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## A review of the genera *Stilbus* Seidlitz, 1872, *Podocesus* Guillebeau, 1894 and *Entomocnemus* Guillebeau, 1894 from Africa, Madagascar and the Seychelles (Coleoptera, Phalacridae)

by Zdeněk Švec

Abstract. The genera Stilbus Seidlitz, 1872, Podocesus Guillebeau, 1894 and Entomocnemus Guillebeau, 1894 are redefined. African species of the genus Stilbus are reviewed and keyed as well as all known species of the genera Podocesus and Entomocnemus. The genus Stilboides Guillebeau, 1894 is proposed as a junior synonym of Stilbus. The genus Ledorus Guillebeau, 1896 is synonymized with Podocesus. The name Entomocnemus is removed from synonymy and here established a valid genus. Stilbomimus nyasanus Champion, 1925 and S. rhodesianus Champion, 1925 are transferred to Entomocnemus. Stilbomimus opalinus (Champion, 1925) is synonymized with Entomocnemus rhodesianus (Champion, 1925). Stilbus daublebskyorum and S. zotti spp.nov. from Guinea are described. Lectotypes of Podocesus semirufus Guillebeau, 1894 and Dolerus limbatus Guillebeau, 1894 are designated. Stilbus obliquus Champion, 1925 is proposed as a junior synonym to S. sharpi (Guillebeau, 1892). Stilbus raffrayi Guillebeau 1894 is transferred to the genus Entomocnemus. Stilbus capriviensis Lyubarsky, 1997, Olibrus rufopunctatus Lyubarsky, 1997 and Astenulus interpositus (Švec, 1992) are transferred to the genus Podocesus. Olibrus sternosetosus Lyubarsky, 1997 is tentatively transferred to Stilbus. The taxonomic placement of Olibrus capriviensis Lyubarsky, 1997 is discussed and considered doubtful. Occurrence of Podocesus is recorded from Africa and Asia for the first time. Stilbus angulatus Champion, 1925 from Namibia, Senegal, Kenya, Tanzania, Uganda, S. sharpi from Tanzania, Namibia, Botswana, R. S. Africa, Madagascar, Stilbus testaceus (Panzer, 1797) from Sudan, Podocesus capriviensis from Zambia, R. S. Africa, Zimbabwe, Kenya, and Podocesus rufopunctatus from Tanzania and R. S. Africa are recorded for the first time from these countries.

**Key words.** Coleoptera – Phalacridae – *Stilbus* Seidlitz, 1872 – *Stilboides* Guillebeau, 1894 – *Entomocnemus* Guillebeau, 1894 – *Stilbomimus* Champion, 1924 – *Podocesus* Guillebeau, 1894 – *Tinodemus* Guillebeau, 1894 – Africa

## Introduction

ŠVEC (1992) and LYUBARSKY (1997) studied the Palaearctic and African species of *Stilbus* Seidlitz, 1872. The genus *Stilbus* comprises 69 species at present, taking into account taxonomic changes presented in this paper and including species new to science described below. One species – *Stilbus sternosetosus* (Lyubarsky, 1997) is placed in the genus with reservation. The species of the genus occur in Africa, Asia and Europe as well as in northern and South America.

CHAMPION (1924) described the genus *Stilbomimus*. GUILLEBEAU (1894) described *Entomocnemus* as a subgenus of *Stilbus*. *Entomocnemus* was later (HETSCHKO 1930) synonymized with *Stilbus*. In this paper *Stilbomimus* is proposed as a junior synonym of *Entomocnemus*, which is removed from synonymy. The genus includes 3 species at present occurring in Africa.

Nothing concerning the genus *Podocesus* Guillebeau, 1884, has been published since the original description. The taxonomic changes proposed below raise the number of its species to 5. The genus occurs in South America, Africa and Eastern Asia (Japan).

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## Material and methods

The present work is based on studies of type and non-type material from the collections mentioned on "Abbreviations" below.

The bulk of the material studied is deposited in the Museum für Naturkunde in Berlin, the author's collection, the and Naturhistorische Museum, Basel. The place in which the material examined is deposited is mentioned throughout the text after the collecting data.

#### Abbreviations

NHMB Naturhistorische Museum, Basel
NHML The Natural History Museum, London
(British Museum, Natural History)
NMNW The National Museum of Namibia, Windhoek
MHNP The Museum d'Histoire Naturelle, Paris
MNHUB The Museum für Naturkunde in Berlin
SC Author's collection (Zdeněk Švec, Praha)

#### Morphological terminology (Terms used in the text.)

- Prosternal process = medio-posterior part of prosternum prominent between procoxae, deflexed (as in Fig. 34) or straight and margined apically (Fig. 15).
- Swollen part of mesosternum = raised posterior part of mesosternum attached to metasternal process (as in Figs 1, 23, etc.).
- Metasternal process = medio-anterior part of metasternum prominent between mesocoxae (Figs 1, 23 etc.).
- Metasternal lines = lines bordering metasternal process laterally and enclosing triangular or sickle-shaped spaces adjoining mesocoxae postero-laterally (Figs 1, 18, etc.).
- E-punctures = punctures present on elytra resembling the letter 'E' lying down, or the letter 'm' (Fig. 44, etc.).
- Basal area of elytra = space between basal margin of elytra and transverse line running from shoulders to scutellum.
- First row = taken from the suture, the first primary row of punctures.
- First interval = space between sutural stria and the first row.

Measurements were taken from all specimens examined. They were approximated to the nearest 1st decimal place; the ratios were taken from holotypes or lectotypes only and were calculated from non-approximated measurements. The ratios represent the holotypes only and should be considered as indicating the relative lengths of each segment. Apart from the measurements, the descriptions are based on the holotypes. Differences occurring in paratypes or in other specimens examined are mentioned, when necessary, in the "variation" paragraph.

Dissected genitalia were mounted in water-soluble mediums, mainly in dimethylhydantoin formaldehyde (DMHF) or gum arabic.

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## Taxonomy

## Review of species of the genus Stilbus

### Stilbus Seidlitz, 1872

Stilbus Seidlitz, 1872: 35 [type species Anisotoma testacea Panzer, 1797, subsequent designation by GUILLEBEAU (1894)].

*Olistherus* Seidlitz, 1872: 157 [type species *Anisotoma testacea* Panzer, 1797, subsequent designation by GUILLEBEAU (1894)].

*Eustilbus* Sharp, 1889: 283 [type species *Anisotoma testacea* Panzer, 1797, subsequent designation by GUILLEBEAU (1894)].

Microstilbus Guillebeau, 1894: 283 [type species Phalacrus nitidus Melsheimer, 1846, original designation].

Stilboides Guillebeau, 1894: 282 [type species Stilboides sublineatus Guillebeau, 1894, original designation] syn.nov.

Distribution. South and North America, Africa, Europe, Asia.

Diagnosis. 1. Body oval, glossy, moderately convex, size small, length mostly between 1.3-2.4 mm. 2. Antennal club 3-segmented, compact; segments symmetrical or at most segments 9 and 10 very feebly asymmetrical. 3. Last segment of maxillary palpi oblong oval, shortly obliquely truncated at apex, slightly dilated medially, narrowed closely before apex (mouthparts as in Figs 4, 7, 10, 11). 4. Anterolateral margin of head emarginate above antennal articulation. 5. Scutellum of normal size. 6. Each elytron with one stria close to suture, sutural border not connecting with basal line. 7. Prosternal process extending to posterior margin of procoxae, truncate and usually sharply bordered at apex, usually setose. 8. Swollen part of mesosternum distinctly developed at least as a distinct transverse strip. 9. Mesocoxae round, widely separated by metasternal process. 10. Metasternal process well developed between mesocoxae reaching at least their midlength, closest at their anterior. 11. Coxal lines developed at metasternum behind mesocoxae, resembling letter 'V' fusing with each other posteriorly at the tip of the 'V' in an acute angle or interrupted at tip and separated into two branches (the structures of venter as in Fig. 1); medial branch in some cases shortened or even missing (Figs 23. 29). 12. Legs short, simple, hind tibiae with short unobtrusive spines, longest median spine shorter than 1st tarsal segment. 13. 1st segment of hind tarsi shorter or about equal to 2nd (legs as in Figs 6, 8, 9). 14. Articulation of tarsal segments free. 15. Tegmen and median lobe of aedeagus simple, parameres fused to each other and also phallobase without articulation or suture; tip of tegmen at most with narrow longitudinal notch or line. 16. Ovipositor membranous, inconspicuous. 17. Spermatheca uniformly shaped as in Fig. 3.

**Discussion.** *Stilbus* belongs to the subfamily Phalacrinae. ŠVEC (2002) discussed the systematic position of the genus *Tinodemus* Guillebeau, 1894 and presented a key to the identification of the genus and the related genera *Stilbus, Nesiotus* Guillebeau, 1896, *Acylomus* Sharp, 1888 and *Podocesus.* 

My examination of the holotype<sup>1)</sup> of *Stilboides sublineatus* Guillebeau, 1894, the type species of the genus *Stilboides* Guillebeau, 1894, shows that there are no significant

<sup>&</sup>lt;sup>1)</sup> The holotype studied is labelled as follows: "holotype, Grouvelle, S. Domingue, Mus. Paris, coll. Génerale, sublineatus, Guill." (MHNP).

differences between *Stilbus* and *Stilboides*. The genus *Stilboides* is therefore proposed as a junior synonym of *Stilbus*.

# Key to the species of *Stilbus* of Africa, Madagascar and Seychelles<sup>2)</sup>

1.	Coxal lines resembling letter 'V' (as in Fig. 1)
_	Coxal lines incomplete, medial branch shortened or missing 10.
2(1)	Metasternal process short, not reaching anterior level of mesocoxae. Swollen part of mesosternum clearly visible, broadly developed, contacting metasternal process
_	Metasternal process long, reaching anterior level of mesocoxae. Swollen part of mesosternum visible as narrow transverse strip
3(2)	Dorsum more or less microstrigose or transversely microsculptured by irregular cells. Coxal lines long 4.
-	Dorsum with distinct regular microreticulation. Coxal lines short (as in ŠVEC 1992: Fig. 55), aedeagus as in ŠVEC (1992: Figs 53, 54). Length 1.7–2.1 mm. N. Africa, Europe, Central Asia
4(3)	Posterior angles of pronotum rectangular or acute in lateral view 5.
-	Posterior angles of pronotum rectangular of acute in lateral view
5(4)	Entire dorsum very feebly transversely microstrigose, only on pronotal and/or on elytral base sometimes feebly transversely microsculptured with long irregular cells. Apex of tegmen with a small, short, rounded protuberance (Underside, mouthparts, legs, antenna, aedeagus and spermatheca as in Figs 1–13). Length of body 1.8–2.3 mm. Africa, Europe, Asia Minor, Central Asia
_	Microsculpture of dorsum consisting of distinct transverse cells. Shape of tegmen different
6(5)	Tip of hind pronotal angles distinctly rounded when viewed laterally. Tegmen ending in slim, shortly rounded process (Fig. 16). Prosternal process with 2 short, unobtrusive subapical setae. Length of body 1.7–2.1 mm. Tropical Africa

<sup>2)</sup> S. sublineatus (the type species of Stilboides) from the Dominican Republic is included in the key.

