (1 ♂ MSNG); Is. Fernando Poo, Bahia de S. Carlos, I.1902, 200 m, L. Fea (1 ♀ SZcoll).

N o t e . First citation for Bioko I. of a species described from Gabon and reported also for Congo and Cameroon.

### ***Nerissus strigosus*** Chapuis, 1874

*Nerissus strigosus* Chapuis, 1874: 286.

E x a m i n e d m a t e r i a l . Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII-IX.1901, L. Fea (1 ♂ MSNG); Is. Fernando Poo, Musola, 500-800 m.s.m. I.1902, L. Fea (1 ♀ SZcoll); idem, but III.1902 (1 ♀ MSNG).

N o t e . First citation for Bioko I. of a species described from Southern Nigeria (Vieux Calabar). *N. strigosus* is reported from several countries in the Gulf of Guinea, from the Ivory Coast to Equatorial Guinea.

***Tanybria apicalis*** (Jacoby, 1881) **n. comb.**

*Eubrachys apicalis* Jacoby, 1881: 446.
*Pseudocolaspis apicalis*, Lefévre 1885: 85.
*Pseudocolaspis apicalis*, Weise 1912: 83.

Examined material. Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII.1901, L. Fea (3 ♂♂, 1 ♀ MSNG; 1 ♂ SZcoll); idem, but VIII-IX.1901 (1 ♂ MSNG); idem, but IX.1901 (1 ♂ MSNG; 1 ♂ SZcoll); Is. Fernando Poo, Basilè, 500-800 m.s.m., I-III.1902, L. Fea (1 ♀ SZcoll) Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (2 ♂♂, 1 ♀ MSNG; 1 ♂ SZcoll); Is. Fernando Poo, Bahia de S. Carlos, III.1902, 0-400 m.s.m., L. Fea (1 ♀ MSNG); Nov. 1959, Bonepoupa Cameroun, J. Cantaloube (4 ♂♂, 2 ♀♀ MNHN; 2 ♂♂, 2 ♀♀ SZcoll); idem, Sept. 58 (1 ♂, 1 ♀ MNHN); 44879, Guinea Camaroon, Fry Coll. 1905.100. (1 ♂ NHML).

Redescription. Habitus as in Figs 153-154; body length of ♂♂ 5.0-6.0 mm, ♀♀ 5.0-5.8 mm.

Head with labrum, clypeus and sides of frons metallic reddish, frons blackish, sometimes with some greenish reflections; prosternum metallic reddish, meso- and metasternum metallic green, abdomen blackish, abdominal tergites 1st-5th metallic green; dorsum metallic green with sides of prothorax black with some metallic hue, humeri and elytral slope black. Mouth parts reddish. Antennal segment 1st, 2nd in part, metallic reddish, 3rd-6th reddish, not metallic, 7th blackish with some metallic hue, 8th-11th dull black; legs metallic reddish.

Head with a moderately long hyaline pubescence; frons nearly flat, densely rugose, rugosity more deeply impressed proximally and near the eyes, ocular sulci absent; clypeus densely rugose, usually with a low longitudinal carina, the distal border in a wide and regular arch. Penultimate article of maxillary palps a little longer than wide, the ultimate conical, nearly 1.5 times longer than the penultimate and twice longer than wide. Antennae (Fig. 102) relatively short, reaching the base of pronotum; antennomeres 7th-11th moderately widened. Length of the antennomeres of the left antenna of a ♂, in mm: 0.29-0.27-0.17-0.17-0.18-0.18-0.25-0.22-0.22-0.23-0.31; length/width ratio: 1.9-2.7-1.9-1.9-2-2.1-1.8-1.4-1.4-1.5-2.

Eyes strongly convex, in frontal view the space between the inner borders of the eyes nearly 2.5 times the width of an eye.

Pronotum nearly so long as wide, the maximum width in the middle; the base nearly so wide as the distal edge, base with a moderately wide and not punctured border, distal edge very finely bordered; sides, as seen from above, feebly bent, proximally with traces of border; surface strongly punctate and densely rugose, more so at sides, with sparse short pubescence.

Scutellum so wide as long, pentagonal, the apex in a wide angle, blackish, usually with metallic hue, without punctures.

Surface of hypomera densely rugose, the distal margin feebly concave, continuous with the distal margin of prosternum. Prosternum nearly 1.2 times wider than long between the procoxae, strongly punctured and microreticulated, nearly glabrous.

Mesoventrite strongly transverse, with a dense microsculpture; mesocoxae more spaced each other than the procoxae; mesoepimera with punctures and dense microreticulation, sparsely pubescent.

Metaventrite finely punctured, densely pubescent at sides; metacoxae more spaced than mesocoxae; metathoracic episterna tapering to rear, nearly 3 times longer than wide, densely punctured and pubescent.

Elytra oblong, 1.1 times longer than wide, the maximum width at humeri (in a ♂: elytral length in dorsal view 3.0 mm, distance from the base of scutellum to elytral apex 3.4 mm; width at humeri 2.6 mm); elytral sides tapering to rear starting shortly after the humeri; apices in a slightly acute angle; basal half of elytra green, with a strong roughened sculpture, the striae hardly visible only at the margins of this area; apical slope black, with regular and deep striae, the interstriae convex. Pubescence sparse, moderately long and erected. Epipleura moderately wide, subparallel and turned outwards for a large part of their length, nearly vertical, smooth, blackish with some metallic hue. Metathoracic wings fully developed.

Legs long; femora moderately swollen; profemora with a strong acute tooth followed by a couple of small tubercles; each meso- and metafemora with a strong acute tooth followed by a second, small tooth; pro- and mesotibiae curved on the basal half, straight or feebly bent outwards apically, with a carina on the inner side, ending with a tooth; metatibiae nearly straight; meso- and metatibiae not emarginate. Pro- and mesotarsi with the first tarsomere

moderately widened in males (Fig. 101). Claws bifid, with the inner tooth not reaching half the length of the claws.

Aedeagus as in Figs 99-100.

Spermatheca as in fig. 104; styli short, sclerotized, hemisternites of the genital segment (9th abdominal segment) widely sclerotized, particularly at sides, spiculum gastrale very short, the vagina ends with a wide oblong pouch (Fig. 103).

Note. *T. apicalis* was described in the genus *Eubrachys* Dejean, 1836, now a synonym of *Pseudocolaspis* Laporte, 1833 (Monrós & Bechyné 1956) based on two specimens from Cameroon. For its characteristics (body shape and sculpture, femora with more than one tooth at the inner side) this species is here transferred to the genus *Tanybria*, close to *T. spinipes* (Baly, 1878). The aedeagi of the two species (Figs 99-100 and 105-106) are very similar, the only apparent difference being the apex a little more elongated in *T. apicalis*. The spermatheca of *T. apicalis* (Fig. 104) is a little stouter at base and the accessory gland is shorter than in *T. spinipes* (Fig. 107). Both species share the same morphology of the styli and of the sclerotized parts of the feminine genital segment, and the vagina has an annexed pouch of same size and shape. The two taxa are easily distinguishable by means of several exoskeletal characteristics: in *T. spinipes* the elytra are either totally metallic green or with blackish apex (specimens from Cameroon), with a softened change of color; in *T. apicalis* the change of color is clearly marked by a change of the characteristics of the elytral surface, which is strongly roughened in the green part, striate and with smooth interstriae on the black elytral slope. In *T. spinipes* the interstriae are by far more elevated, with carinae on the elytral sides and tubercles in the middle of the elytra; a strongly roughened surface is near the elytral base only. In *T. spinipes* the prothorax is in large part metallic green with metallic reddish zones at sides and on hypomera; in *T. apicalis* the only median line of pronotum is metallic green, with sides of pronotum and hypomera largely dull black, occasionally with some metallic hue. Profemora in *T. spinipes* have two teeth each (one, plus two small tubercles, in *T. apicalis*), the metasternum is dark, not metallic (metallic green in *T. apicalis*) and with longer pubescence.

Based on the examined material, the geographic distributions of the two taxa widely overlap.

***Tanybria spinipes*** (Baly, 1878)

*Eubrachis spinipes* Baly, 1878a: 248.
*Pseudocolaspis irregularis* Pic, 1953a: 168, **n. syn.**
*Tanybria spinipes*, SELMAN 1964: 638.

Examined Type of *Eubrachis spinipes*: Cameroons, Type (1 ♀ NHML).

Examined Syntypes of *Pseudocolaspis irregularis*: Mioko, Fernando-Poo, 1700-2000 m, 8.XII.51 [handwritten white label] 8.XII.51 DeKeyser Lepesme et A. Villiers [handwritten white label] Pseudocolaspis irregularis n. sp. [handwritten white label] TYPE [printed red label] (1 ♂ MNHN: ex-coll. Pic); idem (1 ♀ MNHN: ex-coll. IFAN).

Examined material. Is. Fernando Poo, Basilè, 400-600 m.s.m., VIII-IX.1901, L. Fea (2 ♀♀ MSNG; 1 ♀ SZcoll); Is. Fernando Poo, Punta Frailes, X-XI.1901, L. Fea (1 ♂, 1 ♀ MSNG; 1 ♂, 1 ♀ SZcoll); Is. Fernando Poo, Bahia de S. Carlos, XII.1901, 200-300 m, L. Fea (1 ♀); Is. Fernando Poo, Moka III.1902, 1000-1600 m, L. Fea (1 ♂, 1 ♀ MSNG; 1 ♂ SZcoll); Bois des Singes, Douala, Cameroun, Sept. 1958, J. Cantaloube (1 ♀ MNHN); idem, Nov. 1958 (1 ♂ MNHN); idem, Déc. 1958 (1 ♂ SZcoll); idem, Janv. 1959 (1 ♂ MNHN; 1 ♀ SZcoll); Bonepoupa, Cameroun, Sept. 1958, J. Cantaloube (2 ♀♀ MNHN); idem, Nov. 1959 (3 ♀♀ MNHN; 1 ♂, 1 ♀ SZcoll).

Note. PIC (1953a) placed *Pseudocolaspis irregularis* near *Tanybria spinipes* (erroneously written "*P*[*seudocolaspis*] *spinosus* Baly") "paraissant avoir une plus forte sculpture sur le dessus du corps avec de fortes stries latérales". An illustration of the habitus of *P. irregularis* was published by PIC (1953a: 168, Fig. 26). The habitus of the Holotype of *Tanybria spinipes* is in Figs 149-150, of a syntype of *Pseudocolaspis irregularis* in Figs 151-152. Comparing type material of the two taxa, I found no reasons to maintain the distinction and I formalize the following synonymy:

*Pseudocolaspis irregularis* Pic, 1953 = *Tanybria spinipes* (Baly, 1878) **n. syn**.

The species is correctly placed in the genus *Tanybria* by means of the presence of two teeth at the inner margin of the pro- and mesofemora, elytra strongly narrowed from humeri to rear, dorsum

strongly sculptured, elytral surface with sparse erected short setae, pronotum evenly bent at sides with the distal and proximal edges subequal in width.

Color of pronotum and elytra in the examined specimens from Bioko varies from completely metallic green to dark bronze; in the specimens from Cameroon the sides of prothorax and the sides and apical slope of elytra are black, usually with some metallic reddish and greenish reflections.

Aedeagus as in Figs 105-106. Spermatheca as in Fig. 107; the styli are short, conical, sclerotized; hemisternites of the genital segment (9th abdominal segment) widely sclerotized, particularly at sides; spiculum gastrale short and poorly sclerotized; the vagina ends with a wide oblong, densely rugose pouch.

### ***Dicolectes atripes*** Pic, 1953

*Dicolectes atripes* Pic, 1953a: 170, Fig. 28.

Examined Holotype (♀ MNHN ex-coll. IFAN): Basile, Fernando-Poo, 12-XII-51 [handwritten white label]; De Keyser Lepesme A. Villiers [handwritten white label]; Type [printed red label]; *Dicolectes atripes* n. sp. [handwritten white label].

Note. Habitus of holotype as in Figs 155-156, no other specimens in the studied material.

