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The genus *Synolcus* Loew, 1858, with descriptions of new species (Diptera: Asilidae)

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ABSTRACT

The genus *Synolcus* Loew, 1858 is fully revised. This southern African endemic has 13 valid species, of which four are newly described: *armstrongi* (South Africa: KwaZulu-Natal), *macrocercus* (South Africa: Western Cape and Northern Cape), *namibiensis* (southern Namibia), *ukhahlamba* (South Africa: KwaZulu-Natal). *Asilus incisuralis* Macquart, 1838 is a new synonym of *Asilus acrobaptus* Wiedemann, 1828. All species are described or redescribed, illustrated and mapped. A key for their identification is provided, while the taxonomy, distribution and biology of the group are discussed.

KEY WORDS: Afrotropical, Asilidae, *Synolcus*, robber flies, taxonomy, new species, identification key.

INTRODUCTION

Synolcus Loew, 1858 is a small, but interesting Afrotropical endemic confined to the southern parts of Africa. Although the genus was reviewed some thirty years ago (Londt 1980) and further discussed ten years later (Londt 1990), collecting activities have led to the acquisition of many more specimens which now allow for the description of four new species and a better appreciation of the distributions of previously recorded species. For these reasons a modern review of the genus is appropriate.

A brief history of taxonomic publications relating to *Synolcus* is as follows:

Wiedemann (1828) – Described *Asilus acrobaptus* from 'Bom Kap' (i.e. 'from the Cape' – meaning the then Cape of Good Hope, an area more of less equivalent to the present day Western Cape Province of South Africa).

Macquart (1838) – Described *Asilus incisuralis* with the brief comment 'L'un et l'autre sont du Cap. Collection de M. Serville'.

Macquart (1846) – Described *Asilus dubius* from 'Port Natal, et de la Cafrerie'. (Port Natal being present day Durban in KwaZulu-Natal, South Africa. Cafrerie, more commonly written Caffraria, was a name used for an extensive area of eastern southern Africa without precise borders.)

Loew (1858) – Erected the genus *Synolcus* to include three species collected by Wahlberg in Caffraria; two that were newly described (*tenuiventris* and *signatus*) and *dubius*. A type species was not designated.

Loew (1860) – Repeated his 1858 decisions, but providing full descriptions of the three species known to him, including illustrations assigned to *signatus*.

Kertész (1909) – In his World catalogue included *acrobaptus*, *dubius* (with *signatus* as a synonym) and *tenuiventris*.

Engel (1927) – Described a new species, *griseus*, from 'Cape Colony' (then including much of the present day Western Cape, Eastern Cape and Northern Cape provinces of South Africa) and keyed the four species known to him (*acrobaptus*, *dubius*, *griseus*, *tenuiventris*).

Engel (1929) – Described *aurulentus* from Knysna (Western Cape, South Africa).

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Bromley (1947) – Described *Merogymnus minor* from Eshowe (KwaZulu-Natal, South Africa).

Bromley (1952) – Reported that *Merogymnus* Hobby, 1933 was a junior homonym and so provided the new generic name *Hobbyus* Bromley, 1952 (with *Merogymnus nigroflavipes* Hobby, 1933 as type species). No mention of *minor* was made.

Hull (1962) – In revising the asilid genera of the world included the following species in *Synolcus* – *acrobaptus*, *aurulentus*, *dubius*, *griseus*, *signatus* (its synonymy with *dubius* being ignored) and *tenuiventris*. Bromley's *minor* was listed under *Hobbyus*.

Hull (1967) – Described the subspecies *aurulentus rufus* from the Tsitsikamma Forest, Stormsrivier and Humansdorp (all in Eastern Cape, South Africa) and *compressus* from Hout Bay (Western Cape).

Oldroyd (1974) – In his coverage of southern African asilids, keyed *acrobaptus*, *aurulentus*, *dubius*, *griseus*, *tenuiventris* in *Synolcus*. He included *minor* in a key to species of *Hobbyus* but was apparently unaware of Hull's *rufus* and *compressus*.

Oldroyd (1980) – Catalogued the following *Synolcus* species, *acrobaptus* (with *signatus* as a synonym), *aurulentus* (with subspecies *aurulentus* and *rufus*), *compressus*, *dubius*, *griseus*, *incisuralis* and *tenuiventris*. Bromley's *minor* was listed under *Hobbyus*.