Tip of hind pronotal angles pointed in lateral view. Tegmen ending in broad short truncate process (aedeagus as in Švec 1992: Figs 65, 66).
Prosternal process with several (about 6) long apical setae. Length of body 2.0–2.3 mm.

N. Africa. ..... S. truncatus Švec, 1992

- Rows of punctures reaching elytral base. Metasternum reaching distinctly beyond anterior level of mesoxae (Fig. 18). Aedeagus as in Figs 19, 20. Length of body 1.5–1.7 mm.

Guinea. ..... S. daublebskyorum sp.nov.

- 9(8) Pronotal base unbordered. Punctures of elytral rows half-moon shaped, each with central seta separated by 1.5–2.0 times their own diameter longitudinally. Elytral rows evanescent at basal quarter of elytra. Posterior pronotal angles feebly obtuse in lateral view. Length of body 1.4 mm.

Guinea. ..... S. zotti sp.nov.

 Pronotal base bordered in median third. Punctures of elytral rows horseshoe-shaped with central seta, longitudinally separated by their own diameter. Elytral rows evanescent just before base. Posterior pronotal angles rectangular in lateral view. Length 1.9 mm.

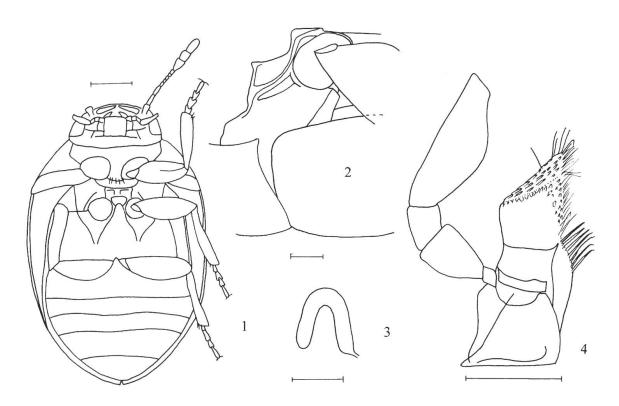
Namibia. ...... S. sternosetosus (Lyubarsky, 1997)<sup>3)</sup>

- Only elytra microsculptured. Median branch of metasternal lines developed but abbreviated. Hind angles of pronotum slightly obtuse in lateral view. Tegmen ending in conical process with central apical notch (Fig. 31). Length of body 1.5 mm.

- 11(10) Punctures of elytral rows separated by 5–9 times their own diameter. ... 12.

<sup>&</sup>lt;sup>3)</sup>The placement of this species under *Stilbus* is tentative. See the discussion on the species given below.

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**Figs 1–4.** *Stilbus testaceus* (Panzer, 1797): 1, underside of body; 2, mesosternum laterally; 3, spermatheca; 4, maxilla with palpus. Scale = 0.1 mm.

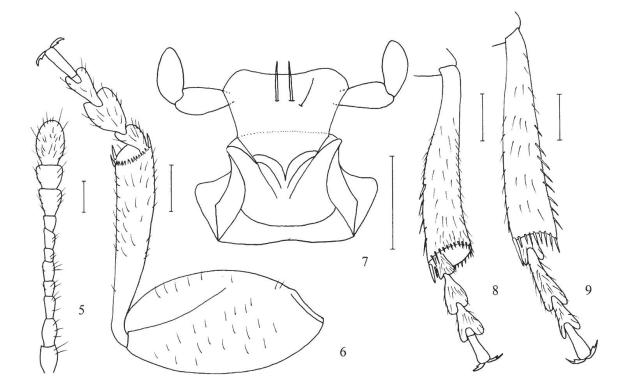
### Stilbus testaceus (Panzer, 1797) (Figs 1–13)

Anisotoma testacea Panzer, 1797: 12. Dermestes consimilis Marsham, 1802: 75. Phalacrus geminus Illiger in Panzer, 1805: 27. Phalacrus rufipes Stephens, 1829: 164. Stilbus testaceus var. unicolor Flach, 1888: 67.

Material examined. Material cited in ŠVEC (1992); further 1 spec., Sudan, Baumeistr, MNHUB.

**Distribution.** Africa: Algeria, Azores (Islands), Canary Islands, Morocco, Tunisia, new to Sudan; Europe, Asia.

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**Figs 5–9.** *Stilbus testaceus* (Panzer, 1797): 5, antenna; 6, anterior leg of male; 7, labium with palpi; 8, middle tibia with tarsus of male; 9, hind tibia with tarsus of male. Scale = 0.1 mm.

**Remarks.** The main morphological characters of the type species of the genus have been given by THOMSON (1958) and FRANZ (1968). Shape of the mouthparts, legs, venter, antenna and genitalia as in Figs 1–13.

### *Stilbus angulatus* Champion, **1925** (Figs 14–17)

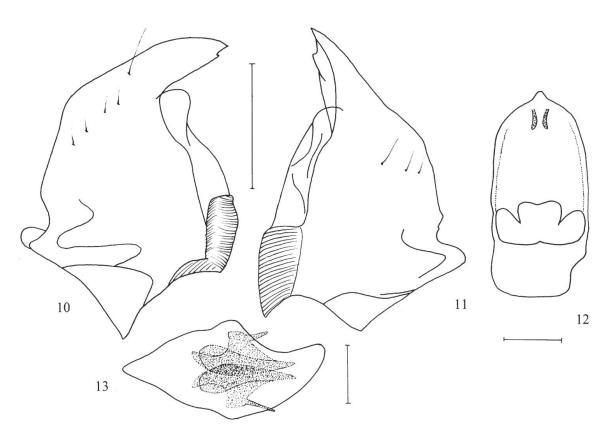
Stilbus angulatus Champion, 1925: 52. Stilbus dollmani, Lyubarsky, 1997: 37.

Material examined. Type material: holotype, male, "Estcourt, Natal, G.A.K. Marshall, 28.viii.1892; 1200; Type, HT; Stilbus angulatus type Ch.; Brit. Mus. 1922–431; Stilbus angulatus Ch.; A.M.N.N. 1925, det G.C.C.", NHML. Other material: 7 specimens, Kenya, Voi (Tsavo), 22.xi.–2.xii.1996, leg. M. Sní□ek, SC, NHML; 4 spec., the same but 18.xii.1996, SC, NHML; 5 spec., the same, but 13.–17.xii.1997, SC; 24 spec., Tanzania, Mombo or., 9.xii.1996, leg. M. Sní□ek, SC, NHMB; 24 spec., Uganda occ., Kasese, (600 m), 13.–19.xii.1994, leg. M. Sní□ek, SC, NHMB; 4 spec., Senegal (without detailed data), MNHUB, SC; 3 spec., Namibia, Kavango: Mahango, game reserve, 18°14′S, 21°43′E, leg. M. Uhlig, MNHUB, SC.

**Redescription.** Length of body 1.7–2.1 mm, in holotype 2.0 mm, head 0.1 mm, pronotum 0.4 mm, elytra 1.5 mm, antenna 0.6 mm, maximum width of head 0.7 mm, pronotum 1.2 mm at base, elytra 1.2 mm just behind base.

Oval, from shoulders backwards strongly narrowed; dark chestnut brown, narrowly darker along suture and along base of pronotum. Legs, antennae and mouthparts reddish. Venter yellow-reddish.

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**Figs 10–13.** *Stilbus testaceus* (Panzer, 1797): 10, left mandibula; 11, right mandibula; 12, tegmen dorsally; 13, median lobe of aedeagus dorsally. Scale = 0.1 mm.

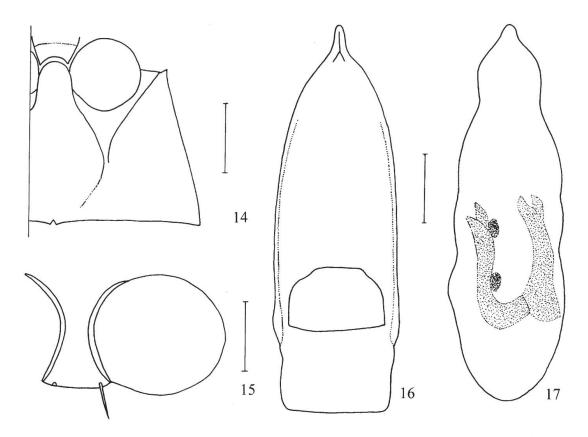
Head. With fine transverse microsculpture, transverse strigosities interconnected in some places to form very long narrow cells. Punctures fine, small, irregularly dispersed, spaced by 2–3 or more times their own diameter.

Pronotum. Distinctly transversely microsculptured as on head. Punctures fine, small, separated by about 2–3 times their own diameter. Anterior margin bordered. Base feebly bordered in median two-thirds. Posterior angles rectangular with closely rounded tip in dorsal view; obtuse, widely rounded in lateral view.

Scutellum. Transversely microsculptured as on head.

Elytra. Elytra entirely finely and densely microsculptured, similar to that of head. Sutural stria distinct and confined to apical 3/5, continuing forwards as a row of punctures. Discal punctures of 3 medial rows very shallow and unobtrusive, separated by about 6–7 their own diameter from their lateral neighbours; rows starting from 4th even feebler, marked only by presence of small hairs and lack of microsculpture closely around each hair. Row situated at lateral margin of elytra consisting of punctures larger than those on disc, but shallow, half-moon shaped, separated by 2–4 times their own diameter from their lateral neighbours. Rows evanescent before base. Intervals with very sparse, irregularly distributed, fine, short hairs.

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**Figs 14–17.** *Stilbus angulatus* Champion, 1925, holotype: 14, metasternum with swollen part of mesosternum; 15, prosternum; 16, tegmen dorsally; 17, median lobe of aedeagus dorsally. Scale = 0.1 mm.

Prosternal process. Clearly and sharply margined posteriorly with one short subapical seta at each side (Fig. 15).

Mesosternum. Long, connecting with metasternum at about anterior quarter of length of mesocoxae (Fig. 14).

Metasternum. Short – see mesosternum. Metasternal lines resembling letter 'V'. Both branches of metasternal lines well developed, not connected posteriorly, closely but distinctly separated. Median part of metasternal surface transversely, lateral sides longitudinally, microsculptured, sparsely and finely pubescent. With central depression in male crowded with very densely arranged small and fine punctures.

Legs. Segment 2 of anterior tarsi slightly dilated in male. Mesotibiae slightly bent, hind tibiae straight.

Genitalia. Male genitalia as in Figs 16, 17.

