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A new genus and four new species of African Elampini (Hymenoptera: Chrysididae)

by

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Generic diagnoses, keys to species and new species descriptions are given for *Elampus* Spinola and *Omalus* Panzer (Chrysididae). Three new species of *Elampus (guillarmodi, namibiensis, senegalensis)* and one new species of *Omalus (confusus)* are described. In addition, the new genus *Parachrum* is described for the species *Hedychrum apiculatum* Edney **comb. nov.**

INTRODUCTION

The only recent revisionary study of the African Elampini was made by Edney (1940). Unfortunately, Edney was unable to see many of the types deposited in European collections. As a result, one series of specimens which he called *Omalus coriaceum* Dahlbom is in fact a new species, and other Edney species are synonyms. In addition, extensive collecting since his study has revealed a number of new species.

The species described and species lists given below are for the Afrotropical Region, south of the Sahara, and excluding Madagascar. The types of all the species listed below have been seen. The following abbreviations are used: F = flagellomere, MOD = midocellus diameter, PD = puncture diameter, S = gastral sternum, and T = gastral tergum.

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Genus *Elampus* Spinola

Elampus Spinola, 1806: 10.

Elampus is characterized as follows: metanotum flat and produced blade-like posteriorly, scutum punctate and punctures evenly distributed, not clumped, forewing medial vein strongly arched, medial cell usually setose, and T–III apically produced into a membrane-filled snout-like structure.

The types of *afer* and *emarginatus* were both studied and found to represent the same species, making *emarginatus* the junior synonym.

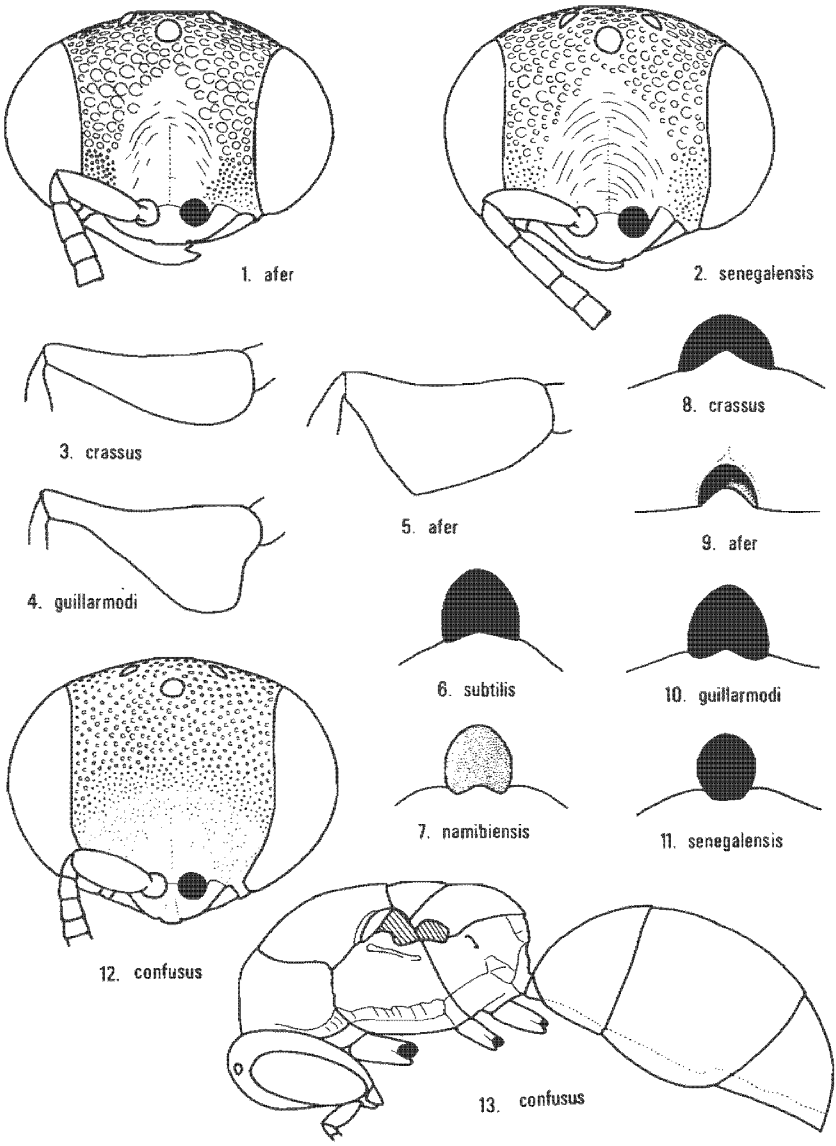
The genus *Elampus* in Africa consists of 6 species: *afer* (Mocsary) (= *Notozus emarginatus* Edney) syn. nov., *crassus* (Edney), *guillarmodi spec. nov.*, *namibiensis spec. nov.*, *senegalensis spec. nov.*, *subtilis* (Edney).