## FINAL REMARKS

A catalogue of the known Eumolpinae from the three islands includes the following species, with their known distribution:

*Afroeurydemus variicolor* (Berlioz, 1919) (Príncipe I., São Thomé I.)
*Paraivongius* (*Micromenius*) *concolor* (Pic, 1953) (Bioko I.)
*Paraivongius* (*Micromenius*) *feai* **n. sp.** (Bioko I., Congo)
*Paraivongius* (*Micromenius*) *nitidissimus* (Pic, 1953) (Bioko I.)
*Paraivongius* (*Micromenius*) sp. [cfr. *plagiatus* Lefévre, 1891] (Bioko I.)
*Paraivongius* (*Micromenius*) sp. (Príncipe I.)
*Paraivongius* (*Paraivongius*) *apricus* **n. sp.** (Bioko I., Congo)
*Paraivongius* (*Paraivongius*) *brevicornis* **n. sp.** (Bioko I.)
*Paraivongius* (*Paraivongius*) *castaneus* **n. sp.** (Bioko I.)

*Paraivongius* (*Paraivongius*) *diversicolor* Pic, 1953 (Bioko I.)
*Paraivongius* (*Paraivongius*) *humeralis* **n. sp.** (Bioko I.)
*Paraivongius* (*Paraivongius*) *inexspectatus* **n. sp.** (Bioko I., Príncipe I.)
*Paraivongius* (*Paraivongius*) *mimicus* Pic, 1953 (Bioko I.)
*Rhembastus piceus* **n. sp.** (Príncipe I.)
*Gaberella costata* (Baly, 1878) (Bioko I., Ivory Coast, Cameroon, Gabon, Congo, Democratic Republic of Congo, Sudan, Uganda)
*Platycorynus nigripes* (J. Thomson, 1858) (Bioko, Gabon)
*Colasposoma dentaticolle* Pic, 1953 (Bioko I.)
*Cheiridella principis* **n. sp.** (Príncipe I., São Thomé I.)
*Dermoxanthus fulvus* Baly, 1859 (Bioko I., Nigeria, Cameroon, Guinea-Ivory Coast)
*Dermoxanthus piceipes* **n. sp.** (Bioko I.)
*Heteraspis viridimaculata* (Jacoby, 1877) (Bioko I., Cameroon)
*Ennodius murrayi* (Chapuis, 1874) (Bioko I., Guinea, Ivory Coast, Nigeria, Cameroon, Equatorial Guinea, Congo, Democratic Republic of Congo)
*Nerissus femoralis* Lefévre, 1875 (Bioko I., Guinea, Ivory Coast, Nigeria, Cameroon)
*Nerissus sculptilis* (J. Thomson, 1858) (Bioko I., Cameroon, Gabon, Congo)
*Nerissus strigosus* Chapuis, 1874 (Bioko I., Ivory Coast, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea)
*Tanybria apicalis* (Jacoby, 1881) (Bioko I., Cameroon)
*Tanybria spinipes* (Baly, 1878) (Bioko I., Cameroon)
*Dicolectes atripes* Pic, 1953 (Bioko I.)

As expected, the Eumolpinae of São Thomé, Príncipe & Bioko Islands proved to have close relations with the fauna of the adjacent continental Africa, with several in common or strictly related species. On the other hand, our knowledge about the Eumolpinae of the Countries around the Gulf of Guinea is still fragmentary - both in relation to the real consistence of these faunas and the distribution of the known species - being mostly based on old original descriptions of taxa, with only a few groups successively reviewed (Selman 1965, 1972). Misidentifications of species are also present in literature, as is the case of *Paraivongius viridescens,* here reported.

On this introductory statement, it could be expected that a large part, if not all, of the species here reported for the Islands, really may belong to the fauna of the African coasts too.

A particular situation appears that of *Cheiridella principis* n. sp., with the only known relationship with *C. zambesiana*, from Zambesi. Here again, our inadequate knowledge about their real distribution and the possibility that unknown taxa might be found in the future prevent me from expressing any hypothesis to justify the apparent geographical gap between these species.

ACKNOWLEDGEMENTS

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REFERENCES

Baly J. S., 1859 - Descriptions of new genera and species of Phytophagous Insects - *Annals Mag. Nat. Hist.*, London, ser. 3, 4: 124-128.

Baly J. S., 1864 - Descriptions of new genera and species of Phytophaga - 8vo, pp. 16, London (separate publication)

Baly J. S., 1877 - Descriptions of new species of Phytophagous beetles belonging to the family Eumolpidae; and a monograph of the genus *Eumolpus* - *Trans. ent. Soc. London*: 37-56.

Baly J. S., 1878a - Diagnoses of a new genus and some undescribed species of African Phytophaga - *Ent. month. Mag.*, London, 16 (1877-1878): 177-179.

Baly J. S., 1878b - Description of New Species and Genera of Eumolpidae - *J. linn. Soc.*, London, Zoology, 14: 246-265.

Berlioz J., 1919 - Description d'une espèce nouvelle d'Eumolpide (Col. Chrysomel.) nuisible aux Cacaoyers de l'île San Thomé - *Bull. Soc. ent. Fr.*, Paris: 88-89.

Bryant G. E., 1954 - La réserve naturelle intégrale du Mont Nimba, Fascicule II - XII. Coléoptères Chrysomélides Eumolpinae - *Bull. Inst. franç. Afr. noire*, Paris-Dakar, 40 (2): 169-173.

BURGEON L., 1941a - Eumolpides (Col. Chrysom.) des collections du Musée du Congo Belge - *Rev. Zool. Bot. afr.*, Bruxelles, 34 (2): 268-296.

BURGEON L., 1941b - Les *Colasposoma* et les *Euryope* du Congo Belge (Coléopt. Chrysomel. Eumolp.) - *Mém. Inst. R. colon. belge*, Bruxelles, 10 (5): 1-43.

BURGEON L., 1941c - Nouveaux Eumolpides (Col. Chrysom.) des collections du Musée du Congo belge - *Rev. Zool. Bot. afr.*, Bruxelles, 34 (2): 168-191.

CHAPUIS F., 1874 - Tome dixième. Famille des Phytophages. In: Lacordaire T. & Chapuis F., Histoire naturelle des Insectes. Genera des Coléoptères ou exposé méthodique et critique de tous les genres proposées jusqu'ici dans cet ordre d'insectes - Ed. Roret, Paris: IV + 455 pp.

CLAVAREAU H., 1914 - Chrysomelidae: 11. Eumolpinae. Pars 59: 215 pp. in: Junk W. & Schenkling S. - Coleopterorum catalogus. 's-Gravenhage, Berlin (1911-1940).

DE SEABRA A. F., 1920 - Études sur les maladies et les parasites du cacaoyer et d'autres plantes cultivées à S. Thomé. XXIII. Note sur l'importance agricole du *Lymidus variicolor*, Berlioz - Companhia Agrícola Ultramarina, Lisbon, 8 pp.

I.C.Z.N. [International Commission on Zoological Nomenclature], 1999 - International code of zoological nomenclature. Fourth edition. London (International Trust for zoological Nomenclature): i–xxix + 1–306.

JACOBY M., 1877 - Descriptions of new species of Phytophagous Coleoptera - *Proc. zool. Soc. London*: 510-520.

JACOBY M., 1881 - Descriptions of new Genera and Species of Phytophagous Coleoptera - *Proc. zool. Soc. London*: 439-450.

JACOBY M., 1903 - Phytophagous Coleoptera obtained by Prof. Sjöstedt in the Cameroons - *Ark. Zool.*, Stockholm, 1: 223-233, 1 pl.

JACOBY M., 1904 - Another contribution to the knowledge of African Phytophagous Coleoptera - *Proc. Zool. Soc.*, London, 1: 230-270, 1 tav.

KUNTZEN H., 1912 - Die Eumolpinensubtribus Nerissini (Coleopt. Chrysomelidae) - *Arch. Naturg.*, Berlin, 78, Abt. A (2): 42-57.

LEFÉVRE E., 1875 - Descriptions d'eumolpides nouveaux ou peu connus - *Rev. Mag. Zool. pure appl.*, Paris, 3^ série, 3 (3): 102-139.

LEFÉVRE E., 1885 - Eumolpidarum hucusque cognitarum catalogus, sectionum conspectu systematico, generum sicut et specierum nonnullarum novarum descriptionibus adjunctis - *Mém. Soc. r. Sc. Liège*, (2), 11 (n. 16): 1-172.

LEFÉVRE E., 1891 - Descriptions d'espèces nouvelles de Clytrides et d'Eumolpides - *Annales Soc. ent. Belg.*, Bruxelles, *Bull. Compt.-Rend.* Séances Soc. *ent. Belg.*, 35: CCXLVIII-CCLXXIX.

MONRÓS F. & BECHYNÉ J., 1956 - Über einige verkannte Chrysomeliden-Namen - *Ent. Arb. Mus. Frey*, Tutzing, 7 (3): 1118-1137.

NAVEL H. C., 1922 - Les principaux Ennemis du cacaoyer aux Iles de San-Thomé et de Príncipe - Ed. Larose, Paris, 135 pp., 4 pl., 2 maps.

PIC M., 1936 - Coléoptères exotiques en partie nouveaux - *L'Échange*, *Rev. linn.*, Moulins, 52, n. 466: 31-32.

PIC M., 1940 - Nouvelle série de Coléoptères de l'Angola - *Rev. suisse Zool.*, Genève, 46, n. 17: 359-365.

PIC M., 1952 - Mission A. Villiers au Togo et au Dahomey (1950). XIV. - Coléoptères Chrysomélides - *Bull. Inst. franç. Afr. noire*, Paris-Dakar, 14: 495-512

Pic M., 1953a - Coléoptères nouveaux de Fernando-Poo - *Bull. Inst. franç. Afr. noire*, Paris-Dakar, 15: 152-170.

Pic M., 1953b - Nouveaux Coléoptères africains - *Bull. Inst. franç. Afr. noire*, Paris-Dakar, 15: 495-506.

Selman B. J., 1964 - A reappraisal of the status of the genus *Eubrachis* (Eumolpidae, Coleoptera), together with a key to the related genera - *Annals Mag. nat. Hist.*, London, ser. 13, 6 (1963): 637-639.

Selman B. J., 1965 - A revision of the Nodini and a key to the genera of Eumolpidae of Africa (Coleoptera: Eumolpidae) - *Bull. Br. Mus. nat. Hist.*, *Entom.*, London, 16 (3): 143-174.

Selman B. J., 1970 - Mission A. Villiers et A. Descarpentries: Contribution à la faune du Congo (Brazzaville). XCV. Coléoptères Chrysomelidae Eumolpinae - *Bull. I. F. A. N.*, Paris-Dakar, 32, sér. A (1): 251-261.

Selman B. J., 1972 - Eumolpinae (Coleoptera: Chrysomelidae). Exploration Parc national de la Garamba. Mission H. de Saeger - Fondation pour Favoriser les Recherches Scientifiques en Afrique, Bruxelles, 55: 1-95.

Selman B. J., 1973 - Contribution à la connaissance de la faune entomologique de la Côte-d'Ivoire (J. Decelle, 1961-1964). 49. Coleoptera Chrysomelidae Eumolpinae - *Rev. Zool. Bot. afr.,* Tervuren, 87 (2): 311-329.

Thomson J., 1858 - Insectes. I. Ordre Coléoptères (pp. 29-239) - In: Voyage au Gabon. Histoire naturelle des Insectes et des Arachnides recueillis pendant un voyage fait au Gabon - *Arch. ent.*, Paris, 2: 1-469, 15 tavv.