Variation. Dorsal colour varies from uniformly reddish to brown with gradually lighter posterior part of elytra; head and pronotum black-brown with reddish clypeus and pronotal lateral margins, elytra brown, progressively lighter apically in some specimens.

**Distribution.** South Africa (Natal), new records for Namibia, Senegal, Kenya, Tanzania, Uganda.

## Stilbus angulicaput (Scott, 1922) comb.nov.

Stilboides angulicaput Scott, 1922: 233.

**Material examined.** Holotype, female, "Silhouette, 1908, Seychelles Exp.; Seychelle Islands, Percy Sladen Trust Expedition 1913–170; Stilboides angulicaput H. Scott, type", paratypes: female, the same, but moreover with label: "Slide No. 375, E. Lewis 1988, E.S.L. 18", MNHL.

### Distribution. Seychelles.

**Remarks.** The appropriate diagnosis was given by the original description. Ernest S. Lewis (Chagford, England) examined the male specimen from Silhouette, Seychelles deposited in MNHL and the shape of the tegmen is similar to that in *S. angulatus* but the terminal process is more stout, divided in apical half by longitudinal groove (LEWIS, *pers. com.*) Tegmen laterally with 3 setae on each side, just at the base of apical process.

### Stilbus atomarius (Linnaeus, 1767)

Silpha atomaria Linnaeus, 1767: 574. Stilbus atomarius var. picatus Flach, 1888: 16. Phalacrus piceus Stephens, 1829: 165. Stilbus reitteri Flach, 1888: 24. Stilbus atomarius var. sulcatus Gerhardt, 1909: 418. Stilbus atomarius: ŠVEC (1992): 442.

**Distribution.** Holarctic. Africa: Algeria, Morocco; Europe, Russian Far East; N. America.

**Remarks.** A diagnosis of the species has been presented by ŠVEC (1992). Aedeagus as in ŠVEC (1992: Figs 47, 48).

## *Stilbus daublebskyorum* sp.nov. (Figs 18–22)

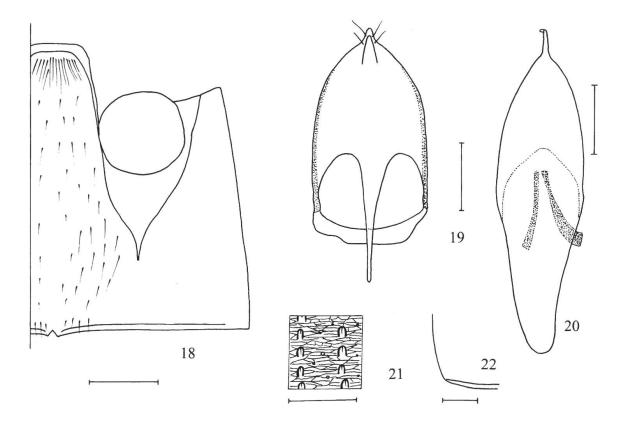
**Material examined.** Holotype, male: "Séredoux in Rep. Guinea, 7.–8.4.1975, lux, leg. Zott", MNHUB; paratypes: female, the same, SC; female, "Guinea, Seredou, 18.4.1975, leg Zott", MNHUB; 14 females, 2 males, "Rep. Guinea, Séredoux, 7.–8.4.1975, leg. Zott", 11 females, 1 male, MNHUB, 2 females, 1 male SC, 1 female NHMB; 1 male, "Guinea, Seredou, lux, 4.5.1975, leg. Zott", MNHUB.

**Description.** Length of body 1.5–1.7 mm, in holotype 1.7 mm, head 0.1 mm, pronotum 0.4 mm, elytra 1.2 mm, antenna 0.5 mm, maximum width of head 0.5 mm, pronotum 0.8 mm at base, elytra 0.9 mm just behind base.

Oblong oval, subparallel-sided, brown, elytra progressively lighter apically with apical third of elytra yellow-brown, legs, antennae and mouthparts yellow-red. Venter yellow-brown.

Head. Without microsculpture, distinctly punctate, punctures spaced at 2–4 times their own diameter. Ratios of lengths of antennal segments 2–11 (2nd segment equal to 1.0): 1.0-0.9-0.7-0.6-0.4-0.4-0.6-0.9-0.9-2.3. Ratios of widths of antennal segments: 1.0-0.8-0.6-0.6-0.6-0.6-0.8-1.6-1.8-1.8. Ratios of width:length of antennal segments 2-11: 0.7-0.7-0.6-0.8-1.0-1.0-1.3-1.5-0.6.

Pronotum. Without microsculpture. More finely and sparsely punctate than on head, punctures separated by about 4–6 or more times their own diameter. Punctures



Figs 18–22. *Stilbus daublebskyorum* sp.nov., holotype: 18, metasternum with swollen part of mesosternum; 19, tegmen dorsally; 20, median lobe of aedeagus dorsally; 21, surface of elytron; 22, hind pronotal angle laterally. Scale = 0.1 mm.

denser laterally. Anterior margin and median two-thirds of base bordered. Posterior angles acute with closely rounded tips in dorsal view; feebly obtuse, more widely rounded in lateral view (as in Fig. 22).

Scutellum. Feebly transversely microstrigose with several small punctures.

Elytra. Entirely finely and densely microsculptured with transverse strigosities interconnected in some places to form very long, narrow cells. Sutural stria distinct and confined to apical three-quarters, laterally with row of punctures closely adjacent, basally reaching tip of scutellum. With nine complete rows of oblong oval E-punctures with central seta (Fig. 21). E-punctures spaced by about 0.5–1.0 times their own diameter longitudinally, by 5 times their own diameter from their lateral neighbours. Row punctures shallower and less distinct apically; becoming progressively smaller on basal fifth of elytra, evanescent before base. Laterally E-punctures become more open, larger, more closely spaced by about 2 times their own diameter. Intervals with small, sparse, setiferous punctures, in median 1st interval and lateral two intervals with some large punctures nearly as large as those in rows, also in 2nd interval with several large oblong oval punctures.

Prosternal process. Sharply margined with 10 setae apically.

Mesosternum. Very short, connecting metasternum before anterior margin of mesocoxae (Fig. 18).

Metasternum. Very long – see mesosternum. Metasternal lines resembling letter 'V'. Both branches of metasternal lines well developed, posteriorly not connected. Apex of metasternal process covered by long setae in male. Median part of metasternal surface without distinct microsculpture, sparsely and finely pubescent, lateral sides obliquely microreticulate, not setose. Without central depression in male.

Legs. Anterior tibiae with 2 latero-apical spurs and 1 anteromedial spur. Segments 1-3 of anterior tarsi slightly enlarged in male. Mesotibiae distinctly bent and metatibiae slightly so.

Genitalia. Male genitalia as in Figs 19–20.

Distribution. Guinea.

Biology. Unknown.

**Differential diagnosis.** *Stilbus daublebskyorum* sp.nov. is similar to *S. angulicaput* and *S. zotti* sp.nov. It differs in the characters indicated in the key above.

**Derivatio nominis.** The species is dedicated to my wife's family, the Daublebsky von Sternecks.

## Stilbus dollmani Champion, 1925 (Fig. 28)

Stilbus dollmani Champion, 1925: 51.

Material examined. Holotype, female, "N.W.Rhodesia, iii.1913, H. C. Dollman", MNHL.

**Redescription.** Length of body 2.2 mm, head 0.3 mm, pronotum 0.5 mm, elytra 1.4 mm, antenna 0.6 mm, maximum width of head 0.6 mm, pronotum 1.1 mm, elytra 1.1 mm just behind base.

Oval, reddish, venter and legs, antennae and mouthparts reddish-yellow.

Head. Entirely very finely microsculptured with transverse strigosities interconnected in some places to form very long, narrow cells. Very feebly superficially punctate, punctures spaced at 2–4 times their own diameter.

Pronotum. Microsculpture as on head. More densely punctate than on head, punctures as feeble and superficial as on head, separated by about 2–3 times their own diameter. Anterior margin and base unbordered. Posterior angles acute with closely rounded tip in dorsal view; very feebly obtuse, nearly rectangular, very closely rounded in lateral view.

Scutellum. Feebly transversely microstrigose.

Elytra. Entirely finely microsculptured with transverse strigosities interconnected in some places to form very long, narrow cells. Microsculpture more distinct than on head and pronotum. Sutural stria distinct and confined to apical two-thirds continuing as a row of punctures reaching apex of scutellum. First two medial rows of punctures distinctly developed, punctures large, rounded with central seta, densely arranged, spaced by their own diameter longitudinally; separated by about 3 times their own diameter from their lateral neighbours. Punctures become transversely arcuate or crescentic, shallow and unobtrusive, starting at 3rd punctured row. Row punctures shallower and less distinct laterally and apically. Row punctures become progressively smaller toward base. Intervals with some small, sparse punctures.

Prosternal process. Sharply margined posteriorly with 5 setae apically.

Mesosternum. Long, connecting metasternum at about half of mesocoxal length (Fig. 28).

Metasternum. Short – see mesosternum. Only lateral branch of metasternal lines developed, ending shortly before posterior margin of metasternum. With distinct microsculpture, sparsely and finely public medially, sparsely so laterally.

Legs. Mesotibiae and metatibiae feebly curved.

Genitalia. Spermatheca of generic type (as in *Stilbus testaceus*, see Fig. 3). Male unknown.

## Distribution. Zimbabwe (?).

**Differential diagnosis.** *Stilbus dollmani* sp.nov. is similar to *S. sharpi* (Guillebeau, 1892) and *S. simplex* Lyubarsky, 1997 in lacking medial branch of metasternal lines. Differential characters are given in the key to the identification presented in this paper.

## Stilbus oblongus (Erichson, 1845)

Olibrus oblongus Erichson, 1845:121. Stilbus oblongus var. uniformis Flach, 1888:68. Stilbus oblongus var. rauterbergi Reitter, 1911:78. Phalacrus lebedevi Roubal, 1913: 1.

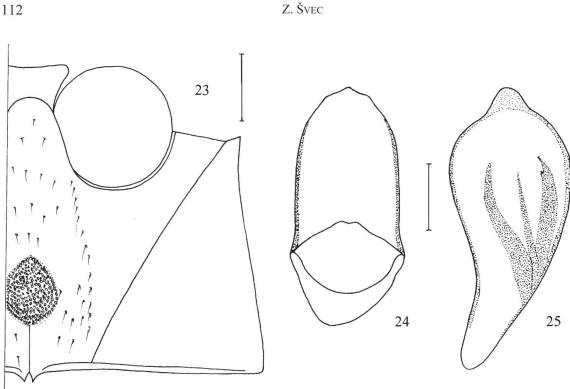
**Remarks.** The main morphological characters have been given by THOMPSON (1958) and FRANZ (1968). Shapes of meso- and metasternum and male genitalia as in Švec (1992: Figs 53–55).