Londt (1980) – Reviewed the genus – *tenuiventris* was synonymised with *dubius*, *aurulentus rufus* was not recognized, *minor* was transferred from *Hobbyus* to *Synolcus*, and a new South African species, *spinosus*, was described. A key was provided to the six species covered (*acrobaptus*, *aurulentus*, *dubius*, *griseus*, *minor*, *spinosus*). He stated that *compressus* had been found to be a *Dasophrys* Loew, 1858 and that it would be included in a revision of that genus.

Londt (1981) – In revising *Dasophrys*, *Hobbyus* was synonymised with *Dasophrys* and *compressus* formally transferred to the genus.

Londt (1990) – Added three new species, *amnoni* and *argentius* from South Africa and *malawi* from Malawi, thereby greatly extending the distribution range of the genus. A new key was provided to the nine then recognised species (*acrobaptus*, *amnoni*, *argentius*, *aurulentus*, *dubius*, *griseus*, *malawi*, *minor*, *spinosus*).

There were, therefore, nine valid species of *Synolcus*—those listed by Londt (1990)—at the commencement of this study. Oldroyd (1980) included *Asilus incisuralis* Macquart, 1838 in the Afrotropical Catalogue without explanation, and so it remains necessary to check the type(s) of this species in order to verify the assignment.

MATERIAL AND METHODS

Material

Specimens listed in this paper are housed in the following institutions (names of curators responsible for loans are provided in brackets):

BMNH – The Natural History Museum, London, UK (E. McAlister);
DMSA – Durban Natural Science Museum (K. Williams);
NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden (B. Viklund);
NMNW – National Museum of Namibia, Windhoek, Namibia (A. Kirk-Spriggs);
NMSA – KwaZulu-Natal Museum, Pietermaritzburg, South Africa (M. Mostovski);

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SAMC – South African Museum, Cape Town, South Africa (M. Cochrane);
SANC – National Collection of Insects, Pretoria, South Africa (R. Urban);
ZMHB – Museum für Naturkunde, Humboldt Universität zu Berlin, Germany (J. Ziegler);
ZSMC – Zoologische Staatssammlung, Munich, Germany (B. Stock).

All available material is listed using two scenarios. Type material is documented by giving full details regarding all label data. Information pertaining to a label is contained within single inverted commas while data appearing on separate lines are indicated by the use of spaced slashes (/). Other material examined is arranged geographically (countries listed alphabetically) and numerically according to (1) quarter degree grid square, and (2) latitude. Data are presented in the following standardized order: country, number and sex of specimens ('?' for those lacking terminalia), locality, coordinates (or quarter degree reference), altitude, collection date, collector(s) (excluding initials), any biological or ecological information of possible value, repository (NMSA unless otherwise indicated). Information appearing in square brackets represents additional information not appearing on labels or comment. Although a number of the listed specimens have been recorded before (Londt 1980, 1990), these are listed again for reasons of completeness, the opportunity to correct some minor errors, and to facilitate electronic capture of the information.

Descriptive passages

A brief generic diagnosis is provided. If a fuller description is required, that of Hull (1962) may be consulted. Species descriptions are based on all available material, and focus chiefly on characteristics that are considered reasonably helpful in the separation of species. The most important diagnostic features relate to the shapes of male terminalia. It should be noted that in order to fully view and study male genitalia, these need to be excised, softened through maceration in 10% potassium hydroxide and physically extruded. However, once familiar with features useful in differentiating species it is possible, in most instances, to see these in well preserved dry-mounted specimens. Excised genitalia were not dissected in order to maintain their integrity. Details of structures normally hidden from view (e.g. aedeagal base and gonostylus) may be appreciated with minimal manipulation or may be visible through well cleared overlying structures.