Key to the African species of *Elampus*

1 T–III apical snout round without ventral emargination (Fig. 11), membrane black ..... *senegalensis* spec. nov.
— T–III apical truncation forming partial circle, emarginate ventrally (Figs 6–10), membrane reddish or black 2
2 Forefemur with large subbasal lobe (Fig. 4); head and thorax green or blue, abdomen coppery green; apical snout forming more than half circle (Fig. 10), membrane black ..... *guillarmodi* spec. nov.
— Forefemur angulate or evenly rounded but without large subbasal lobe (Fig. 3 or 5); head, thorax and abdomen concolorous blue, purple, green or coppery; snout forming less than half circle or larger and reddish 3
3 F–I length less than 1,6 × breadth (Fig. 1), forefemur very broad medially (Fig. 5), snout membrane narrow and concave (Fig. 9), tarsal claws with 3 teeth ..... *afer* (Mocsary)
— F–I length twice breadth or longer, forefemur slender or angulate subbasally, snout forming 0,3–0,6 of circle and membrane flat, claw with 1 or 2 teeth 4
4 F–II as long as broad, snout membrane reddish (Fig. 7), tarsal claw with 2 teeth ..... *namibiensis* spec. nov.
— F–II longer than broad, snout membrane black (Figs 6, 8), tarsal claw with 1–2 teeth ... 5
5 Forefemur with subbasal angle (Fig. 3), colour dark purple, scapal basin relatively smooth with fine cross ridging ..... *crassus* (Edney)
— Forefemur without subbasal angle, colour bright blue-green, scapal basin with fine U-shaped ridging ..... *subtilis* (Edney)

Elampus guillarmodi spec. nov., Figs 4, 10

Holotype female. Body length 6 mm. Head and thorax green; abdomen green, with bright orange highlights; T–III apical snout membrane dark brown; femora and tibiae green; wings stained brown. Face relatively flat; scapal basin impunctate with irregular wrinkles in U-shaped pattern; punctures on brow 0,3–0,5 PD apart; eyes large and bulging; malar space 0,4 MOD long; subantennal distance 0,7 MOD; F–II–XI produced apicolaterally giving the flagellum a slightly serrate appearance; F–I length 2,3 × breadth; F–II length 1,3 ×; F–III 1,2 ×; pronotal and scutal punctures 0,5–1,0 PD apart; scutellar length medially from base to apex of projection as long as scutum; forefemur with very large rounded subbasal lobe (Fig. 4); punctures on T–I and II 1–2 PD apart and those on III much larger than those on II and 1–2 PD apart; T–III lateral margin shallowly bisinuate, apical truncation or snout strongly produced,



Figs 1–11 *Elampus* species. Figs 1–2 front view of face. Figs 3–5 foretibia. Figs 6–11, posterior view of snout. Figs 12–13 *Omalus* species. Fig. 12 front view of face. Fig. 13 lateral view of body, with antenna, legs and wings removed.

truncation membrane shallowly emarginate (Fig. 10); S–III deeply emarginate apicomedially, broadly exposing S–IV; hind tarsal claw with 2 small subsidiary teeth.

Male unknown.

MATERIAL EXAMINED. Holotype female: NAMIBIA: Vaalbank 319, 23,54 S 18,53 E, 20–22 May 1973, J. Guillarmod (CAPE TOWN). Paratypes: 3 females, same data as type (CAPE TOWN, DAVIS); 1 female, SOUTH AFRICA: Kalahari Gemsbok National Park, Twee Rivieren, H. K. Munro (PRETORIA).

Discussion. The size and coloration of *guillarmodi* suggests that it might be an European introduction, and it does superficially resemble *scutellaris* Panzer. However, the strongly lobate forefemur, scapal basin with U-shaped wrinkles, long F–I, somewhat serrate flagellomeres and snout shape distinguish *guillarmodi* from Palaearctic and other African species of *Elampus*.