### *Stilbus sharpi* (Guillebeau, 1892) (Figs 23–25)

*Eustilbus sharpi* Guillebeau, 1892: 191. *Stilbus obliquus* Champion, 1925: 52 **syn.nov.** *Stilbus sharpi*: ŠVEC (1992: 444).

Material examined. Type material: *Stilbus sharpi*, holotype, male, "Syria; type; Pilophorus sharpi Guill., Millingen; Sharp coll, 1905–1913; Type, HT; Stilbus sharpi Brit. Mus. (NH)"; *Stilbus obliquus*, holotype, male, "type. H.T.; Xinavane, Nov. 1920, P.E.A. C.B. Hardenberg, Pres. By Imp. Bur. Ent. Brit. Mus. 1924–520; Stilbus obliquus, type; Stilbus obliquus Champ., A.M.N.H. 1925, det. G.C.C.; Port. E. Afr.", MNHL. Other material: 5 spec., Tanzania, Utete, Rufiji, Kindwitvi, 10.–14.xii.1993, leg. M. Sní⊡ek, SC, NHML; 9 spec., Tanzania, Mombo or., 9.xi.1996, leg. M. Sní⊡ek, SC, NHML, NHMB; 21 spec., Namibia, Kavango: Mahango, 18°13′S, 21°45′E, game reserve: picnic site, 24.xi.1993, lux, leg. M. Uhlig, MNHUB, SC; 1 spec., the same but 18°14′S, 21°43′E, 1.iii.1994, MNHUB; 1 spec., the same but game reserve;

1.–5.iii.1994, MNHUB; 3 spec., the same but 2.–3.x.1993, leg. F. Koch, MNHUB; 1 spec., Namibia, Kavango: Mahango, 18°17'S, 21°43'E, game reserve, 23.–24.xi.1993, leg. J. Deckert, MNHUB; 1 spec., Namibia, Popa Falls, lux, 18°07'16''S, 21°34'51''E, 13.xii.1993, leg. M. Uhlig, MNHUB; 13 spec., Namibia, Fish River Canyon, Ai-Ais, Fish River banks, reed sievings, 27°55'S, 17°29'E, 250 m, 12.–13.ii.1994, leg. M. Uhlig, MNHUB, SC; 3 spec., the same, but 21.xii.1993, MNHUB; 1 spec., Botswana, Sitatunga-Camp, lux, 20°04'33''S, 23°21'16''E, 7.iii.1993, MNHUB; 2 spec., Rep. S. Africa, Cape Province: De Hoop Nat. Res., lux, 34°27'S, 20°24'E, 16.–18.xi.1993, MNHUB, SC; 1 male, Madagascar Ouest, Manindray, O of Sakahara, 30.i.1995, 700–800 m, foret séche, lux, leg. J. Janák et G. Dunay, MNHUB.



Figs 23–25. Stilbus sharpi Guillebeau, 1892, holotype: 23, metasternum with swollen part of mesosternum; 24, tegmen dorsally; 25, median lobe of aedeagus dorsally. Scale = 0.1 mm.

Distribution. Syria, Egypt, Mozambique, new for Tanzania, Namibia, Botswana, Rep. S. Africa and Madagascar.

Remarks. Redescription given by ŠVEC (1992). Metasternum as in Fig. 23, aedeagus as in Figs 24, 25. Usually two lateral elytral rows as distinctly developed as first medial 3 rows but their punctures larger and more transverse; all row punctures become shallower and less distinct apically in the material from Tanzania and Southern Africa. The specimen from Madagascar differs from the holotype in its obtuse hind pronotal angles, laterally viewed. All other characters agree closely with the holotype.

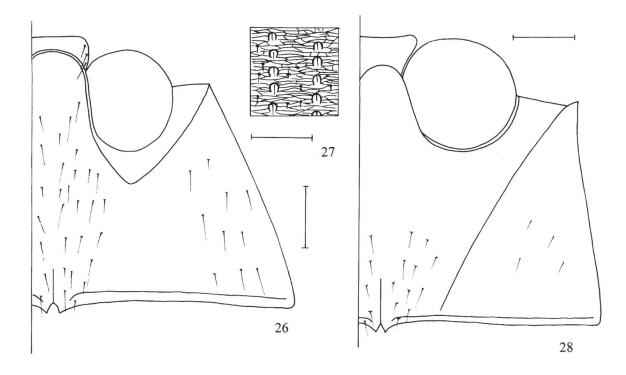
### Stilbus simplex Lyubarsky, 1997

Stilbus simplex Lyubarsky, 1997: 36.

Material examined. Not studied.

Remarks. Although not mentioned in the original description, but according to the information obtained by personal communication with the author, the median branch of the metasternal lines is missing; only the lateral one is developed. Spermatheca and male genitalia figured by LYUBARSKY (1997: Figs 81, 82).

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**Figs 26–28.** *Stilbus sternosetosus* (Lyubarsky, 1997), holotype: 26, metasternum with swollen part of mesosternum; 27, elytral sculpture. *S. dollmani* Champion, 1925, holotype: 28, metasternum with swollen part of mesosternum. Scale = 0.1 mm.

### Stilbus sternosetosus (Lyubarsky, 1997) comb.nov. (Figs 26, 27)

Olibrus sternosetosus Lyubarsky, 1997: 25.

**Material examined.** Holotype, female, "Namibia-Exp. ZMB 1992, East Caprivi: Katima Mulilo, 17°29′S/24°17′E, Gesiebe, Geschwemme, Tümpelufer, 7.iii.92, leg. M. Uhlig; Holotype Olibrus sternosetosus sp.n.; Namibian National Insect Collection, State Museum, P.O. Box 1203, Windhoek, Namibia", NMNW.

**Remarks.** Although not mentioned in the original description, V-shaped metasternal lines can be detected in the holotype. In contradiction to the original description, only traces of transverse microsculpture occur on lateral sides of pronotum. LYUBARSKY (1997) recorded in the original description that the pronotum is "shagreened". He also stated that the metasternal process was "bordered laterally and apically". In fact the border mentioned by Lyubarsky is the swollen part of mesosternum attached to the metasternal process (Fig. 26). Furthermore, the elytra are not "shagreened" (as stated in the original description) but transversely microsculptured in the holotype (Fig. 27), similar to *Stilbus atomarius*. These and other details indicate that the original description cannot refer to the holotype only but also to the paratypes. It does not seem that the paratypes are consistently identical with the holotype in the relevant characters. Moreover, all the paratypes, like the holotype, are females. The paratypes were not studied.

**Discussion.** Studies of the holotype showed that the species certainly does not belong to the genus *Olibrus*. The shape of the last segment of maxillary palpi, sharply margined prosternal process, distinctly developed swollen part of mesosternum and presence of V-shaped metasternal lines indicate that the species could be placed in *Stilbus*, but with some reservation. This proposal should be considered as tentative until further material, including a male specimen, has been studied.

### Stilbus sublineatus (Guillebeau, 1894) comb.nov. (Figs 29–32)

Stilboides sublineatus Guillebeau, 1894: 306.

Material examined. Holotype, male, "Grouvelle; S. Domingue; Mus. Paris, coll. genérale; sublineatus Guill.", MHNP.

**Redescription.** Length of body 1.5 mm, head 0.1 mm, pronotum 0.4 mm, elytra 1.0 mm, antenna 0.4 mm, maximum width of head 0.5 mm, pronotum 0.8 mm at base, elytra 0.9 mm just behind base.

Oval, with reddish-brown head and pronotum, elytra chestnut brown, venter reddish, legs, antennae and mouthparts reddish-yellow.

Head. Without microsculpture, feebly superficially punctate, punctures separated by about 3 times their own diameter.

Pronotum. Without microsculpture, very finely, more superficially punctured than on head. Anterior margin unbordered, base bordered in median quarter. Posterior angles acute with closely rounded tip in dorsal view; very feebly obtuse, nearly rectangular, broadly rounded in lateral view.

Scutellum. Indistinctly transversely microstrigose.

Elytra. Entirely finely microsculptured with long transverse narrow cells, similar to *S. atomarius*. First two medial rows of punctures distinctly developed, punctures large, horseshoe shaped with central seta, densely arranged, separated from each other by their own diameter longitudinally; separated by about 7 times their own diameter from their lateral neighbours. Punctures of rows other than the 2 median ones arranged more sparsely, starting with 3rd row punctures separated by about 4 times their own diameter longitudinally becoming first transversely arcuate, then transverse wrinkle-shaped, shallow and unobtrusive laterally. Row punctures shallower and less distinct also apically, becoming progressively smaller toward base. Intervals with sparse punctures similar, but distinctly smaller than those in rows. Punctures in intervals also tend to be seriate.

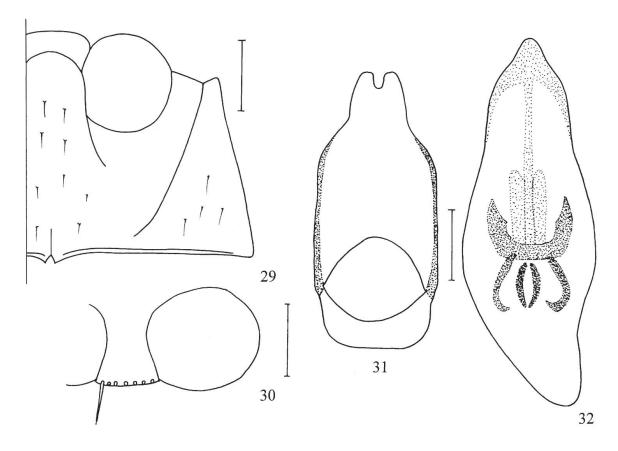
Prosternal process. Sharply margined posteriorly with apical setae (Fig. 30). In holotype all but one seta abraded.

Mesosternum. Moderately long, connecting metasternum at about anterior quarter of mesocoxal length (Fig. 29).

Metasternum. Moderately short – see mesosternum. Only lateral branch of metasternal lines well developed, ending shortly before posterior margin of metasternum while medial branch distinctly shortened. With distinct microreticulation but smooth metasternal process, very sparsely and finely public public sector.

Legs. Mesotibiae straight, metatibiae bent.

Genitalia. As in Figs 31, 32.



Figs 29–32. *Stilbus sublineatus* (Guillebeau, 1894), holotype: 29, metasternum with swollen part of mesosternum; 30, prosternum; 31, tegmen dorsally; 32, median lobe of aedeagus dorsally. Scale = 0.1 mm.

**Distribution.** Dominican Republic (S. Domingue = Santo Domingo).

**Differential diagnosis.** *S. sublineatus* (Guillebeau, 1892). seems to differ from all other known species in distinctly shortened medial branch of metasternal lines.

## Stilbus truncatus Švec, 1992

Stilbus truncatus Švec, 1992: 448.

Distribution. Morocco.