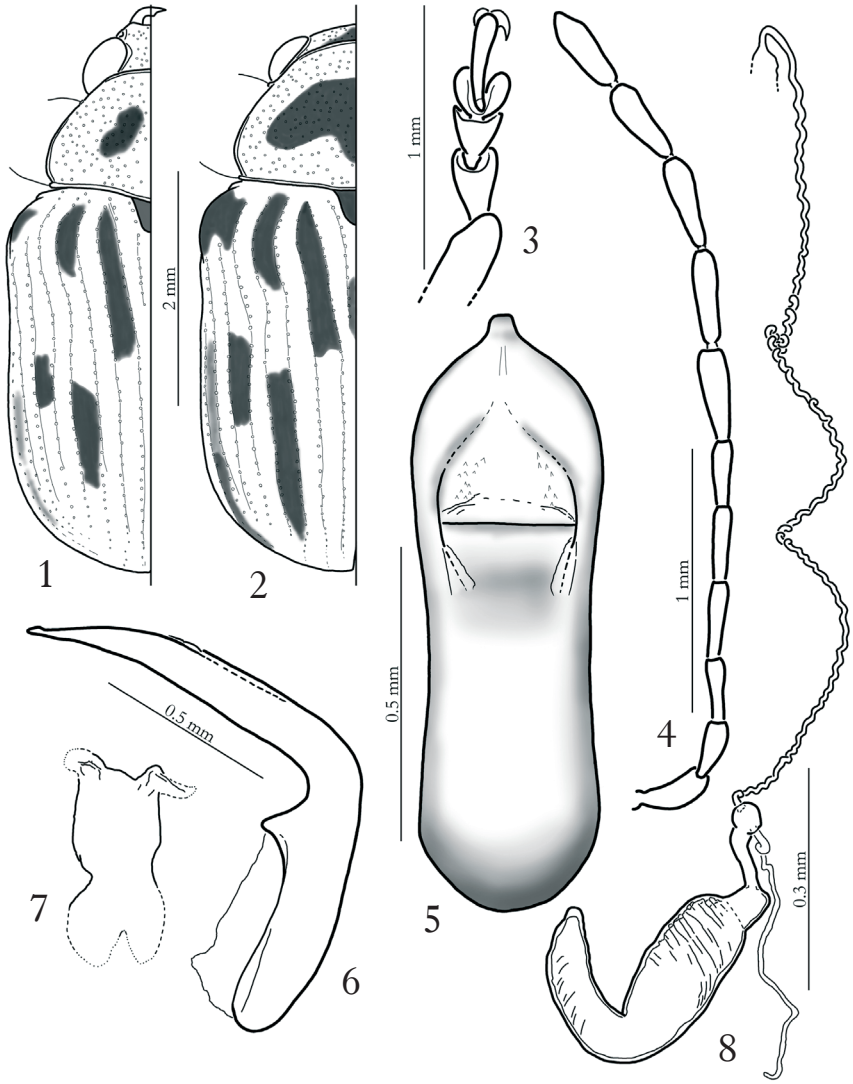
Weise J., 1912 - Beitrag zur Kenntnis der Chrysomeliden - *Arch. Naturg.*, Berlin, 78, Abt. A (2): 76-98.

Zoia S., 2010 - New data on African Eumolpinae from the collections of the Naturhistorisches Museum in Basel (Coleoptera, Chrysomelidae) - *Ent. basil. Coll. Frey*, Basel, 32: 323-341.

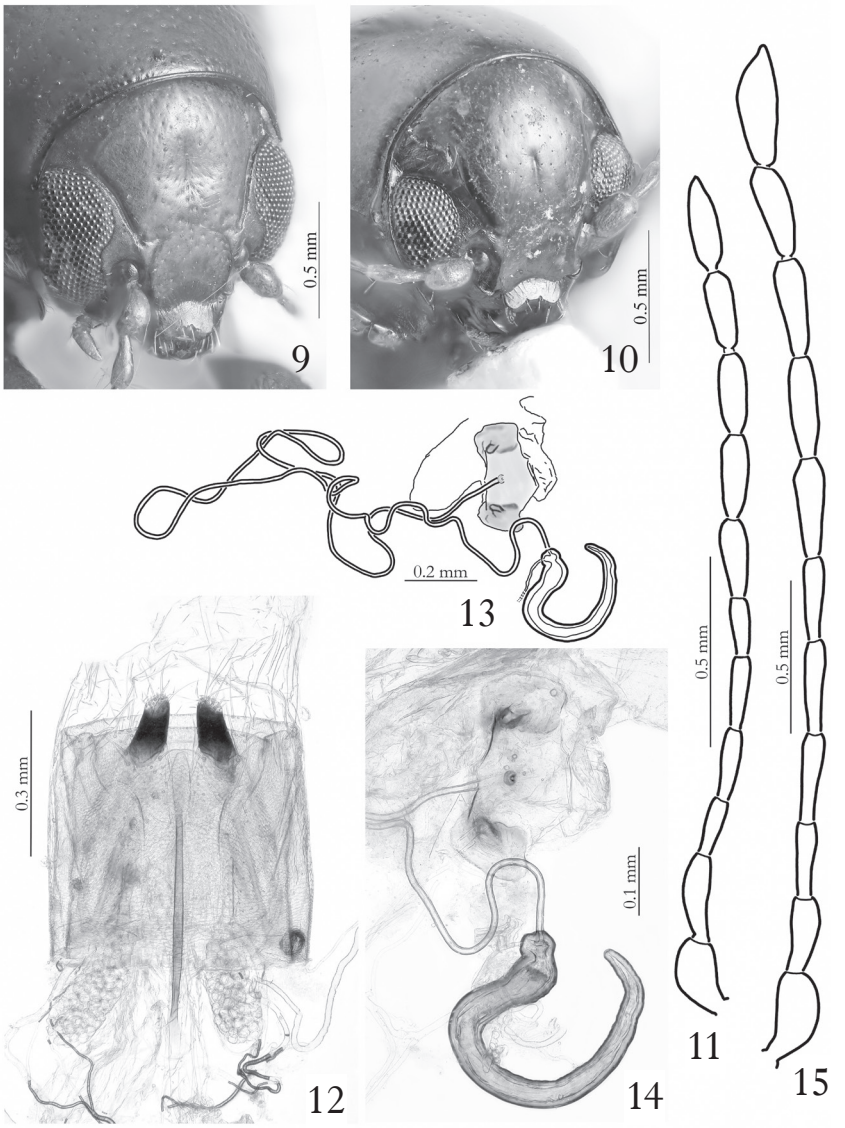
## ONLINE PUBLICATIONS

Museum of Comparative Zoology at Harvard University - MCZ Type Database. http://140.247.96.247/mcz/index.php (access: March 2017).

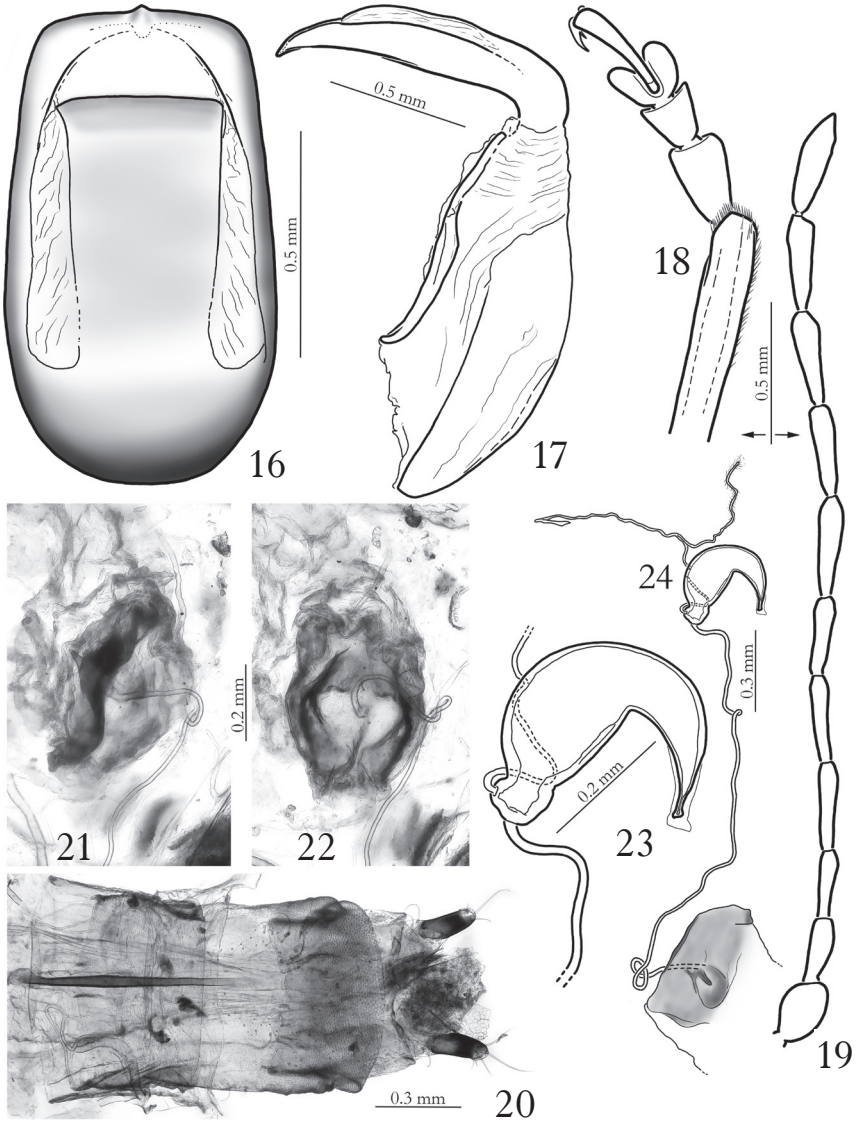
Zoia S. - African Eumolpinae site (Coleoptera Chrysomelidae). http://www.chrysomelidae.it/afr_Eum (access: March 2017).



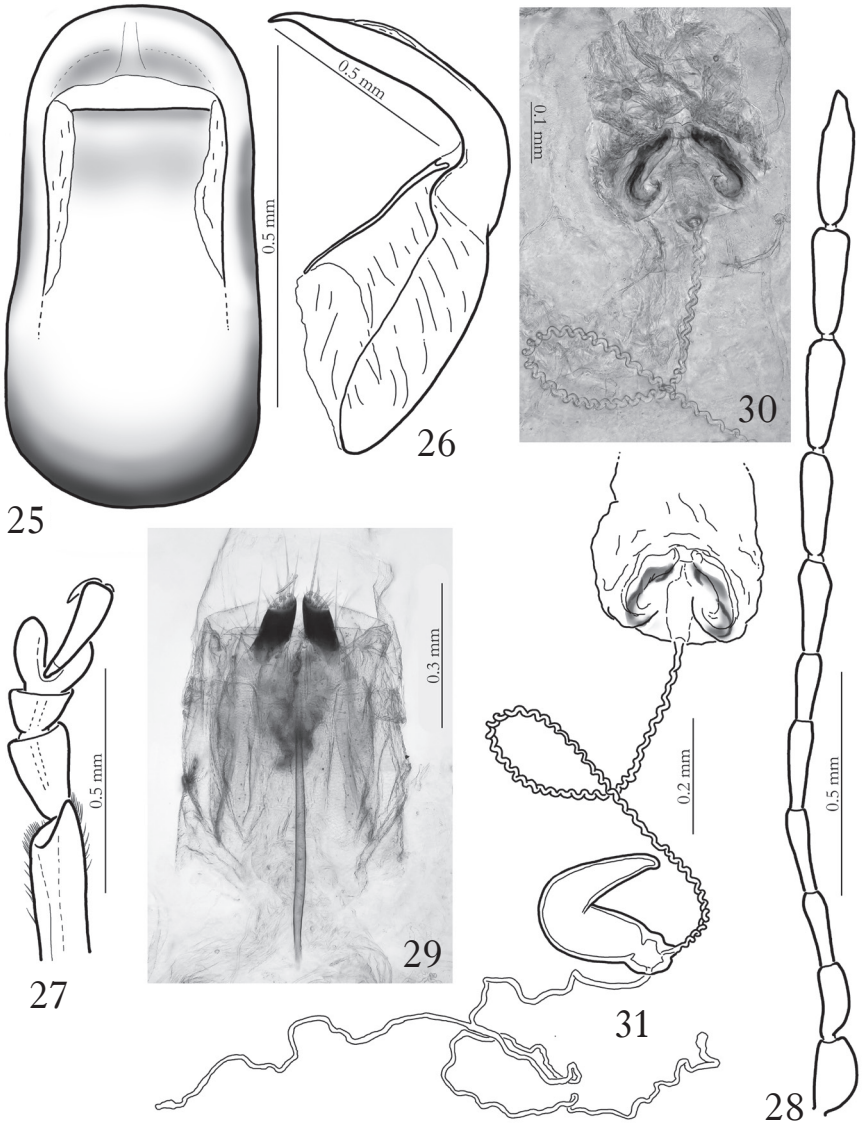

Figs 1-8 - *Afroeurydemus variicolor* (Berlioz) (1: Is. S. Thomè, Agua-Izè; 2-8: Is. Príncipe, Roca Inf. d. Enrique): 1 - distribution of dark spots on dorsum (♂ specimen with reduced black spots); 2 - id. (♀ specimen with larger black spots); 3 - ♂ protarsus; 4 - ♂ left antenna; 5 - aedeagus, dorsal view; 6 - id., lateral view; 7 - tegmen; 8 - spermatheca.