Descriptions and redescriptions are based on all available material as listed. Final illustrations of genitalia were prepared from pencil drawings (made using a drawing tube) without employing any graphic software for their manipulation and do not usually depict setae unless these are considered of particular diagnostic importance. Measurements were taken as follows: Antenna: The lengths of scape, pedicel, postpedicel, and stylus were measured. Wing length is measured from humeral crossvein to tip, while breadth is measured at the level of the r–m crossvein. When photographing wings every effort was made to avoid removing these from specimens. This was possible only when the wing was flat and could be viewed without other structures obscuring it. When this was not possible it was necessary to remove wings and to place them between two glass slides in order to achieve the best results. Detached wings were reattached using clear nail varnish. Standard abbreviations are used, chiefly in accordance with McAlpine (1981) and are listed as follows: *acr* – acrostichal setae, *aed* – aedeagus, *anatg* – anatergite, *cx* – coxa/

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coxae (1 – prothoracic, 2 – mesothoracic, 3 – metathoracic), *dc* – dorsocentral setae, *epand* – epandrium/epandrial, *fem* – femur/femora (1 – prothoracic, 2 – mesothoracic, 3 – metathoracic), *goncx* – gonocoxite (with outer and inner lobes), *gonst* – gonostylus, *hypd* – hypandrium, *ktg* – katatergite, *npl* – notopleural setae, *pal* – postalar setae, *proct* – proctiger, r–m – radial-medial cross vein, Rs – radial sector, S – sternite(s), *sc* – subcostal cell; sc–r – subcostal-radial crossvein in the distal part of *sc*; *spal* – supra-alar setae, T – tergite(s), *tar* – tarsus/tarsi (1 – prothoracic, 2 – mesothoracic, 3 – metathoracic), *tib* – tibia/tibiae (1 – prothoracic, 2 – mesothoracic, 3 – metathoracic), *tro* – trochanter/trochanters (1 – prothoracic, 2 – mesothoracic, 3 – metathoracic).

Morphology

The following notes relate to anatomy shared by all species.

Head: Antenna: Postpedicel tipped with well-developed stylus comprising three elements – a shortish, but well defined basal 'segment' followed by a fairly long, slender central 'segment' which is tipped by a short terminal seta-like sensory element whose relationship with the central 'segment' is difficult to discern. In describing the antenna, mean segmental ratios are provided. Measurements are relative to the length of the scape (taken as 1). Figures provided are therefore for the scape : pedicel : postpedicel : stylus. The lengths of the three elements of the stylus are then indicated in brackets (i.e. basal 'segment' : central 'segment' : terminal sensory element). Face: The profile shows only a slight protuberance ventrally. The mystax extends down the entire profile except perhaps for a very narrow strip just below the antennal sockets. There are asetose, pruinose strips separating the mystax from the eyes. Occiput: The dorsal macrosetae are always strongly proclinate while ventral setae are long and thin. Palpi: Single-segmented, blackish, elongate spindle-shaped, setae black (distally) and white (proximally). Proboscis: Projects well beyond lower facial margin, dark red-brown to black, whitish setose.

Thorax: Pleura: Anatergites asetose. Legs: Claws dark red-brown to black with paler proximal parts. Pulvilli well-developed, pale yellow-brown. Empodia orange to dark red-brown and shorter than pulvilli.

TAXONOMY

Genus *Synolcus* Loew, 1858

Synolcus: Loew 1858*c*: 362 [1860*c*: 219]. Type species: *Asilus dubius* Macquart, 1846 (Fig. 1), by designation of Hull (1962: 524). [Type species not designated by Loew (1860); (statement of Hull 1962: 524) in error.]

Diagnosis: Asilidae with the following combination of characters: Antennal stylus asetose and composed of three elements (2 segment-like elements tipped with a seta-like sensory element); face plane or slightly convex; dorsal postocular macrosetae long, markedly proclinate; palpus 1-segmented; postmetacoxal area membranous; anepisternum lacking strong macroseta at superoposterior angle; anatergites asetose; katatergite with vertical row of macrosetae; prothoracic tibiae without apical spur; metacoxa with at least one lateral macroseta; R_{2+3} joining R_1 proximal to end of R_1 (i.e. cell r_1 closed); discal cell markedly constricted at midlength; cell r_5 open at wing margin; posterior margin of wing with single row of microtrichiae lying in same plane as membrane; ovipositor usually at least twice as long as deep and lacking spines.

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Fig. 1. *Synolcus dubius* (Macquart, 1846), entire male specimen (Kosi Bay Nat. Res.).