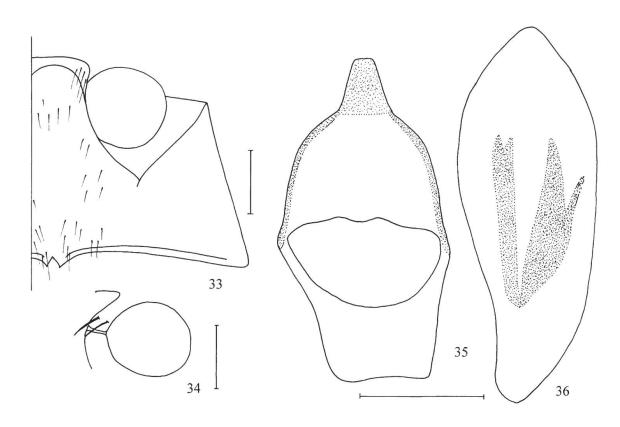
**Remarks.** The species is defined in the original description. Male genitalia as in ŠVEC (1992: Figs 65, 66).

## Stilbus zotti sp.nov. (Figs 33–36)

Material examined. Holotype, male: "Guinea, Seredou, lux, 4.4.1975, leg. Zott", MNHUB.

**Description.** Length of body 1.4 mm, head 0.1 mm, pronotum 0.4 mm, elytra 0.9 mm, antenna 0.6 mm, maximum width of head 0.4 mm, pronotum 0.8 mm at base, elytra 0.9 mm just behind base.

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**Figs 33–36.** *Stilbus zotti* sp.nov., holotype: 33, metasternum with swollen part of mesosternum; 34, prosternum in latero-dorsal view; 35, tegmen dosally; 36, median lobe of aedeagus dorsally. Scale = 0.1 mm.

Oval, dark chestnut brown, legs, antennae and mouthparts reddish. Venter redbrown.

Head. Without microsculpture, distinctly punctate, punctures separated by 3-6 times their own diameter. Ratios of length of antennal segments 2-11 (2nd segment equal to 1.0): 1.0-0.9-0.4-0.5-0.4-0.5-0.5-1.1-0.9-1.8. Ratios of widths of antennal segments: 1.0-0.8-0.5-0.8-0.8-0.8-1.0-2.0-2.3-2.5. Ratios of width:length of antennal segments 2-11: 0.5-0.4-0.7-0.8-1.0-0.8-1.0-0.9-1.3-0.7.

Pronotum. Without microsculpture. More finely and sparsely punctate than head, punctures separated by about 8–10 times or more their own diameter. Anterior margin and base unbordered. Posterior angles acute with closely rounded tip in dorsal view; obtuse, closely rounded in lateral view.

Scutellum. Feebly transversely microstrigose.

Elytra. Entirely finely and densely microsculptured with transverse strigosites interconnected in some places to form very long, narrow cells. Sutural stria distinct and confined to apical half, space between suture and sutural stria raised. Discal elytral punctures semicircular with central seta, arranged in rows. Punctures separated by about 1.5–2.0 times their own diameter longitudinally, by 2.5–3.0 times their own diameter from their lateral neighbours. Punctures become smaller and disappear at anterior quarter; becoming larger and closer spaced laterally. Punctures shallower and rows less distinct toward apex. Intervals with small and sparse punctures.

Prosternal process. Deflexed, indistinctly margined posteriorly with one short subapical seta at each side (Fig. 34).

Mesosternum. Short, connecting metasternum at about anterior margin of mesocoxae (Fig. 33).

Metasternum. Long – see mesosternum. Metasternal lines resembling letter 'V'. Both branches of metasternal lines well developed, posteriorly connected. Median part of metasternal surface without distinct microsculpture, sparsely and finely pubescent, lateral sides obliquely microsculptured. Without central depression in male.

Legs. Segments 1–3 of anterior tarsi feebly dilated in male. Anterior tibiae with 2 latero-apical spurs and 1 anteromedial spur. Mesotibiae feebly bent, metatibiae distinctly so.

Genitalia. Male genitalia as in Figs 35, 36.

Distribution. Guinea.

Biology. Unknown.

**Differential diagnosis.** *Stilbus zotti* sp.nov. is similar to *S. angulicaput*. It differs clearly in small, sparse and unobtrusive punctures of elytral intervals while interval punctures are as large as those in rows in *S. angulicaput*.

Derivatio nominis. The species is dedicated to its collector.

### Review of the species of the genus Podocesus

## Podocesus Guillebeau, 1894

*Podocesus* Guillebeau, 1894: 281 [type species *Podocesus semirufus* Guillebeau, 1894 by original designation].

Ledorus Guillebeau, 1896: 27 syn.nov. [type species *Dolerus limbatus* Guillebeau, 1894 by original designation] (Ledorus is nom.nov. for *Dolerus* Guillebeau, 1894: 282.)

Distribution. Southern America, new for Africa and eastern Asia (Japan).

**Diagnosis**. Most of the morphological characters of the genus agree with those of *Stilbus*. The main differences are as follows: 1. Antennal club 3-segmented, compact, segments 9+10 or even 11 asymmetrical. 2. Prosternal process usually sharply or roundly margined. 3. Metasternal lines V- or Y-shaped. 4. Tegmen composed of basal piece and parameral sclerite, both connecting by articulation (Figs 41, 43). 5. Ovipositor distinct.

**Discussion.** GUILLEBEAU (1894) described the genus *Podocesus* with one sentence in the key to the identification of phalacrid genera, mentioning the name of the type of the genus. In the following body of the paper, no description of the type species (*P. semirufus* Guillebeau, 1894) or any other species of the genus is given. Guillebeau did not present either a description of the species or the type locality. Nevertheless the name of the genus *Podocesus*, as well as name of the species *Podocesus semirufus*, should be considered as valid names because of the common description of both taxa – genus and species.

The species of the genus known to date accord well in the basic external characters with the type species, but for the shape of the spine on the hind tibia: posterior tibiae with

one long, stout bifurcate spine medio-apically a little shorter than tarsal segment 1 in *P. semirufus*. In the belief that this character is not of generic importance, the genus *Ledorus* is synonymized with *Podocesus* and some Asian and African species described or referred to under other genera are here transferred to this genus, as below.

# Key to the species of *Podocesus*<sup>4)</sup>

1.	At least elytra covered by microreticulation or by microsculpture consisting of transverse cells
_	Elytra opalescent due to very dense and very fine microstrigosity. Punctures of elytral rows horseshoe- or E-shaped, spaced by about 1–2 times their diameter longitudinally, by 6 times their own diameter from lateral neighbours. Metasternal lines V-shaped. Red, anterior half of elytra black. Aedeagus as in Figs 52, 53. Length 2.2–2.6 mm. Namibia, Tanzania, Rep. S. Africa
2(1)	At least elytra and whole or part of pronotum microsculptured
3(2)	Odd elytral intervals with sparse punctures as large as those of rows. Row punctures round with central seta. Metasternal lines Y-shaped, lateral branch reaching posterior margin of metasternum. Chestnut brown, elytra progressively lighter from middle to apex. Aedeagus as in Figs 47, 48. Length 1.6–2.1 mm. Namibia, Zambia, Zimbabwe, Rep. S. Africa, Kenya.
_	<i>P. capriviensis</i> (Lyubarsky, 1997) Each elytral interval with row of punctures as large as those in primary rows. Row punctures transverse, wrinkle-like (Fig. 50) with central seta. Metasternal lines V-shaped. Chestnut with head and apex of elytra a little lighter. Length 2.0 mm. Colombia
- 4(2)	<i>P. capriviensis</i> (Lyubarsky, 1997) Each elytral interval with row of punctures as large as those in primary rows. Row punctures transverse, wrinkle-like (Fig. 50) with central seta. Metasternal lines V-shaped. Chestnut with head and apex of elytra a little lighter. Length 2.0 mm.
- 4(2)	

<sup>&</sup>lt;sup>4)</sup> LYUBARSKY (1997) described *Olibrus capriviensis* [*nec Podocesus capriviensis* (Lyubarski, 1997)]. Judging from the description and the figure of prosternum, the taxonomical placement of the species under *Olibrus* is very doubtful. The original description and the relevant figures indicate that the species probably belongs to *Tinodemus* Guillebeau, 1894 or to *Podocesus*. The proper placement of the species requires at least the examination of the holotype; this has not been done as part of the present study.

### *Podocesus semirufus* Guillebeau, 1894 (Figs 37–44)

Podocesus semirufus Guillebeau, 1894: 281.

**Material examined.** Lectotype (here designated), male, "Caracas, I 88 E S; Simon; Muséum Paris, Coll. Générale; type; semirufus Guill.", MHNP. The author of the present paper added further to the labels: "Lectotypus Podocesus semirufus Guill. 1894, Z. Švec des. 1999; genitalia in water soluble medium DMHF". (When examining the holotype, it was observed that one mesotibia and tarsus and part of posterior tarsus were missing.)

**Redescription.** Length of body 1.8 mm, head 0.1 mm, pronotum 0.5 mm, elytra 1.2 mm, antenna 0.5 mm, maximum width of head 0.6 mm, pronotum 1.0 mm at base, elytra 1.0 mm at base to anterior third of elytral length.

Oval, parallel in anterior third of elytra then narrowed posteriorly; chestnut brown, head dark reddish, elytra yellow-red in posterior third, border between the colours distinct. Antennae and mouthparts yellow, legs yellow-red. Venter yellow-red.

Head. Without microsculpture but finely and irregularly punctured. Punctures small, setiferous, spaced by 5 or more times their own diameter. Last antennal segment simple, oval, segment 9 distinctly asymmetrical, segment 10 indistinctly so. Maxillary palpus as in Fig. 38.

Pronotum. Without microsculpture but punctured like the head. Anterior margin unbordered. Base feebly bordered in median half. Posterior angles rectangular with sharply rounded tip in dorsal view; very obtuse, rounded in lateral view.

Scutellum. Transversely feebly strigose in posterior two-thirds.

Elytra. Elytra entirely finely and densely microsculptured, transverse strigosities interconnected in some places to form very long, narrow cells. Sutural stria fine, feebly incised, confined to half of elytral length, accompanied by lateral, close-standing row of E-shaped punctures evanescent in basal eighth of elytra. Discal punctures of 5 medial rows quite distinct (elytral sculpture as in Fig. 44), evanescent in basal eighth of elytra; laterally located rows starting row 6 distinct but feeble, progressively shallower and less obtrusive, continuation marked by presence of setae. Punctures become shallower and wrinkle-shaped posteriorly; evanescent in apical eighth of elytra. Row punctures on disc separated by their own diameter longitudinally and by 3 times their own diameter from lateral neighbours. Row intervals with puncturation similar but more sparse than that on pronotum.

Prosternal process. Clearly sharply margined with five apical setae (Fig. 37).