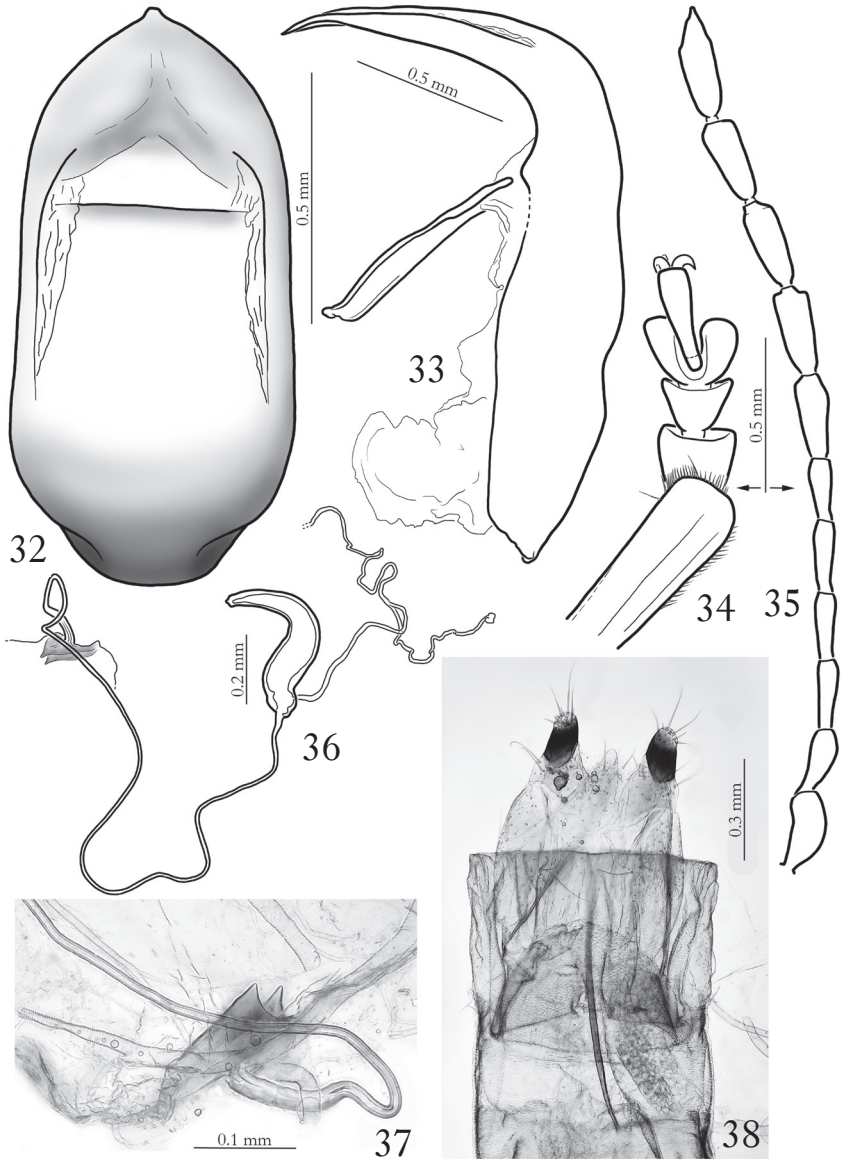

Figs 9-15 - 9: *Paraivongius* (*Paraivongius*) *metallicus* Pic (Syntype - Tanganyka): head. 10-14. *Paraivongius* (*Micromenius*) *concolor* (Pic) (Syntype - Is. Fernando Poo, Mioko): 10 - head; 11 - antenna; 12 - ♀ genital segment; 13 - spermatheca showing the development of ductus spermathecae; 14 - spermatheca and vaginal sclerotized plate at insertion of ductus spermathecae. 15. *Paraivongius* (*Micromenius*) *nitidissimus* (Pic) (Holotype - Is. Fernando Poo, Moka): antenna.



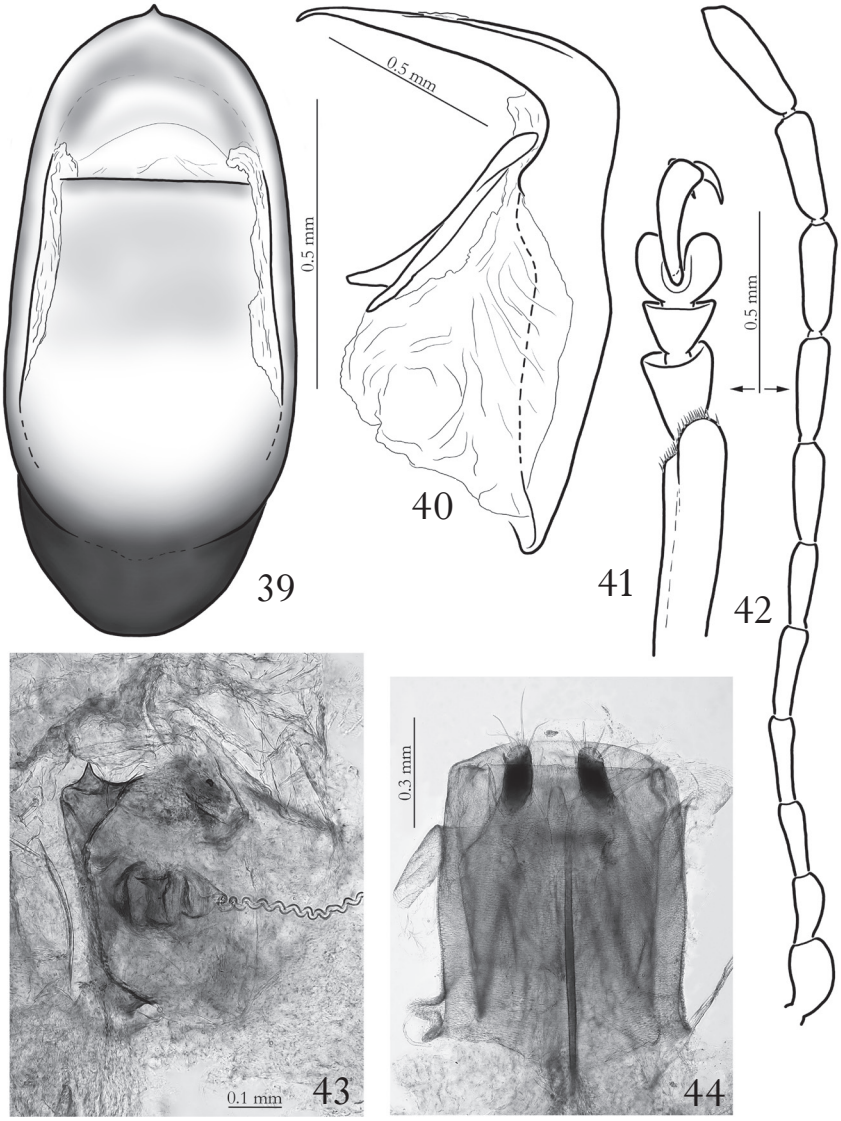

Figs 16-24 - 16-19. *Paraivongius* (*Micromenius*) *feai* n. sp. (♂ Holotype - Is. Fernando Poo, Musola): 16 - aedeagus, dorsal view; 17 - id., lateral view; 18 - left protarsus; 19 - left antenna. 20-24. id. (♀ Paratype - Is. Fernando Poo, Musola): 20 - genital segment; 21 - vaginal sclerotized plate at insertion of ductus spermathecae, antero-lateral view; 22 - id., frontal view; 23 - spermatheca; 24 - spermatheca with ductus and gland.



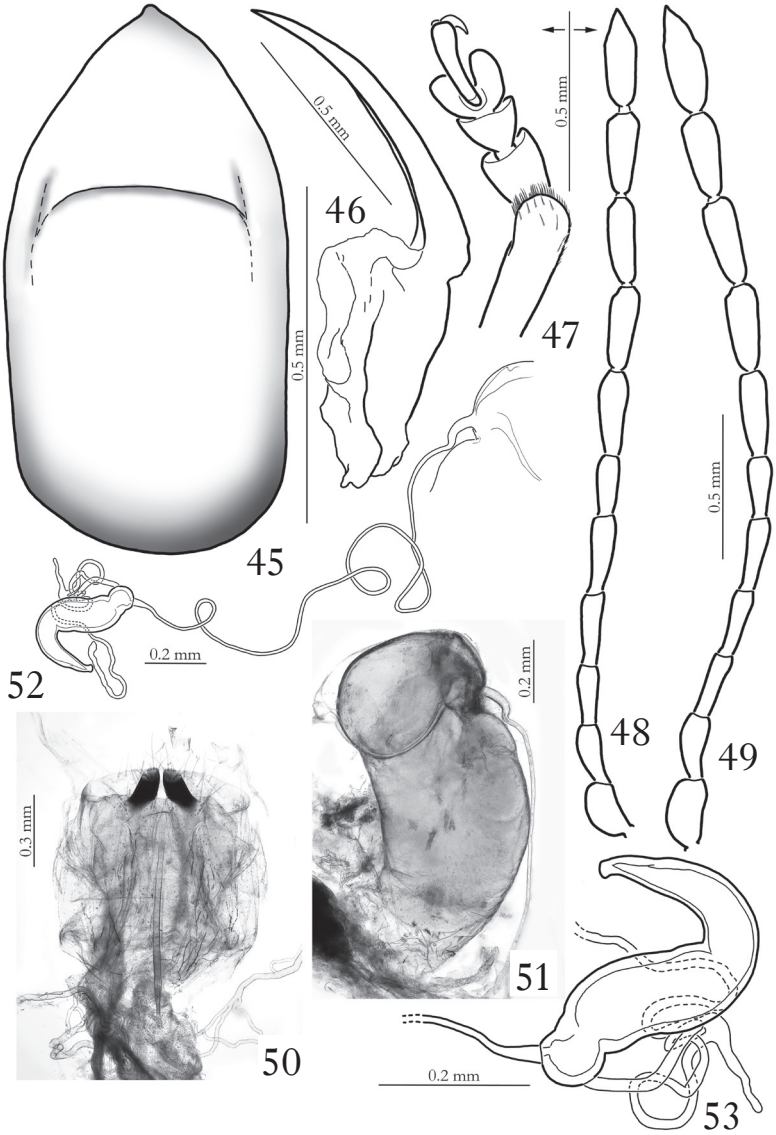

Figs 25-31 - 25-28. *Paraivongius* (*Paraivongius*) *apricus* n. sp. (♂ Holotype - Is. Fernando Poo, Punta Frailes): 25 - aedeagus, dorsal view; 26 - id., lateral view; 27 - protarsus; 28 - antenna. 29-31. id. (♀ Paratype - Is. Fernando Poo, Punta Frailes): 29 - genital segment; 30 - vaginal sclerotized plate at insertion of ductus spermathecae; 31 - spermatheca with ductus and gland.