Synolcus acrobaptus (Wiedemann, 1828)

Figs 2, 15–21, 76, 88

Asilus acrobaptus: Wiedemann 1828: 449.
Asilus incisuralis Macquart, 1838: 140. **Syn. n.**
Synolcus signatus Loew, 1858: 362; 1860: 148–149, figs 1a (♂ gen.), 1b (♂ wing), 1c (head), 2a (♀ wing), 2b (♀ gen.); Kertész 1909: 282 (catalogue); Engel 1927: 145; Hull 1962: 526; Oldroyd 1974: 165; 1980: 346 (catalogue); Londt 1980: 30–32.
Synolcus acrobaptus: Kertész 1909: 282 (catalogue); Engel 1927: 145–146, figs 8 (♂ gen.), 8a (♀ gen.); Hull 1962: 526, figs 724 (wing), 1459, 1469 (head); Oldroyd 1974: 165, fig. 161 (wing); 1980: 346 (catalogue); Londt 1980: 25–27, figs 2 (wing), 8–10 (♂ gen.), 11 (♀ gen.); 1990: 2, 9.

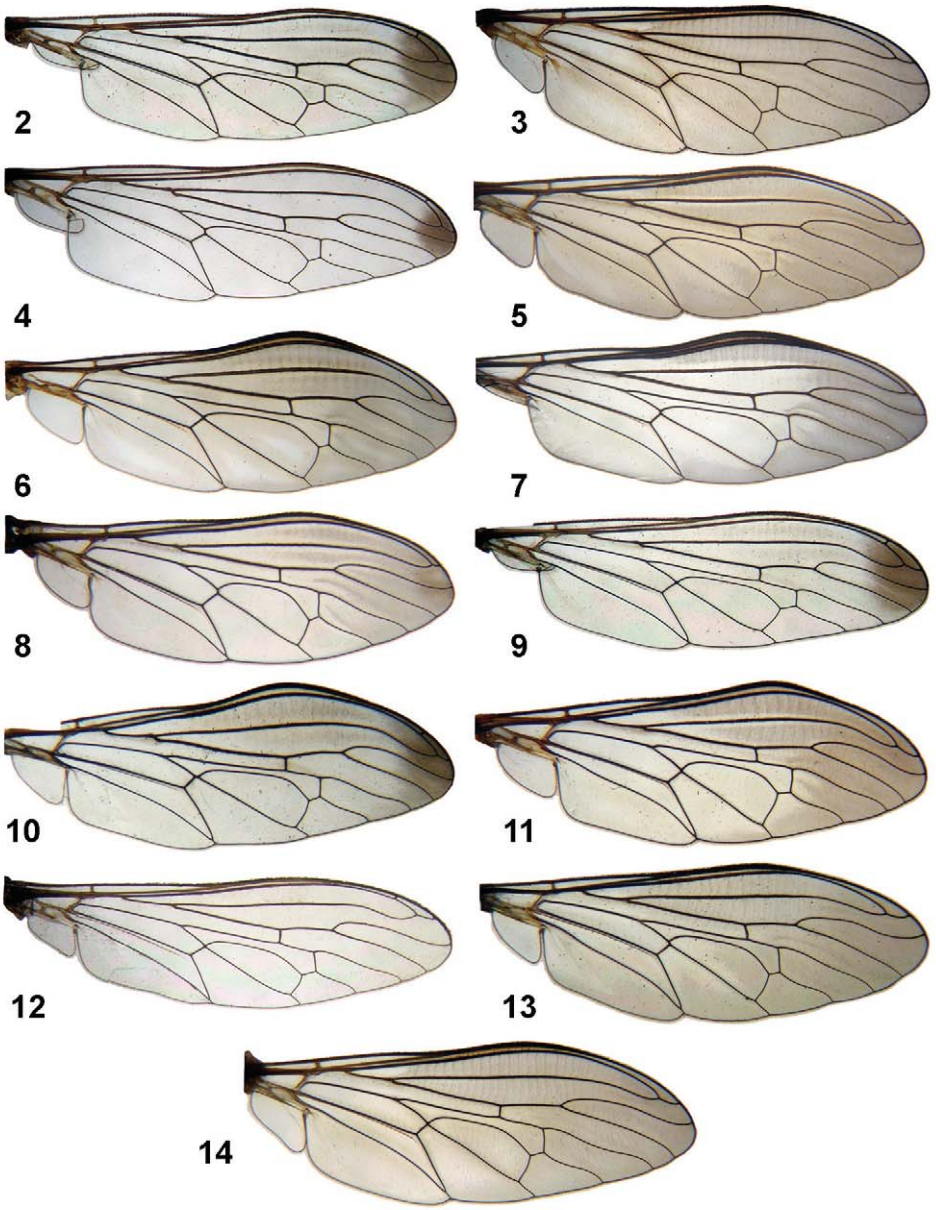
Notes on synonymies:

Asilus incisuralis Macquart, 1838

Oldroyd (1980), without explanation, catalogued *Asilus incisuralis* Macquart, 1838 as a valid *Synolcus*. This species had never before been associated with the genus. Unfortunately efforts to trace Macquart's material, believed to be in the Museum National d'Histoire Naturelle, Paris, France, proved unsuccessful. Macquart's (1838: 140) description of *Asilus incisuralis* is brief and is reproduced below as it appears in the original publication.

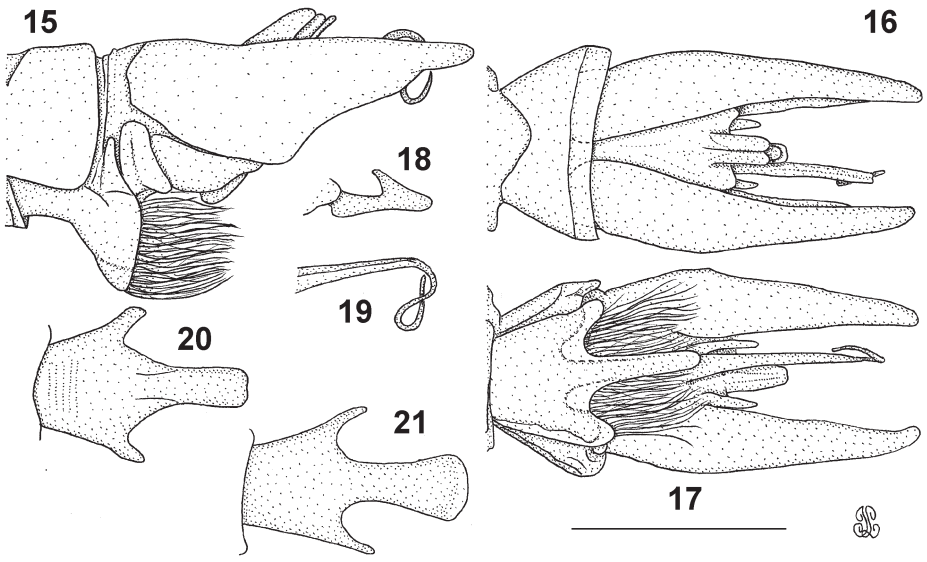
> 13. Asilus incisuralis, *Nob*.
> *Ater. Abdomine basi, incisurisque albidis. Pedibus nigris. Alis fuscanis, dilatatis* ♂.
>
> Long. 5 l. ♂
>
> Face à duvet blanchâtre; moustache noire en-dessus, blanche en-dessous. Barbe blanche. Thorax cendré, à larges bandes noires. Abdomen noir; les deux premiers segments à léger duvet blanc; les

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Figs 2–14. *Synolcus* species, ♂ wing venation: (2) *S. acrobaptus* (Wiedemann, 1828) (Gydo); (3) *S. amnoni* Londt, 1990 (Nkhandla); (4) *S. argentius* Londt, 1990 (5 km NE Grootderm); (5) *S. armstrongi* sp. n. (Karkloof paratype); (6) *S. aurulentus* Engel, 1929 (Outeniqua); (7) *S. dubius* (Macquart, 1846) (Ntumeni); (8) *S. griseus* Engel, 1927 (Entabeni); (9) *S. macrocercus* sp. n. (Middelpos paratype); (10) *S. malawi* Londt, 1990 (Lichenya paratype); (11) *S. minor* (Bromley, 1947) (Melmoth); (12) *S. namibiensis* sp. n. (Ai-Ais paratype); (13) *S. spinosus* Londt, 1980 (Gladdespruit paratype); (14) *S. ukhahlamba* sp. n. (Monks Cowl holotype).

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Figs 15–21. *Synolcus acrobaptus* (Wiedemann, 1828), male genitalia: (15–19) lateral, dorsal, ventral, gonostylus and aedeagal tip (Cape Town); (20, 21) variation in S8 shape: (20) Touws River male; (21) Prince Albert male. Scale line 1 mm.