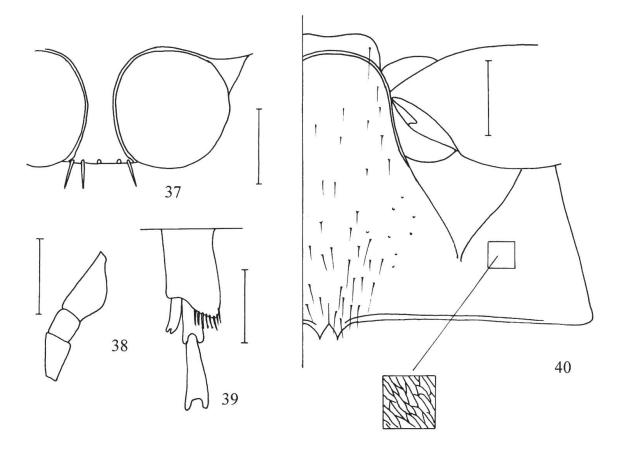
Mesosternum. Short, connecting metasternum at about level of anterior margin of mesocoxae (Fig. 40).

Metasternum. Long – see mesosternum. Metasternal lines resembling letter 'V'. Both branches of metasternal lines well developed, not connected posteriorly, closely but distinctly distant. Metasternal process without any microsculpture, rest of surface transversely microsculptured, median part sparsely finely pubescent.

Legs. Segments 2 and 3 of anterior tarsi feebly dilated in male. Mesotibiae distinctly bent, hind tibiae feebly so. Posterior tibiae with one long, stout, bifurcate spine medio-apically, a little shorter than tarsal segment 1. Tarsal segment 2 twice as long as segment 1 (Fig. 39).

Genitalia. Male genitalia as in Figs 41-43.

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**Figs 37–40.** *Podocesus semirufus* Guillebeau, 1894, lectotype: 37, prosternum; 38, maxillary palpus; 39, distal part of hind tibia; 40, metasternum with swollen part of mesosternum. Scale = 0.1 mm.

### Distribution. Venezuela.

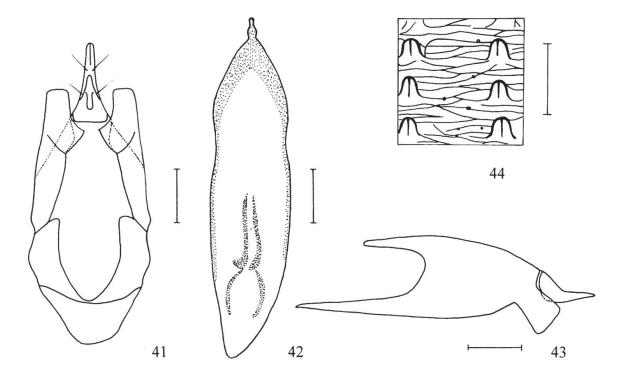
**Remarks.** Taking into account that GUILLEBEAU (1894) presented the original description of the genus *Podocesus* only in the key to the phalacrid genera, but mentioned the type of the genus *Podocesus semirufus* without citing any data about the locality or number of specimens examined, the lectotype was designated in order to prevent future doubt about the status of Guillebeau's type.

## Podocesus capriviensis (Lyubarsky, 1997) comb.nov. (Figs 45–48)

Stilbus capriviensis Lyubarsky, 1997: 35.

**Material examined.** Type material: holotype, male, "Namibia, Exp. ZMB 1992, E Caprivi; 3 km E Katima Mulilo, 17°29'S/24°18'E, Hipp-Camp, in swimming pool, 6.iii.92, leg Uhlig; Namibian National Insect Collection, State Museum, P.O. Box 1203, Windhoek, Namibia; Holotypus, Stilbus capriviensis Lyubarski G.", NMNW.

Other material: 21 males, 11 females, 34 specimens, sex indet., Zambia, 23.iii.1993, 13°06'03''S/ 31°47'32''E, South Luangwa NP, Mfuwe crocodile farm, 450 m, lux, leg. M. Uhlig, MNHUB, SC; male, female, the same data but 21.–24.iii.1993, 13°06'S, 31°47'E, leg J. Deckert, MNHUB; 2 spec. sex indet., Zambia, 29.iii.1993, 15°02' 35''S, 26°00' 09''E, Kafue NP, Chunga Camp, lux, leg. M. Uhlig, MNHUB,



Figs 41–44. *Podocesus semirufus* Guillebeau, 1894, lectotype: 41, dorsally; 42, median lobe of aedeagus dorsally; 43, tegmen laterally; 44, elytral sculpture. Scale = 0.1 mm.

female, Namibia, 12.–13.ii.1994, 27°55'S, 7°29'E, 250 m, Fish River Canyon, Ai-Ais, Fish River banks, reed sieving, leg. M. Uhlig, MNHUB; 3 males, female, Zimbabwe, 1.–5.xii.1993, 20°13'S, 31°00'E, Kyle Recr. Park at Lake Mutirikwi, lux M. Uhlig, MNHUB; 1 spec., sex indet., Rep. S. Africa, 17.xi.1993, 34°27'S, 20°24'E, Cape Province: De Hoop Nat. Res., lake shore, reed sievings, leg. Uhlig, MNHUB; male, 5 females, Rep. S. Africa, 14.xi.1997, 33°59.0'S, 22°40.6'E, Cape Prov.: Wilderness NP: Langvlei, Malachite bird hide, Juncus+bush litter+Phragmites sievings, leg. M. Uhlig, MNHUB, SC; female, R. S. A. Natal, Sodwana Bay Nat. P., 12.xii.1992, leg. F. Koch, MNHUB; male, R. S. A., 12.i.2001, North West Prov., Klerksdorph, 20 km W of Botha Ville, Vaal Riv., leg. M. Sní $\Box$ ek, SC; 4 male, 2 females, Kenya, S. Magadi Lake, Magadi env., 6.xii.1993, leg. M. Sní $\Box$ ek, SC, NHMB.

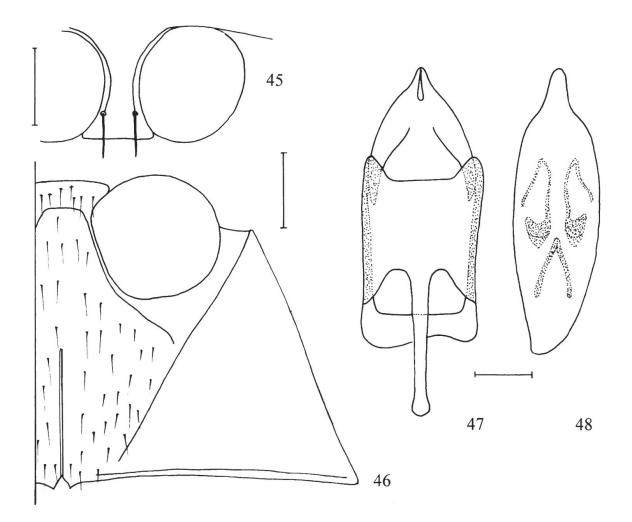
**Variation.** Size range 1.6–2.1 mm. Colour of dorsum chestnut brown with paler hind pronotal angles, elytra become progressively lighter apically with red apex. Anterior half of head yellow-red in the holotype. Some other specimens examined are unicolourous from yellow-red to brown. Microsculpture missing in one specimen from Zambia on head, pronotum of the same specimen with only traces of microsculpture.

Distribution. Namibia, new records for Kenya, Zambia, Zimbabwe, Rep. S. Africa.

**Remarks.** The external basic characters as well as the shape of male and female genitalia (male genitalia as in Figs 47, 48) accord well with the generic characters of the genus *Podocesus*. Therefore the species is transferred to *Podocesus*. Prosternal process, mesosternum and metasternum as in Figs 45, 46.

Although not mentioned in the original description, Y-shaped metasternal lines are present in this species. In contradiction to the original description, 2 preapical setae were also detected on prosternum when the holotype was examined.

Z. Švec



Figs 45–48. *Podocesus capriviensis* (Lyubarsky, 1997), holotype: 45, prosternum; 46, metasternum with swollen part of mesosternum; 47, tegmen dorsally; 48, median lobe of aedeagus dorsally. Scale 0.1 mm.

## Podocesus interpositus (Švec, 1992) comb.nov.

Stilbus interpositus Švec, 1992: 439. Astenulus interpositus: Švec (1999): 497.

Material examined. Holotype, cited in the original description (ŠVEC 1992).

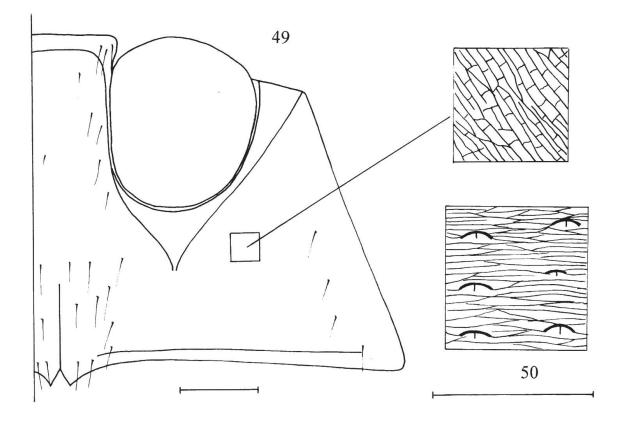
## Distribution. Japan.

**Remarks.** The definition of the species is given in the original description (Švec 1992). Aedeagus as in Švec (1992: Figs 34, 35).

## Podocesus limbatus (Guillebeau, 1894) comb.nov. (Figs 49, 50)

Dolerus limbatus Guillebeau, 1894: 307. Ledorus [limbatus]: GUILLEBEAU (1896): 27.

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Figs 49, 50. *Podocesus limbatus* (Guillebeau, 1894), lectotype: 49, metasternum with swollen part of mesosternum; 50, elytral sculpture. Scale = 0.1 mm.

**Material examined.** Lectotype (here designated), female, "Colombia, Grouvelle; Mus. Paris, Coll. Générale; Type; limbatus Guill.; Ledorus; Dolerus". The author of the present paper added labels as follows: "Lectotypus Dolerus limbatus Guillebeau, 1894, Z. Švec des. 1999; antenna in DMHF – water soluble medium", MHNP.

(It was observed upon examination that the type had been seriously damaged. The pronotum and one elytron had been separated from the body and glued onto the same card, the maxillary palpi and a part of the median tarsus were missing. The ovipositor had been damaged. The specimen was in a very fragile state.)

**Redescription.** Length of body 2.0 mm, head 0.2 mm, pronotum 0.5 mm, elytra 1.3 mm, antenna 0.5 mm, maximum width of head 0.6 mm, pronotum 1.1 mm at base, elytra 1.3 mm just behind shoulders.

Oval, chestnut coloured, head and apex of elytra a little lighter, antennae, mouthparts and legs yellow-red, venter yellow-red.