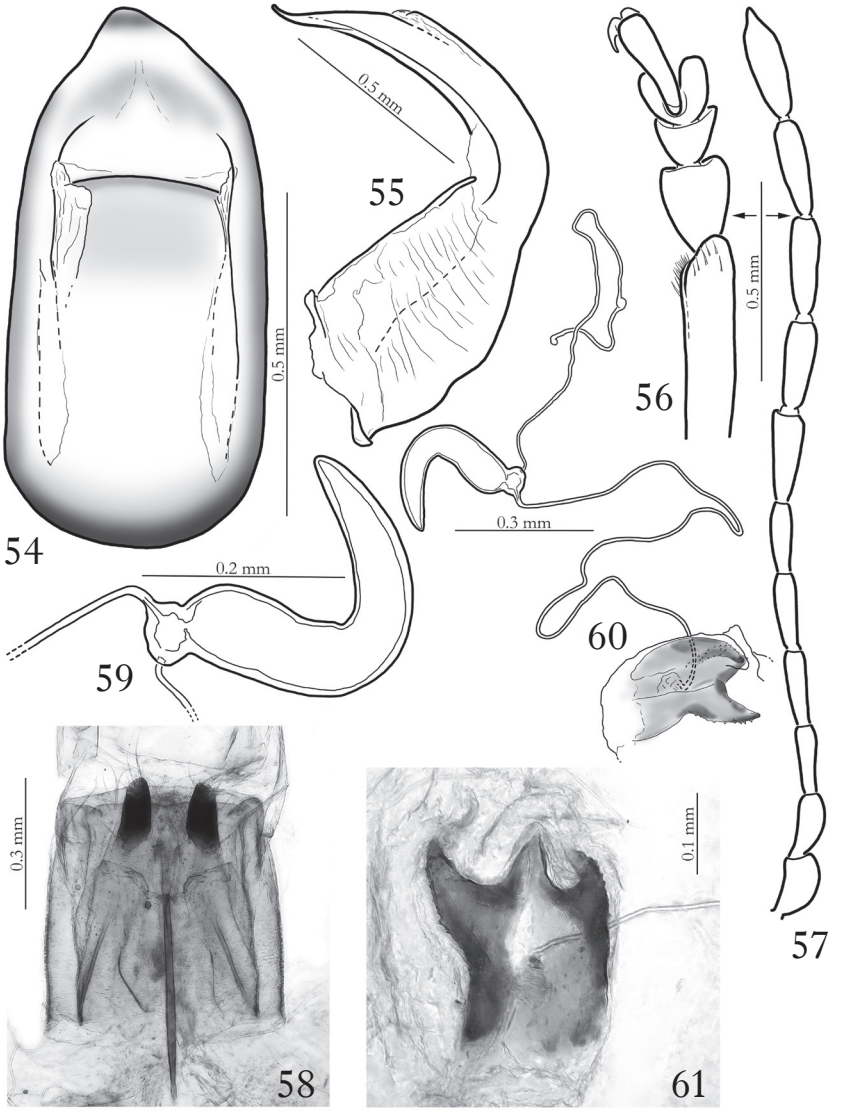

Figs 32-38 - 32-35. *Paraivongius* (*Paraivongius*) *brevicornis* n. sp. (♂ Paratype - Is. Fernando Poo, Musola): 32 - aedeagus, dorsal view; 33 - id., lateral view; 34 - protarsus; 35 - antenna. 36-38. id. (♀ Paratype - Is. Fernando Poo, Punta Frailes): 36 - spermatheca with ductus and gland; 37 - vaginal sclerotized plate at insertion of ductus spermathecae; 38 - genital segment.



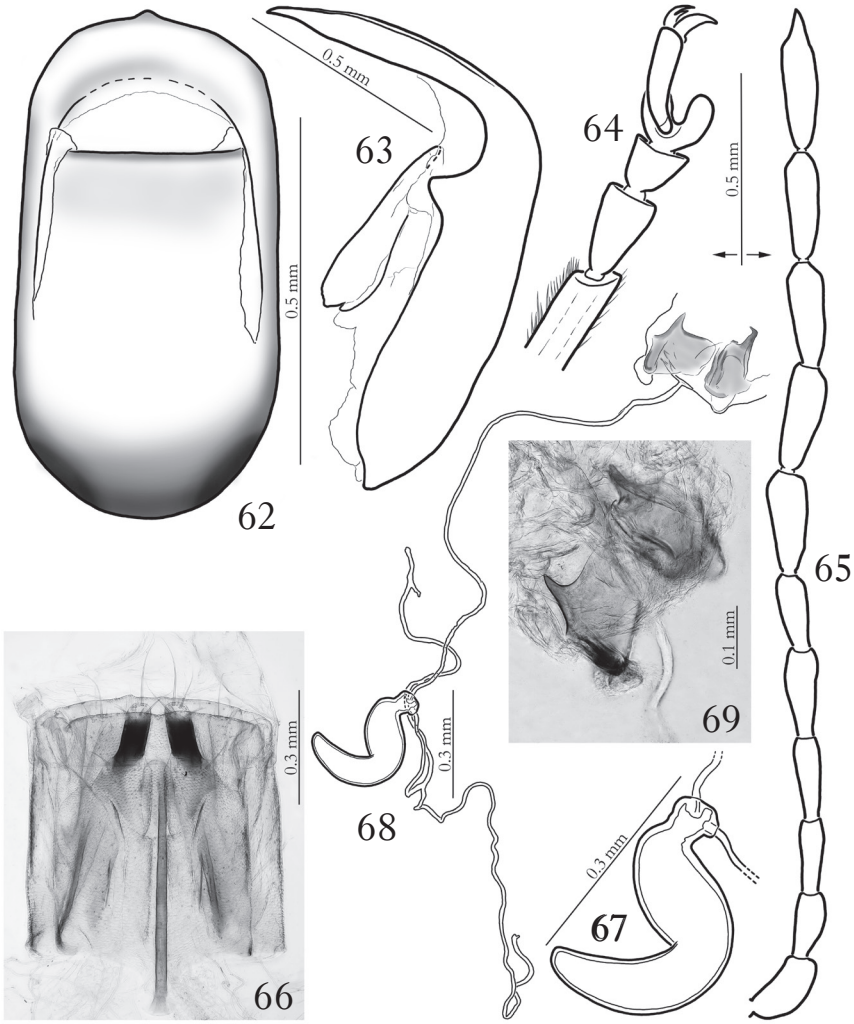

Figs 39-44 - 39-42. *Paraivongius* (*Paraivongius*) *castaneus* n. sp. (♂ Holotype - Is. Fernando Poo, Musola): 39 - aedeagus, dorsal view; 40 - id., lateral view; 41 - protarsus; 42 - antenna. 43-44. id. (♀ Paratype - Is. Fernando Poo, Musola): 43 - vaginal sclerotized plate at insertion of ductus spermathecae; 44 - genital segment.



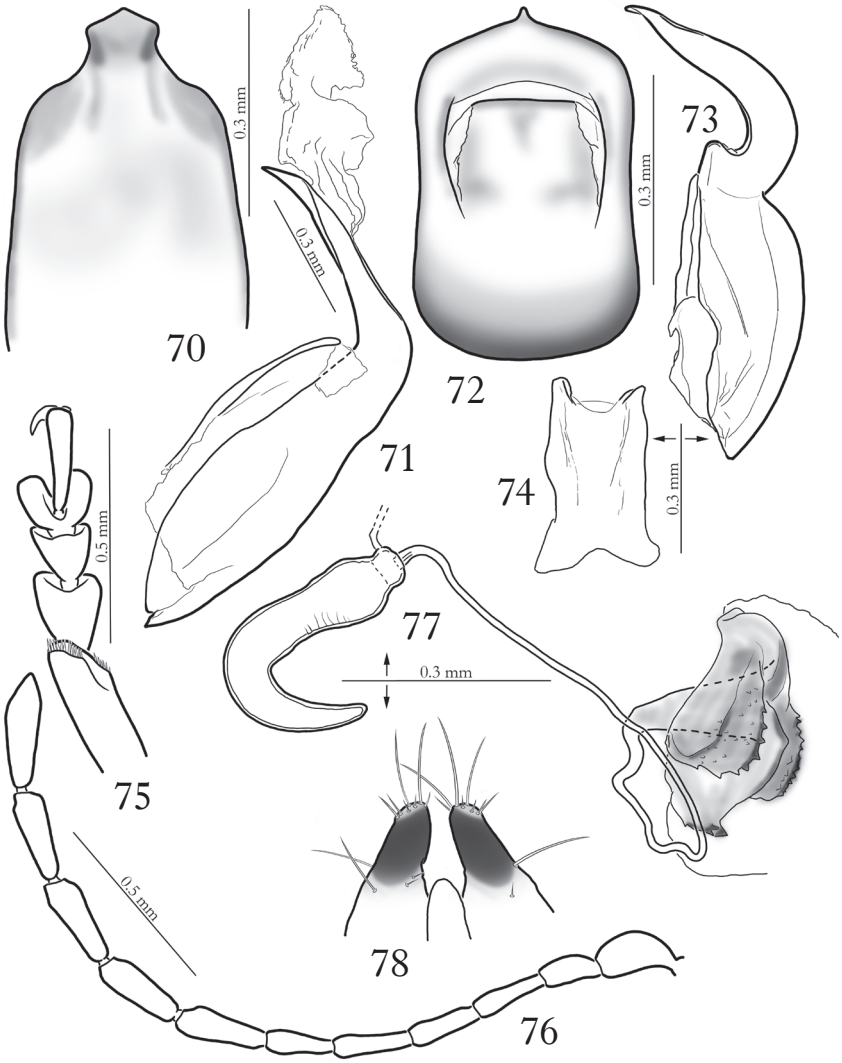

Figs 45-53 - 45-48. *Paraivongius* (*Paraivongius*) *diversicolor* Pic (♂ Syntype - Fernando-poo, Mioko): 45 - aedeagus, dorsal view; 46 - id., lateral view; 47 - left protarsus; 48 - right antenna. 49-53. *Paraivongius* (*Paraivongius*) *mimicus* Pic (♀ Syntype - Fernando-poo, Mioko): 49 - antenna; 50 - genital segment; 51 - inner part of vagina with insertion of ductus spermathecae; 52 - spermatheca with ductus and gland; 53 - spermatheca.



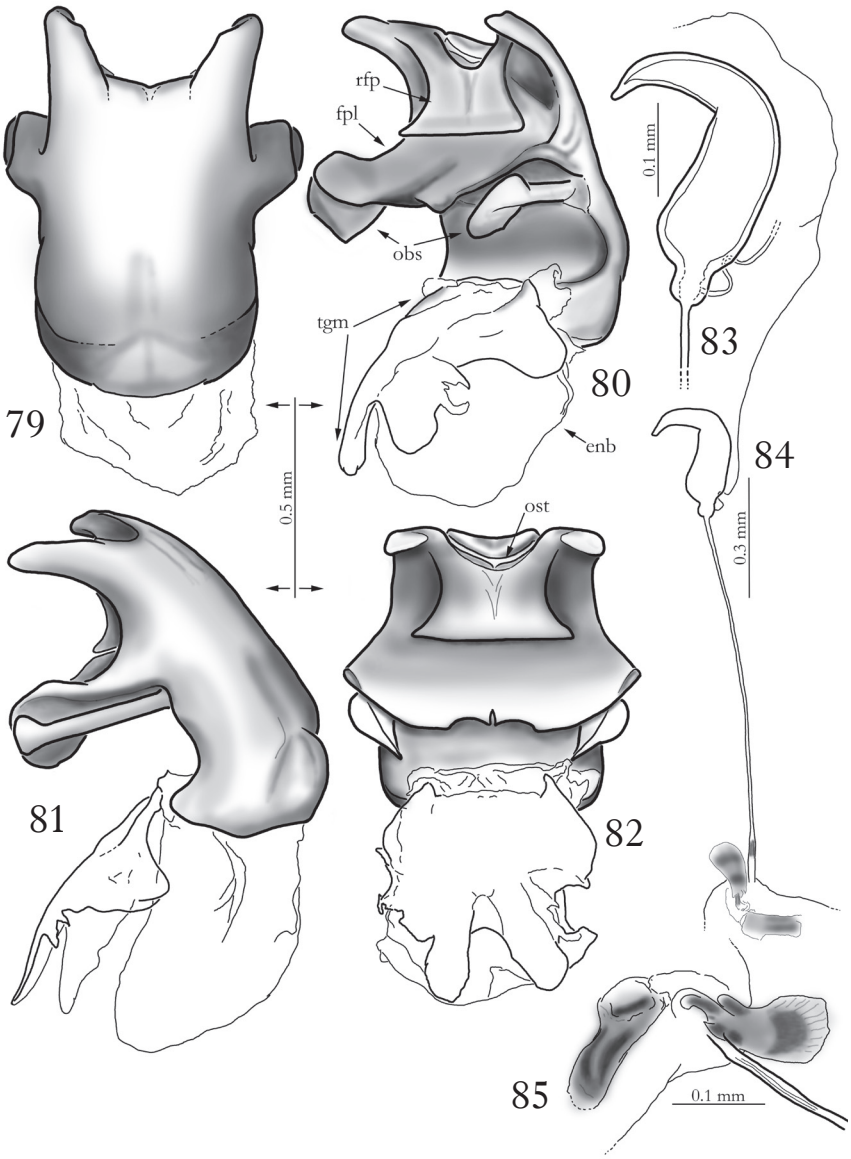

Figs 54-61 - 54-57. *Paraivongius* (*Paraivongius*) *humeralis* n. sp. (♂ Holotype - Is. Fernando Poo, Musola): 54 - aedeagus, dorsal view; 55 - id., lateral view; 56 - left protarsus; 57 - left antenna. 58-61. id. (♀ Paratype - Is. Fernando Poo, Musola): 58 - genital segment; 59 - spermatheca; 60 - spermatheca with ductus and gland; 61 - vaginal sclerotized plate at insertion of ductus spermathecae.