Elampus namibiensis spec. nov., Fig. 7

Holotype female. Body length 4,5 mm. Head, pronotum, scutum, scutellum and abdominal dorsum green with bright orange highlights; rest of thorax and abdomen blue-green; scape and pedicel green; tarsi pale red; wings tinted brown; T–III with subapical bronze stripe on either side of truncation, and apical membrane of truncation red. Scapal basin polished and impunctate in broad medial zone without cross-ridging or wrinkles; punctures on brow 1–2 PD apart; malar space 0,3 MOD long; subantennal distance 1 MOD; F–I twice as long as broad; F–II 1,1 ×; F–III as long as broad; pronotal punctures 2–3 PD apart medially, denser laterally; scutal punctures tiny and nearly contiguous anteriorly, becoming larger and 2–3 PD apart posteriorly; scutellar length medially, from base to apex of projection, 0,6 × scutal length; forefemur subbasally rounded without ventral carina; T–I punctures small and irregularly spaced, 1–6 PD apart; T–II punctures small and 0,3–1,0 PD apart; T–III punctures small and 0,5–1,0 PD apart anteriorly becoming larger posteriorly, lateral margin slightly sinuate, apical truncation membrane obtusely emarginate (Fig. 7); hind tarsal claw with 2–3 subsidiary teeth.

Male Unknown.

MATERIAL EXAMINED. Holotype female. NAMIBIA: Namib Desert, SE corner, 15 February 1974, M. E. Irwin (DAVIS). A greener female specimen has been seen from Mopipi, Botswana.

Discussion. *E. namibiensis* is a small green coppery species characterized by the abdomenal snout forming a half circle with reddish membrane, F–I more than twice as long as broad, F–II as long as broad, tarsomeres pale red and wings faintly stained brown.

Elampus senegalensis spec. nov., Figs 2, 11

Holotype male. Body length 4 mm. Entire body, including femora and tibiae bluish green; T–III with subapical bronze stripe on either side of apical truncation, truncation membrane dark brown. Face (Fig. 2), scapal basin impunctate with irregular wrinkles in U-shaped pattern; punctures on brow 0,2–0,5 PD apart; eyes relatively small, fitting contour of head; malar space 0,4 MOD long; subantennal distance 0,8 MOD; F–I 2,6 × as long as broad; F–II 1, 1 ×; F–III as long as broad; pronotal

punctures irregularly spaced and 0,2–2,0 PD apart; scutal punctures tiny anteriorly becoming large posteriorly, 0,2–0,5 PD apart; scutellar length medially from base to apex of projection 0,8 × as long as scutum; forefemur subbasally rounded with ventral carina; punctures on T–I and II tiny and 0,5–1,0 PD apart; punctures of T–III tiny and discrete basally, becoming large and somewhat obscure towards apical truncation; T–III lateral margin slightly sinuate, apical truncation membrane forming a complete circle without emargination (Fig. 11); hind tarsal claw with a single perpendicular, submedial tooth.

Female unknown.

MATERIAL EXAMINED. Holotype male. SENEGAL: Dakar, 4–5 October 1978 (G. Hevel and J. Fortin, WASHINGTON). Paratypes: 1 male; SENEGAL, Foret de Bandia, 21 October 1976, G. Couturier (DAVIS); 2 males; 40 km S. Ross Bethio, 7 October 1978, G. Hevel and J. Fortin (WASHINGTON).

Discussion. Unlike any other *Elampus* I have studied from Africa or elsewhere, *senegalensis* only has a single small perpendicular tooth on the tarsal claw, a characteristic usually diagnostic for *Hedychridium*. *E. senegalensis* is clearly not a *Hedychridium* species as it exhibits all of the diagnostic features of *Elampus*. This species can be immediately recognized by the tarsal claws, the circular truncation membrane and the U-shaped wrinkles in the scapal basin.

Genus *Omalus* Panzer

Omalus Panzer, 1801: 13.

Omalus species are characterized by having a strongly convex abdomen, often with an apicomedial notch in T–III; metanotum rounded or conical but not blade-like; tarsal claws with 2–5 subsidiary teeth; forewing medial vein strongly arched, medial cell asetose; female without genal fringe, and scutum either impunctuate or punctures usually clumped along or between notauli. This genus is closely related to *Elampus*.

In the Afrotropical Region *Omalus* comprises four species all in the subgenus *Philoctetes: confusus spec. nov., congoensis* (Buysson), *coriaceus* Dahlbom (= *Philoctetes caffer* Edney) syn. nov. and *striatus* (Edney).