Head. Transversely microsculptured with transverse strigosities interconnected in some places to form very long, narrow cells; finely and irregularly punctured. Punctures small, separated by 2–6 times their own diameter. Last antennal segment simple, oval, very feebly asymmetrical, segment 9 feebly asymmetrical.

Pronotum. Microsculpture as on head. Punctures finer and sparser than on head, separated by about 2–10 or more times their own diameter. Anterior margin bordered, base bordered in median quarter. Posterior angles obtuse with very sharply rounded tip

in dorsal view, base feebly emarginated before angles. Posterior angles rectangular, closely rounded in lateral view.

Scutellum. Transversely feebly microsculptured as on pronotum.

Elytra. Entire elytra finely and densely microsculptured with transverse strigosities interconnected in some places to form very long, narrow cells. Sutural stria fine, shallowly incised, confined to apical half of elytra. Discal punctures transversely wrinkle-shaped, arranged in feeble, longitudinal rows, evanescent anteriorly, posteriorly and also laterally. Discal row punctures separated by about 4 times their own diameter from next lateral primary rows. Row intervals with puncturation similar to those in rows but less regular (Fig. 50).

Prosternal process. Clearly and sharply margined, apical setae not detected.

Mesosternum. Short, connecting metasternum at about the level of anterior margin of mesocoxae (Fig. 49).

Metasternum. Long – see mesosternum. Metasternal lines resembling letter 'V'. Both branches well developed, posteriorly not connected, very closely contiguous. Metasternal process without any microsculpture, rest of surface transversely microsculptured, metasternal process sparsely public posterior part more densely so.

Legs. Protibiae straight with two latero-apical spines, mesotibiae distinctly bent, hind tibiae feebly so, with crown of equally long spines apically. Segment 2 of metatarsi more than twice as long as segment 1.

Genitalia. Ovipositor distinctly developed.

Distribution. Colombia.

**Remarks.** GUILLEBEAU (1894) mentioned setose prosternal process and a bordered elytral suture in the original description. These characters were not detected in the lectotype.

## *Podocesus rufopunctatus* (Lyubarsky, 1997) comb.nov. (Figs 51–53)

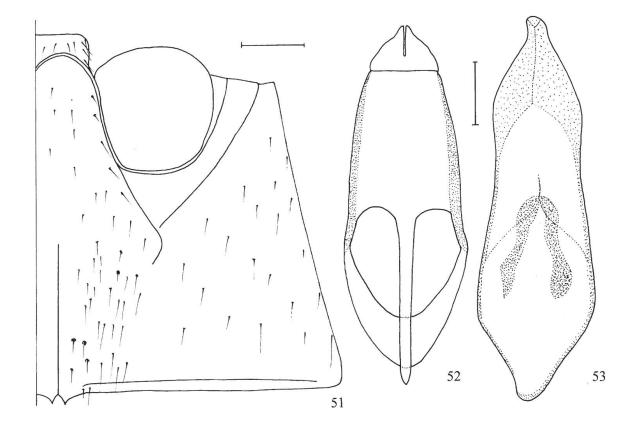
Olibrus rufopunctatus Lyubarsky, 1997: 23.

**Material examined.** Type material: holotype, male, "Namibia-Exp. ZMB 1992, East Caprivi: Katima Mulilo, lux, 17°29'S/24°17'E, 3.–8.iii.1992, leg. M. Uhlig; Holotype Olibrus rufopunctatus sp.nov.; Namibian National Insect Collection, State Museum, P.O. Box 1203, Windhoek Namibia", NMNW. Further material: 3 males, 1 female, 45 spec. sex indet., Brit. O. Africa [Tanzania], Kibwezi, 1907, leg. Scheffler, MNHUB, SC, NHMB; male, Südafrika, 10.ii.1995, Kwa Zulu-Natal: Hluhluwe Game Res., 29°02'S/32°05'E, leg. F. Koch, MNHUB.

Distribution. Namibia, new for Tanzania and Rep. S. Africa.

**Remarks.** All the generic characters of the holotype of *Olibrus rufopunctatus* accord well with those in *Podocesus*. Therefore the species is transferred to this genus.

Although not mentioned in the original description, metasternal V-shaped lines are present in the holotype. In contradiction to the original description no shagreen effect was observed on the dorsum of the holotype; in fact the elytra are extremely finely and densely transversely microstrigose, opalescent; pronotum with traces of similar microstrigosity. Metasternum as in Fig. 51, aedeagus as in Figs 52, 53.



**Figs 51–53.** *Podocesus rufopunctatus* (Lyubarsky, 1897), holotype: 51, metasternum with swollen part of mesosternum; 52, tegmen dorsally; 53, median lobe of aedeagus dorsally. Scale = 0.1 mm.

### Review of the species of Entomocnemus

### Entomocnemus Guillebeau, 1894 stat.nov.

*Entomocnemus* Guillebeau, 1894: 307 (subgen. of *Eustilbus* Sharp, 1889; type species *Eustilbus raffrayi* Guillebeau, 1894 by original designation).

**Diagnosis.** 1. Body oval, glossy, moderately convex, length about 2.0–3.0 mm. 2. Antennal club 3-segmented, loose (Fig. 62); segments 9 and 10 distinctly asymmetrical, segment 11 feebly so. 3. Last segment of maxillary palpi oblong oval with obliquely depressed tip. 4. Anterolateral margin of head emarginate at the site of antennal reticulation. 5. Scutellum of normal size. 6. Elytra transversely, extremely finely and densely microstrigose, therefore at least partly opalescent. 7. Each elytra with only one stria attached to suture. 8. Elytral suture not bordered. 9. Prosternal process extending beyond procoxae, widened and rounded apically with clear margin, lacking apical or preapical setae (Figs 55, 58). 10. Procoxae obliquely oval. 11. Swollen part of mesosternum notched anteriorly, V-shaped (Figs 54, 57, 61). 12. Mesocoxae round, widely separated by metasternal process extending from mid- to apical three-quarters of coxal length. 13. Metasternal lines absent. 14. Legs short, simple, meso-tibiae feebly bent, hind tibiae straight or very feebly bent. 15. Hind tibiae crowned by short spines apically with one medial spine longer than others but shorter than tarsal segment 1. 16.

Hind tarsi longer than anterior and middle tarsi. 17. Segment 1 of hind tarsi about equal to segment 2 or shorter. 18. Articulation of tarsal segments free. 19. Tegmen composed of basal piece and fused parameres. Both parts of aedeagus connected by articulation. Parameral segment movable, longitudinally divided by suture (Figs 63). 20. Ovipositor and spermatheca as in Figs 59, 60).

Distribution. S.E. Asia, Africa.

**Remarks.** *Entomocnemus* clearly belongs to the subfamily Phalacrinae and through its sternal structures probably belongs close to the generic *Stilbus*-group (ŠVEC 2002). No detailed taxonomic classification of Phalacrinae exists at present (LAWRENCE & NEWTON 1995; LAWRENCE et al. 1999).

GUILLEBEAU (1884) mentioned in the original description that *Entomocnemus* differs from *Eustilbus* (now *Stilbus*) s.str. in emarginated anterior femora, but this character can also be observed in *Stilbus testaceus*, the type species of the genus, and also in other species. So this character cannot determine *Entomocnemus* for a subgenus of *Stilbus*. In fact *Entomocnemus* differs in many other characters from *Stilbus*. The significant characters detected in the holotype of *Entomocnemus raffrayi* Guillebeau, 1894 differentiating *Entomocnemus* from all other phalacrid genera then known are given above in the diagnosis. *Entomocnemus* is given new status as a genus.

CHAMPION (1924) described the genus *Stilbomimus* with four species from India, Borneo, Java and Sri Lanka. Later CHAMPION (1925) described further species from Africa. Examination of the types of all African species of *Stilbomimus* shows they belong to the genus *Entomocnemus*. It is also likely that the Asian species of *Stilbomimus* belong to *Entomocnemus* but the synonymy of *Stilbomimus* and *Entomocnemus* cannot be proposed without examination of the type species of *Stilbomimus*.

At present only three species belong to the genus. The key to the identification of the all currently known species of *Entomocnemus* is as follows:

- Hind angles of pronotum distinctly obtuse in lateral view. Elytral intervals with small, superficial punctures much smaller than those of rows. Base bordered in median two-thirds. Metasternum with a few small, fine, scattered punctures. Length 2.2 mm.

Ethiopia. ..... E. raffrayi Guillebeau, 1894

Pronotal base emarginate before acute hind angles. Almost all of pronotal base bordered. Metasternum with large, irregularly distributed punctures. Segment 2 of posterior tarsi almost twice as long as segment 1. Length 2.7 mm.

Zambia (?). ..... E. nyasanus (Champion, 1925)

 Pronotal base before rectangular hind angles of pronotum straight, bordered in median third. Metasternum with small, superficial, regularly distributed punctures. Segment 2 of posterior tarsi a little longer than segment 1. Length 2.7–2.9 mm.

Zimbabwe, Zambia(?). ..... E. rhodesianus (Champion, 1925)

## Entomocnemus raffrayi Guillebeau, 1894 comb.nov. (Figs 54–56)

Eustilbus (Entomocnemus) raffrayi Guillebeau, 1894: 307.

**Material examined.** Holotype, female, "Abyss., Raffray; Grouvelle; Mus. Paris, Coll. Générale", MHNP. (The type had been damaged – antennae, medial and hind tarsus as well as part of second hind tarsus missing.)

**Redescription.** Length of body 2.2 mm, head 0.2 mm, pronotum 0.5 mm, elytra 1.5 mm, maximum width of head 0.6 mm, pronotum 1.1 mm at base, elytra 1.3 mm just behind shoulders.

Oval, chestnut coloured, pronotal margins a little lighter, antennae, mouthparts and legs yellow-red, venter red-brown.

Head. Without microsculpture, with fine double puncturation. Larger punctures separated by about 3 times their own diameter, smaller punctures separated by about 2–3 times their own diameter interposed. Vertex with transverse, unobtrusive, obtuse keel.

Pronotum. Without microsculpture, triple punctate. Largest punctures sparse, punctures of medium size separated by about 4–5 times their own diameter, smallest punctures interspersed, separated by about 3–4 times their own diameter. Anterior margin bordered, base bordered in median two-thirds. Posterior angles very obtuse with very sharply rounded tip in dorsal view, base oblique before angles. Posterior angles very obtuse, rounded in lateral view.

Scutellum. Without microsculpture.

Elytra. Entirely extremely finely and extremely densely microsculptured with transverse strigosities. Sutural stria fine, shallowly incised but distinct and confined to apical four-fifths of elytra. Discal punctures small but distinct, circular, arranged in rows located in longitudinal, wide, shallowly incised striae. Row punctures separated by about 2–3 times their own diameter longitudinally, by about 4 times their own diameter from next rows. Row intervals with puncturation dense and fine, punctures separated by about 3–4 times their own diameter. Some larger punctures rarely interposed in intervals (Fig. 56).