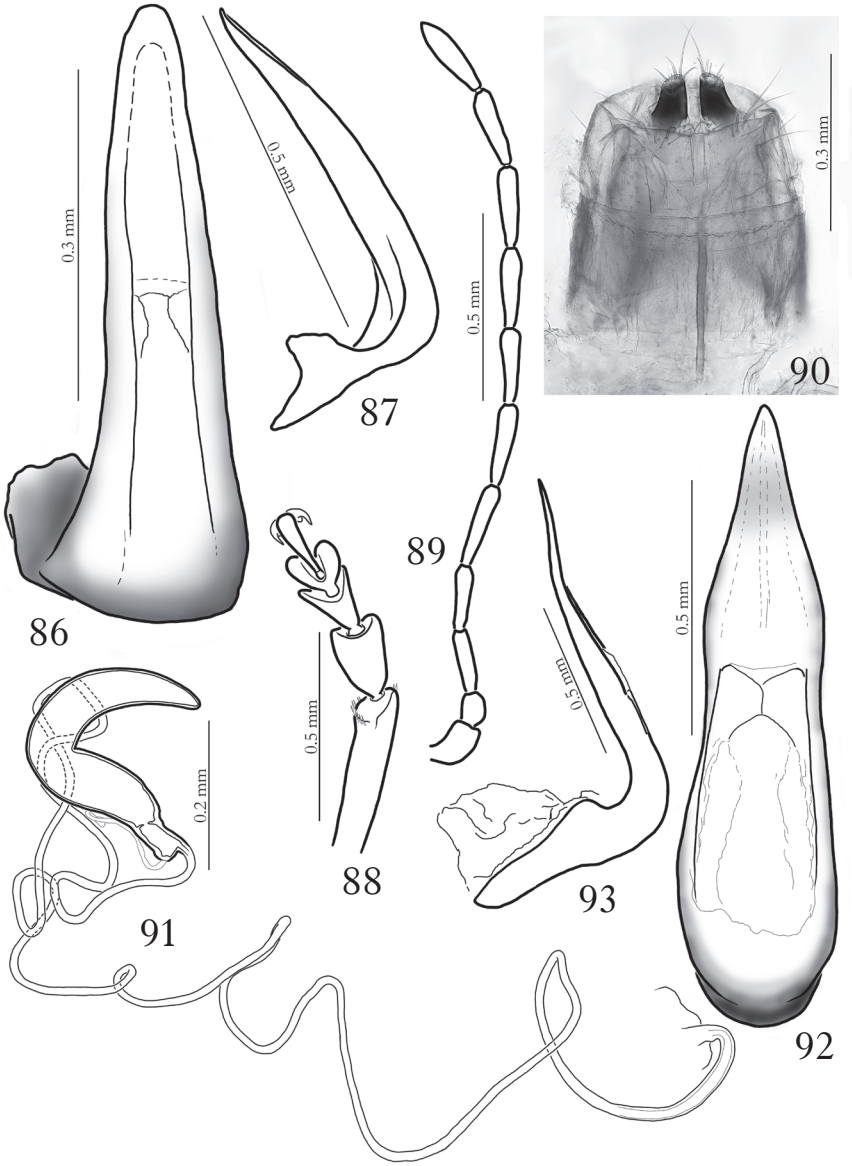

Figs 62-69 - 62-65. *Paraivongius* (*Paraivongius*) *inexspectatus* n. sp. (♂ Holotype - Fernando-poo, Moka): 62 - aedeagus, dorsal view; 63 - id., lateral view; 64 - left protarsus; 65 - left antenna. 66-69. id. (♀ Paratype - Fernando-poo, Moka): 66 - genital segment; 67 - spermatheca; 68 - spermatheca with ductus and gland; 69 - vaginal sclerotized plate at insertion of ductus spermathecae.



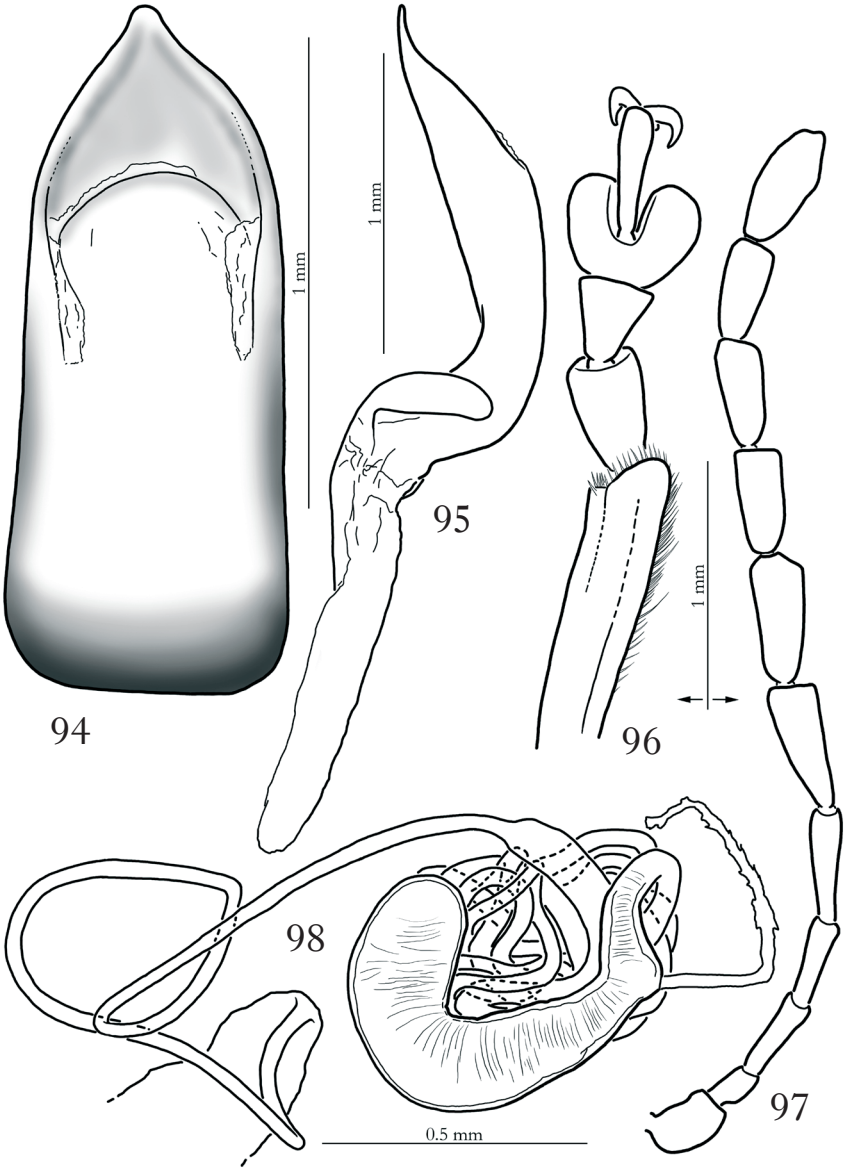

Figs 70-78 - 70-71. *Paraivongius* (*Paraivongius*) *viridescens* (Pic) (Syntype - Togo, Aledjo): 70 - aedeagus, ventral view; 71 - id., lateral view. 72-76. *Rhembastus piceus* n. sp. (♂ Holotype - Is. Príncipe, Roca Inf. d. Enrique): 72 - aedeagus, dorsal view; 73 - id., lateral view; 74 - tegmen; 75 - left protarsus; 76 - left antenna. 77-78 id. (♀ Paratype - Is. Príncipe, Roca Inf. d. Henrique): 77 - spermatheca, with ductus and gland, and vaginal sclerotized plate at insertion of ductus spermathecae; 78 - styli.



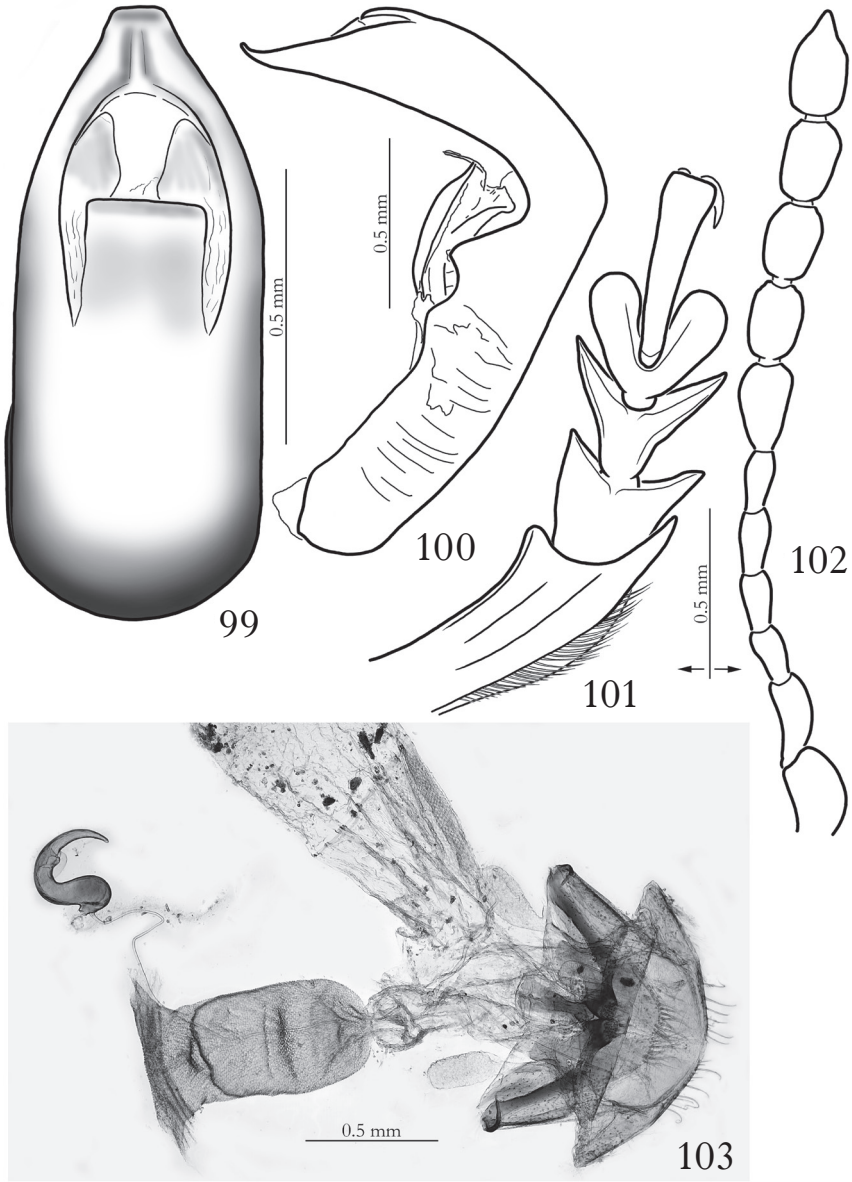

Figs 79-85 - 79-82. *Gaberella costata* (Baly) (Is. Fernandio Poo, Punta Frailes): 79 - aedeagus, dorsal view; 80 - id., latero-ventral view; 81 - id., dorso-lateral view; 82 - id., ventral view (explanation of parts in the text). 83-85. id. (Is. Fernando Poo, Bahia de S. Carlos): 83 - spermatheca; 84 - spermatheca with ductus and gland; 85 - vaginal sclerotized plate at insertion of ductus spermathecae.