Key to the African species of *Omalus*

1 Pronotum and scutum transversely striate ..... *striatus* (Edney)
— Pronotum and scutum not transversely striate 2
2 T–III apicomedially entire, pronotum and scutum microrecticulate, F–I as long as broad, generally dark bronze to blackish ..... *coriaceus* Dahlbom
— T–III apicomedially notched or indented, pronotum and scutum polished and punctate without microreticulation, bright green, blue or purple 3
3 T–III with lateral tooth or angle, F–I length more than twice breadth, side of pronotum and mesopleuron with single continuous carina, scutellar anterior margin with 2 long flattened areas ..... *congoensis* (Buysson)
— T–III without lateral tooth or angle, F–I as long as broad, side of pronotum and mesopleuron with 2 parallel carinae forming a continuous gutter, scutellar anterior margin, without flattened areas ..... *confusus* spec. nov.

Omalus (Philoctetes) confusus spec. nov., Figs 12, 13

Holotype female. Body length 5 mm. Body bluish green ventrally becoming dark purplish blue dorsally; femora, tibiae, scape and pedicel bluish green; wings stained evenly brownish; abdominal terga with lateral margins transparent and whitish, 2 MOD wide; face convex, without clearly defined scapal basin, scapal region evenly and finely punctate, with only tiny impunctate triangular areas just above antennal sockets, without wrinkles or cross-ridging (Fig. 12); clypeus narrow and projecting medially; facial punctures separated by 0,5–1,5 PD; hind ocelli connected by transverse sulcus; malar space 0,6 MOD long; subantennal distance 0,9 MOD; antenna unusually short; F–I 1,1 × as long as broad; F–II and III 0,7 ×; pronotum with moderate, deep striatiform punctures along anterior margin and large circular punctures laterally separated by 0,2–0,6 PD, nearly impunctate medially with few shallow tiny impressions and small shallow punctures along posterior margin, lateral carina parallel with scrobal carina on mesopleuron; scutum essentially impunctate, except for scattered tiny impressions and moderate-sized punctures along lateral margin, notauli obsolescent anteriorly; scutellum with few small scattered punctures medially and moderate-sized contiguous ones posterolaterally; mesopleuron with fine oblique striae between punctures, scrobal groove deep and clearly defined, outlined by 2 parallel carinae (Fig. 13); metanotum 1,5 × as long as scutellum and completely covered with large contiguous punctures; forefemur elongate ovoid, not tapering apically or angulate subbasally and ecarinate; propodeal tooth reduced to 2 small angles with a deep medial notch in between; terga highly polished with tiny scattered punctures 2–6 PD apart or more; T–II lateral margin strongly convex; T–III lateral margin relatively straight with a shallow obtuse medial notch; hind tarsal claw with 2–3 subsidiary teeth.

MATERIAL EXAMINED. Holotype female. SOUTH AFRICA: Cape Prov., Grahamstown, Hilton, 26–29 October 1975, F. W. Gess (GRAHAMSTOWN). Paratype female – ZIMBABWE ('S. Rhodesia'), 7 November 1944, R. H. R. Stevenson (CAPE TOWN).

Discussion. Specimens of *Omalus confusus* were originally identified by E. B. Edney as *coriaceus* Dahlbom, but Edney apparently had not seen the type of *coriaceus*. Examination of the type revealed that these specimens actually represented a new species and *Philoctetes caffer* Edney was a synonym of *coriaceus*. *O. confusus* can be distinguished by the lack of striae on the dorsum, T–III without a lateral tooth and the sculpturing of the pronotum and mesopleuron.

Genus *Parachrum* **gen. nov.**

Type-species: *Hedychrum apiculatum* Edney, **comb. nov.**

Etymology: *Para* – near, *chrum* – taken from *Hedychrum*, Greek, male gender.

Diagnosis. Facial punctures coarse and contiguous, blending into coarse and irregular cross-ridging in scapal basin; F–I length over twice width; genal bridge bulging ridge-like along midline; tongue short with short cardines, lying relatively flat in oral fossa; pronotal anterior declivity with short, linear notch along midline; mesopleuron rounded; forefemur basally rounded with ventral carina; mid and hind tibia without pits or depressions on inner surface; tarsal claws with large subparallel subsidiary tooth; propodeum with triangular medial enclosure, lateral tooth acute and triangular;

forewing medial vein broadly curved, meeting MCu at an obtuse angle; female S–III without transverse basal sulcus or apicomedial projection; female S–IV exposed apically.

This genus appears to be intermediate between *Hedychrum* Latreille and *Hedychridium* Abeille. It differs from *Hedychridium* based on the large subparallel tooth on the tarsal claw, and the genal ridge at the base of the oral fossa. *Parachrum* differs from *Hedychrum* in lacking pits on the inner surface of the mid and hind tibia, propodeum with triangular enclosure, female S–III without transverse basal sulci, and head without tooth at the base of the oral fossa.

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