Prosternal process. As in Fig. 55.

Mesosternum. Swollen part of mesosternum long, open V-shaped notched, connecting metasternum at about level of anterior three-quarters of mesocoxal length (Fig. 54).

Metasternum. Short – see mesosternum. Without microsculpture but obliquely microsculptured lateral parts. Metasternal process smooth, rest of metasternal surface very sparsely irregularly punctured. Punctures furnished with long hairs.

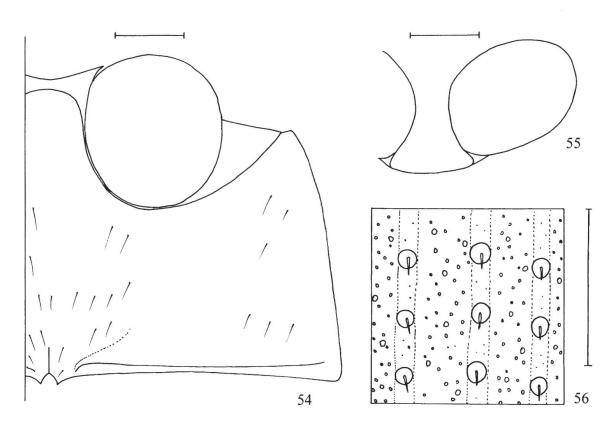
Legs. Protibiae and metatibiae straight, mesotibiae feebly bent, metatibiae crowned by equally long spines apically with one medial spur as long as half of tarsal segment 1, a little longer than crown of spines. Segment 1 of metatarsi as long as segment 2.

Genitalia. Not examined.

## Distribution. Ethiopia.

**Remarks.** In contradiction to the original description no metasternal lines were detected in the holotype nor were there apical setae on prosternal process. Also hind pronotal angles were obtuse, not rectangular, in the holotype.





Figs 54–56. *Entomocnemus raffrayi* Guillebeau, 1894, holotype: 54, metasternum with swollen part of mesosternum; 55, prosternum; 56, puncturation of elytron. Scale = 0.1 mm.

### *Entomocnemus nyasanus* (Champion, 1925) comb.nov. (Figs 57–60)

Stilbomimus nyasanus Champion, 1925: 50.

**Material examined.** Holotype, female: "Mlanje, Nyasaland, 6.12.1912, S. A. Neave; type, HT; 1913–140; Stilbomimus ?nyasanus, type; A.M.N.H 1925, det G.C.C., Stilbomimus nyasanus Champion.", NHML.

**Redescription.** Length of body 2.7 mm, head 0.2 mm, pronotum 0.5 mm, elytra 2.0 mm, antenna 0.7 mm, maximum width of head 0.9 mm, pronotum 1.6 mm at base, elytra 1.7 mm at anterior third.

Broadly oval, brown-black, antennae, mouthparts, legs and venter reddish.

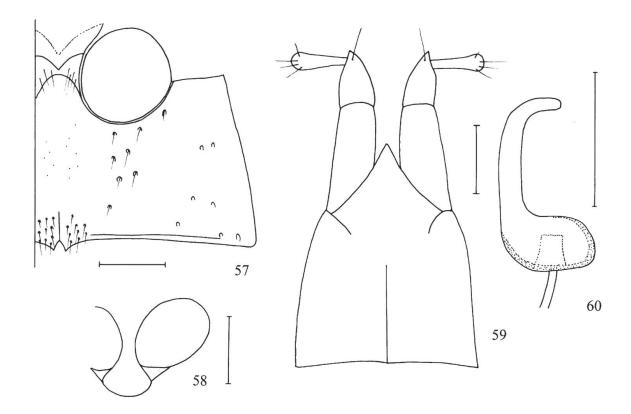
Head. Without microsculpture, finely double punctured. Larger punctures separated by about 4–6 times their own diameter, some smaller fine punctures interposed.

Pronotum. Without microsculpture, double punctate. Larger punctures separated by about 6–8 times their own diameter, some smaller fine punctures interposed. Anterior margin bordered, almost all of the base bordered except close to posterior angles. Posterior angles very acute with closely rounded tip in dorsal view, base emarginate before angles. Posterior angles acute, rounded in lateral view.

Scutellum. With microsculpture consisting of long, transverse cells; with several very small, fine punctures.

Elytra. Entire elytra extremely finely and densely microsculptured transversely. Sutural stria fine, shallowly incised but distinct and confined to apical two-thirds of

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Figs 57–60. Entomocnemus nyasanus (Champion, 1925), holotype: 57, metasternum with swollen part of mesosternum; 58, prosternum; 59, ovopositor; 60, spermatheca. Figs 57–58: Scale = 0.2 mm. Figs 59–60: Scale = 0.1 mm.

elytra. Sutural striae fine, shallowly incised, punctate, confined to apical two-thirds of elytra. Discal punctures small but distinct, circular, arranged in rows located in longitudinal, incised striae resembling sutural stria. Row punctures separated by about 2 times their own diameter longitudinally. Row intervals with puncturation sparse and fine, punctures separated by about 8 or more times their own diameter. Some larger punctures rarely interposed in odd intervals.

Prosternum. As in Fig. 58.

Mesosternum. Swollen part of mesosternum long, open V-shaped, notched, contacting metasternum at about half of length of mesocoxae (Fig. 57).

Metasternum. Short – see mesosternum. Metasternum obliquely microsculptured laterally. Metasternal process smooth, rest of metasternal surface with sparse irregularly separated large punctures as in Fig. 57. Punctures furnished with short seta.

Legs. Protibiae and metatibiae straight, mesotibiae feebly bent, metatibiae crowned by unequally long spines apically with one medial spur reaching three-quarters of length of tarsal segment 1. Segment 2 of metatarsi almost twice as long as segment 1.

Genitalia. Female genitalia as in Figs 59, 60. Male unknown.

**Distribution.** Zambia(?).

## *Entomocnemus rhodesianus* (Champion, 1925) comb.nov. (Figs 61–64)

Stilbomimus rhodesianus Champion, 1925: 50. Stilbomimus opalinus Champion, 1925: 51 syn.nov.

**Material examined.** *Stilbomimus rhodesianus*: holotype, male, "N.W. Rhodesia, Mwengwa, 27°14′E 13°S, 27.vii.1914, H. C. Dollman; H. C. Dollman Coll. 1919–79; sterna as in Stilbus; Stilbomimus rhodesianus Ch., type; Stilbomimus rhodesianus Champion; A.M.N.H. 1925, det. G.C.C.", [N.B. The geographical location given in degrees does not seem to be correct.], NHML. *Stilbomimus opalinus*: holotype, male, "Mlanje, Nyasaland, 6.12.1912, S. A. Neave", NHML.

**Redescription.** Length of body 2.7–2.9 mm, in holotype 2.9 mm, head 0.2 mm, pronotum 0.5 mm, elytra 2.2 mm, antenna 1.0 mm, maximum width of head 0.9 mm, pronotum 1.7 mm at base, elytra 1.9 mm just behind shoulders.

Broadly oval, reddish with darker base of pronotum and narrowly darkened elytra along suture. Apical part of elytra opalescent. Antennae and mouthparts yellow, legs and venter yellow-red.

Head. Without microsculpture, double punctured with setiferous punctures separated by about 2–3 times their own diameter, some smaller fine punctures interposed. Antenna as in Fig. 62.

Pronotum. Without microsculpture, double punctate. Larger punctures separated by about 4–6 times their own diameter, some very small, fine punctures interposed. Anterior margin bordered, base bordered in median third. Posterior angles acute with sharply rounded tip in dorsal view. Posterior angles rectangular, pointed in lateral view.

Scutellum. Transversely microstrigose.

Elytra. Entire elytra extremely finely and densely microsculptured with transverse strigosities. Sutural stria fine, confined to apical two-thirds of elytra, continuing towards base as row of small punctures. Elytra with regular rows of small, fine punctures. Punctures of row 1 situated laterally from suture separated by 5–6 times their own diameter longitudinally, other lateral rows starting with 2nd stria consist of punctures separated by about 1–2 times their own diameter longitudinally. Lateral row situated near lateral margin evanescent at about anterior third of elytra. Row intervals with puncturation sparse and very fine. Some larger punctures occasionally distributed in intervals.

Mesosternum. Swollen part of mesosternum long, open V-shaped notched connecting metasternum at about half of length of mesocoxae (Fig. 61).

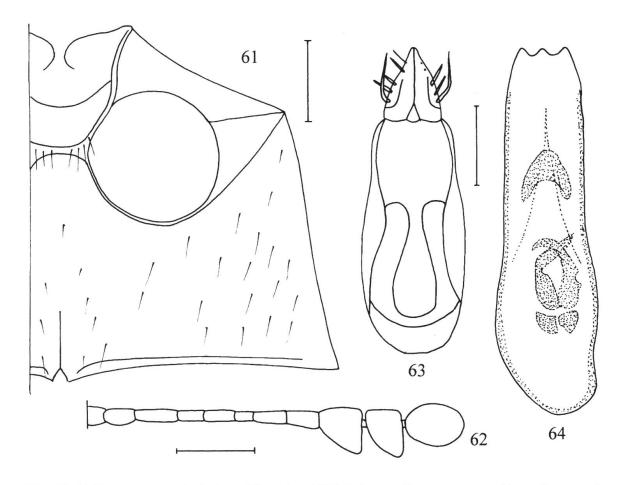
Metasternum. Short – see mesosternum. Obliquely microsculptured with very sparse, fine pucturation (Fig. 61). Punctures setose.

Legs. Protibiae and metatibiae straight, mesotibiae feebly bent, metatibiae crowned by unequally long spines apically with one medial spur reaching proximal quarter of tarsal segment 1. Segment 2 of metatarsi a little shorter than segment 1. Segments 1–3 of anterior tarsi feebly widened in male. Tarsal formula 5–5–4 in male.

Genitalia. Male genitalia as in Figs 63, 64. Female unknown.

Distribution. Zimbabwe, Zambia(?).

**Remarks.** Scutellum transversely microsculptured with long cells; fine punctures of elytral row 1 and 2 spaced by 3–4 times their own diameter, row 3 with more closely punctures separated by about 3 times their own diameter, other lateral rows with very



Figs 61–64. *Entomocnemus rhodesianus* (Champion, 1925), holotype: 61, metasternum with swollen part of mesosternum; 62, antenna; 63, tegmen dorsally; 64, median lobe of aedeagus dorsally. Scale = 0.2 mm.

fine and feebly impressed punctures; lateral 3 rows shortened before base in the holotype of *Entomocnemus opalinus*. All other characters, including the shape of male genitalia, accord well with *E. rhodesianus*. Therefore *E. opalinus* is proposed as junior synonym of *E. rhodesianus*.

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### Z. Švec

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