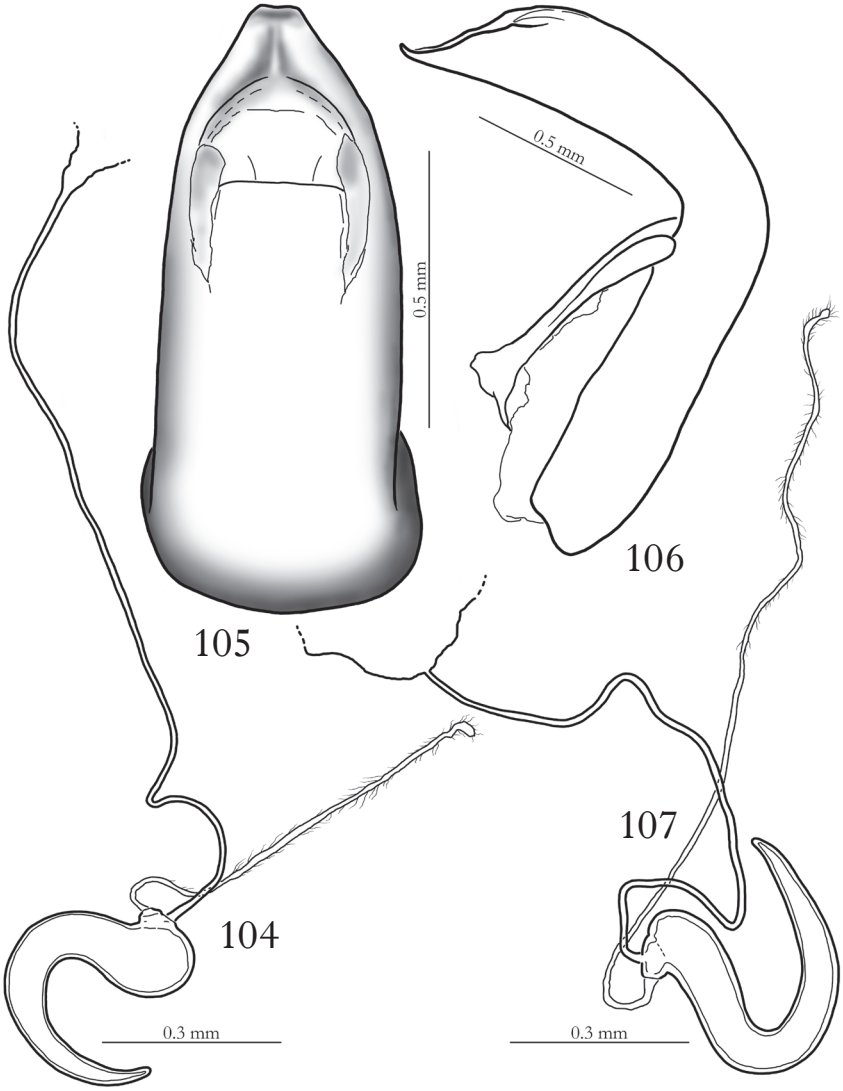

Figs 86-93 - 86-89. *Cheiridella principis* n. sp. (♂ Holotype - Is. Príncipe, Roca Inf. d. Henrique): 86 - aedeagus, dorsal view; 87 - id., lateral view; 88 - left protarsus; 89 - left antenna. 90-91. id. (♀ Paratype - Is. principe, Roca Inf. d. Henrique): 90 - genital segment; 91 - spermatheca with ductus and a portion of gland. 92-93. *Cheiridella zambesiana* Jacoby (Botswana, Kasane): 92 - aedeagus, dorsal view; 93 - id., lateral view.




Figs 94-98 - 94-97. *Dermoxanthus piceipes* n. sp. (♂ Holotype - Is. Fernando Poo, Musola): 94 - aedeagus, dorsal view; 95 - id., lateral view; 96 - left protarsus; 97 - left antenna. 98. *Dermoxanthus fulvus* Baly (Is. Fernando Poo, Basilè): spermatheca with ductus and gland.

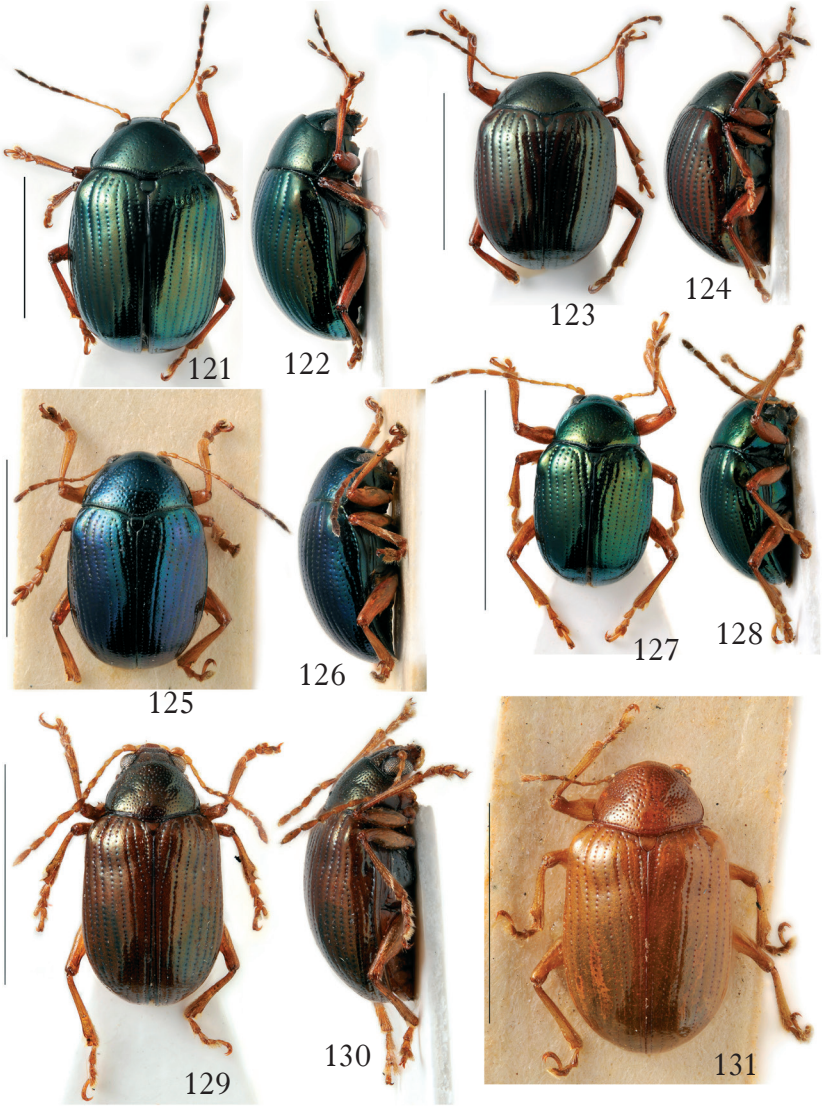



Figs 99-103 - 99-102. *Tanybria apicalis* (Jacoby) (♂ - Is. Fernando Poo, Basilè): 99 - aedeagus, dorsal view; 100 - id., lateral view; 101 - left protarsus; 102 - left antenna. 103. id. (♀ - Is. Fernando Poo, Musola): genital segment with vagina and spermatheca.

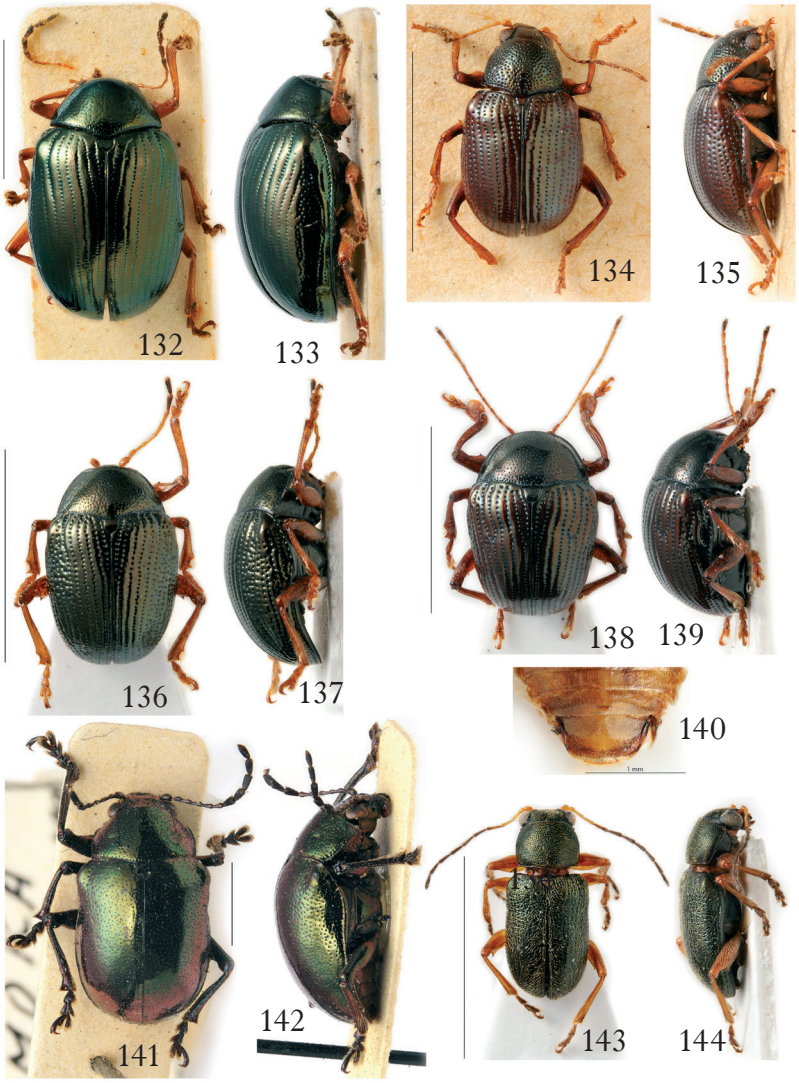



Figs 104-107 - 104. *Tanybria apicalis* (Jacoby) (♀ - Is. Fernando Poo, Musola): spermatheca with ductus and gland. 105-106. *Tanybria spinipes* (Baly) (Fernando Poo, Punta Frailes): 105 - aedeagus, dorsal view; 106 - id., lateral view. 107. id. (Is. Fernando Poo, Basilè): spermatheca with ductus and gland.

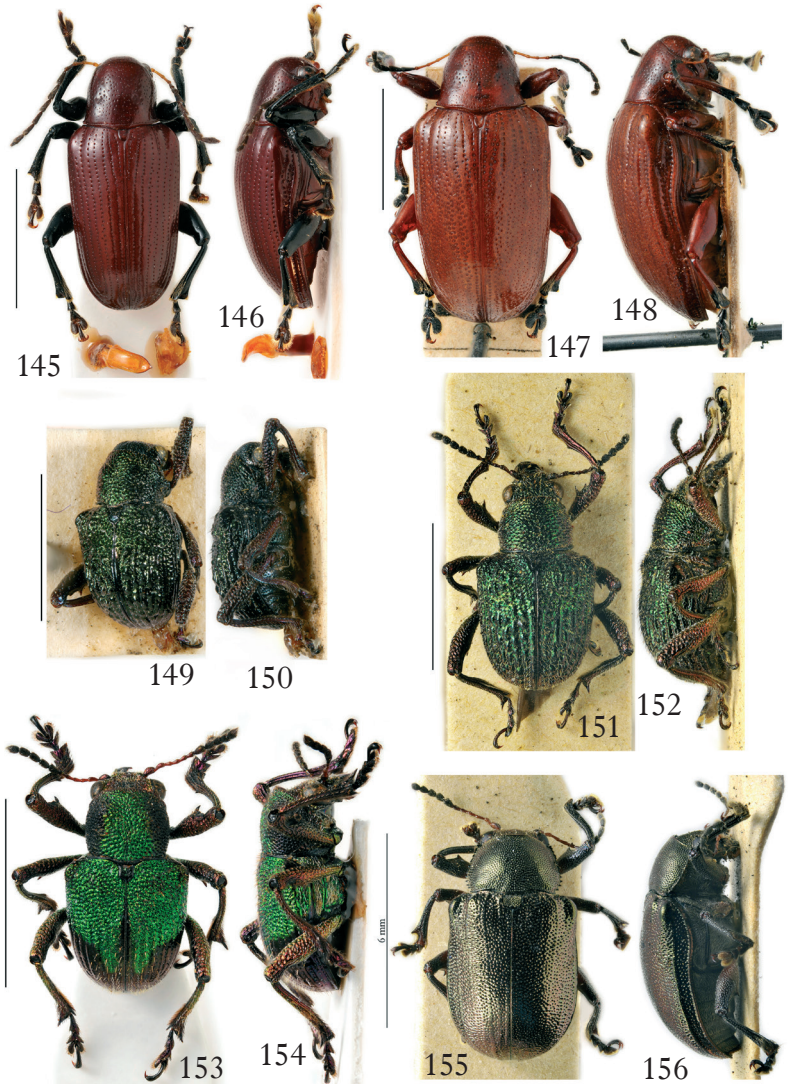

Figs 108-120 - Habitus of: 108 - *Afroeurydemus variicolor* (Berlioz), dorsal view (Is. Príncipe, Roca Inf. d. Enrique); 109 - id., lateral view; 110 - *Paraivongius* (*Micromenius*) *concolor* (Pic) (Syntype), dorsal view; 111 - id., lateral view; 112 - *P.* (*M.*) *nitidissimus* (Pic) (Holotype), dorsal view; 113 - id., lateral view; 114 - *P.* sp. (cfr. *plagiatus*), dorsal view (Is. Fernando Poo, Basilè); 115 - id., lateral view; 116 - *P.* (*M.*) *feai* n. sp. (Holotype), dorsal view; 117 - id., lateral view; 118 - *P.* (*P.*) *apricus* n. sp. (Holotype), dorsal view; 119 - id., lateral view; 120 - id., epipleuron (scale bars = 3 mm, if not otherwise indicated).




Figs 121-131 - Habitus of: 121 - *Paraivongius* (*P.*) *brevicornis* n. sp. (Holotype), dorsal view; 122 - id., lateral view; 123 - *P.* (*P.*) *castaneus* n. sp. (Holotype), dorsal view; 124 - id., lateral view; 125 - *P.* (*P.*) *diversicolor* Pic (Syntype), dorsal view; 126 - id., lateral view; 127 - *P.* (*P.*) *humeralis* n. sp. (Holotype), dorsal view; 128 - id., lateral view; 129 - *P.* (*P.*) *inexspectatus* n. sp. (Holotype), dorsal view; 130 - id., lateral view; 131 - *P. viridescens* v. *pallidior* Pic (Holotype) (= *P.* (*P.*) *inexspectatus* n. sp., ♀ Paratype) (scale bars = 3 mm).




Figs 132-144 - Habitus of: 132 - *Paraivongius* (*P.*) *mimicus* Pic (Syntype), dorsal view; 133 - id., lateral view; 134 - *P.* (*P.*) *viridescens* (Pic) (Syntype), dorsal view; 135 - id., lateral view; 136 - *Rhembastus piceus* n. sp. (Holotype), dorsal view; 137 - id., lateral view; 138 - *Gaberella costata* (Baly), dorsal view (Is. Fernando Poo, Punta Frailes); 139 - id., lateral view; 140 - id., last abdominal tergites; 141 - *Colasposoma dentaticolle* Pic (Syntype), dorsal view; 142 - id., lateral view; 143 - *Cheiridella principis* n. sp. (Holotype), dorsal view; 144 - id., lateral view (scale bars = 3 mm, if not otherwise indicated).




Figs 145-156 - Habitus of: 145 - *Dermoxanthus piceipes* n. sp. (Holotype), dorsal view; 146 - id., lateral view; 147 - *D. fulvus* Baly, dorsal view (Is. Fernando Poo, Basilè); 148 - id., lateral view; 149- *Tanybria spinipes* (Baly) (Holotype), dorsal view; 150 - id., lateral view; 151 - *Pseudocolaspis irregularis* Pic, (Syntype) [= *T. spinipes* (Baly)], dorsal view; 152 - id., lateral view; 153 - *T. apicalis* (Jacoby) (Is. Fernando Poo, Basilè), dorsal view; 154 - id., lateral view; 155 - *Dicolectes atripes* Pic (Holotype), dorsal view; 156 - id., lateral view (scale bars = 4 mm, if not otherwise indicated).

## ABSTRACT

The Chrysomelidae Eumolpinae of São Thomé, Príncipe & Bioko Islands are studied based on material from the collections of the Museo Civico di Storia Naturale "G. Doria" of Genoa, on type material and other specimens preserved in the Museum National d'Histoire Naturelle of Paris and on other specimens belonging to different public and private collections.

The genus *Micromenius* Pic, 1953 is downgraded to subgenus of *Paraivongius* Pic, 1936. 26 taxa are here identified as belonging to the fauna of the studied islands, 9 of which here described as new to science: *Afroeurydemus variicolor* Berlioz, 1919 (n. comb. for *Lymidus variicolor* Berlioz, 1919), *Paraivongius* (*Micromenius*) *concolor* (Pic, 1953) (n. comb. for *Micromenius concolor* Pic, 1953), *P.* (*M.*) *feai* n. sp., *P.* (*M.*) *nitidissimus* (Pic, 1953) (n. comb. for *Menius nitidissimus* Pic, 1953), *P.* (*P.*) *apricus* n. sp., *P.* (*P.*) *brevicornis* n. sp., *P.* (*P.*) *castaneus* n. sp., *P.* (*P.*) *diversicolor* Pic, 1953, *P.* (*P.*) *humeralis* n. sp., *P.* (*P.*) *inexspectatus* n. sp. (= *P. viridescens* var. *pallidior* Pic, 1953: 168 n. syn.), *P.* (*P.*) *mimicus* Pic, 1953, *Rhembastus piceus* n. sp., *Gaberella costata* (Baly, 1878), *Platycorynus nigripes* (J. Thomson, 1858), *Colasposoma dentaticolle* Pic, 1953, *Cheiridella principis* n. sp., *Dermoxanthus fulvus* Baly, 1859, *D. piceipes* n. sp., *Heteraspis viridimaculata* (Jacoby, 1877), *Ennodius murrayi* (Chapuis, 1874), *Nerissus femoralis* Lefévre, 1875, *N. sculptilis* (Thomson, 1858), *N. strigosus* Chapuis, 1874, *Tanybria spinipes* (Baly, 1878), *T. apicalis* (Jacoby, 1881) (n. comb. for *Eubrachys apicalis* Jacoby, 1881), *Dicolectes atripes* Pic, 1953. A key to the species of *Paraivongius* of the studied area is provided.

The presence on Bioko Island of *Paraivongius viridescens* (Pic, 1952), previously reported by Pic (1953), has been found to be based on misidentification and therefore cannot be confirmed here.

Moreover, the following nomenclatural changes are formalized: *Paraivongius* (*Micromenius*) *ruficeps* (Pic, 1939) n. comb. for *Menius ruficeps* Pic, 1939 (Gabon: Ogowe), *Paraivongius* (*Micromenius*) *rufus* (Pic, 1949) n. comb. for *Menius rufus* Pic, 1940 (Angola: Chimporo), *Paraivongius* (*Micromenius*) *simplex* (Weise, 1909) n. comb. for *Menius simplex* Weise, 1909 (Kilimandjaro: Kibonoto).



## RIASSUNTO

Gli Eumolpinae delle isole São Thomé, Príncipe e Bioko nelle collezioni del Museo Civico di Storia Naturale "G. Doria" di Genova (Coleoptera Chrysomelidae).

I Chrysomelidae Eumolpinae delle Isole São Thomé, Príncipe e Bioko sono studiati sul materiale presente nelle collezioni del Museo Civico di Storia Naturale "G. Doria" di Genova, su materiale tipico e altri esemplari presenti nelle collezioni del Museum National d'Histoire Naturelle di Parigi e su altri esemplari appartenenti a diverse collezioni pubbliche e private.

Il genere *Micromenius* Pic, 1953 viene declassato e considerato sottogenere di *Paraivongius* Pic, 1936. Sulle isole oggetto dello studio sono riconosciuti presenti 26 taxa, 9 dei quali sono descritti come nuovi per la scienza: *Afroeurydemus variicolor* Berlioz, 1919 (n. comb. per *Lymidus variicolor* Berlioz, 1919), *Paraivongius* (*Micromenius*) *concolor* (Pic, 1953) (n. comb. per *Micromenius concolor* Pic, 1953), *P.* (*M.*) *feai* n. sp., *P.* (*M.*) *nitidissimus* (Pic, 1953) (n. comb. per *Menius nitidissimus* Pic, 1953), *P.* (*P.*) *apricus* n. sp., *P.* (*P.*) *brevicornis* n. sp., *P.* (*P.*) *castaneus* n. sp.,

*P.* (*P.*) *diversicolor* Pic, 1953, *P.* (*P.*) *humeralis* n. sp., *P.* (*P.*) *inexspectatus* n. sp. (= *P. viridescens* var. *pallidior* Pic, 1953: 168 n. syn.), *P.* (*P.*) *mimicus* Pic, 1953, *Rhembastus piceus* n. sp., *Gaberella costata* (Baly, 1878), *Platycorynus nigripes* (J. Thomson, 1858), *Colasposoma dentaticolle* Pic, 1953, *Cheiridella principis* n. sp., *Dermoxanthus fulvus* Baly, 1859, *D. piceipes* n. sp., *Heteraspis viridimaculata* (Jacoby, 1877), *Ennodius murrayi* (Chapuis, 1874), *Nerissus femoralis* Lefévre, 1875, *N. sculptilis* (Thomson, 1858), *N. strigosus* Chapuis, 1874, *Tanybria spinipes* (Baly, 1878), *T. apicalis* (Jacoby, 1881) (n. comb. per *Eubrachys apicalis* Jacoby, 1881), *Dicolectes atripes* Pic, 1953. Viene proposta una tabella dicotomica delle specie di *Paraivongius* presenti nell'area studiata.

La presenza di *Paraivongius viridescens* (Pic, 1952) sull'Isola di Bioko, riportata da Pic (1953), risulta basata su un errore di identificazione e non viene confermata.

Sono inoltre formalizzati i seguenti cambiamenti nomenclatoriali: *Paraivongius* (*Micromenius*) *ruficeps* (Pic, 1939) n. comb. per *Menius ruficeps* Pic, 1939 (Gabon: Ogowe), *Paraivongius* (*Micromenius*) *rufus* (Pic, 1949) n. comb. per *Menius rufus* Pic, 1940 (Angola: Chimporo), *Paraivongius* (*Micromenius*) *simplex* (Weise, 1909) n. comb. per *Menius simplex* Weise, 1909 (Kilimandjaro: Kibonoto).

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