> autres à incisions blanches. Pieds noirs; jambs un peu testacées. Ailes dilatées au bord extérieur, gaufrées, un peu brunâtres, à base et centre clairs.
>
> Nous rapportons à la meme espéce un individu ♀ qui en différe par les jambs testacies, à extrémité noire; les ailes ne sont pas dilatées et l'espace clair est plus grand.
>
> L'un et l'autre sont de Cap. Collection de M. Serville.

Although Macquart's description is not detailed enough to allow definite conclusions to be formulated concerning the generic placement of the species it appears to support placement within *Synolcus*. If it is indeed a *Synolcus*, the small size (length *c*. 10.5 mm) and mystacal coloration would suggest an affinity with the *acrobaptus* species-group which occurs in the region once referred to as 'Cap' (= Cape). However, Macquart described the wing as dilated, and while many *Synolcus* have dilated wings this is not an obvious feature of species in the *acrobaptus* group whose wings are usually only slightly dilated.

In the interests of taxonomic stability I here suggest that *Asilus incisuralis* Macquart, 1838 should be considered a synonym of *Synolcus acrobaptus* (Wiedemann, 1828) until proved otherwise.

Synolcus signatus Loew, 1858

Londt (1980), in discussing the synonymy of *signatus* with *acrobaptus*, tentatively repositioned *signatus* within the synonym of *dubius* because the illustrations provided by Loew (1860) were clearly not depictions of typical *acrobaptus*, but were instead far more representative of *dubius*. I suggested that Loew might have mislabelled his illustrations and that they actually depicted his other 1858 species, *tenuiventris* (subsequently synonymised with *dubius*). Now that I have studied good photographs of Loew's types

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of both *signatus* and *tenuiventris*, housed in the NHRS, I can report with certainty that Loew did indeed mislabel his illustrations. Loew's *signatus* type clearly represents *acrobaptus* and his illustrations depict well the wings, head and genitalia of *tenuiventris*. My decision to tentatively place *signatus* in the synonymy of *dubius* was therefore incorrect. However, there is another matter that requires mention. Loew (1858) gives the provenance of *signatus* as 'Caffraria (Wahlb.)', but in 1860 he states '(Cap, Victorin.)'. The NHRS female bears Victorin's name and 'Cap. B. Spei' (Cape of Good Hope) while the male is merely labelled with numbers that may refer to Wahlberg's collecting activities in 'Caffraria' (now understood to be in the eastern parts of southern Africa). The significance of Loew's two, apparently conflicting citations is not known.

Redescription:

Male.

Head: Dark red-brown to blackish, strongly silver pruinose, white and black setose. Antenna: Dark red-brown to blackish, fine silver-gray pruinose, scape and pedicel black setose, postpedicel may have some black setae dorsally; mean segmental ratios (n = 5) 1:0.9:1.6:1.5 (0.3:1.1:0.1), i.e. pedicel slightly shorter than scape, postpedicel about 1.5 length of scape, stylus about as long as postpedicel. Face: Blackish, strongly silver pruinose. Mystax mostly white with a variable number of black setae medially (rarely absent), setae better developed ventrally. Frons and vertex: Blackish, weakly silver-gray pruinose, frons white and black setose laterally (rarely entirely white), ocellar tubercle black setose (rarely white). Occiput: Blackish, strongly silver pruinose, black (dorsally) and white (centrally and ventrally) setose (rarely entirely white).
Thorax: Dark red-brown to blackish, silver and red-gold pruinose, black, pale yellow and white setose. Prothorax: Dark red-brown to blackish, silver pruinose, white setose. Mesonotum: Dark red-brown to blackish, silver pruinose with red-gold pruinose median band and lateral patches (may also be fairly uniformly red-gold pruinose), macrosetae uniformly black or mixed black and pale yellow, minor setae short blackish (mainly anteriorly) and longish white (mainly posteriorly). Macrosetae (uniform black or mixed black and pale yellow): *acr* and *dc* moderately developed posterior of transverse suture only, 2 *npl*, 2 *spal* (1 strong, 1 weak), 1–2 *pal* (1 strong, 1 absent or weak). Scutellum: Dark red-brown to blackish, silvery pruinose, disc white or mixed black and white setose, 1 pair black or pale yellow apical macrosetae. Pleura: Uniform dark red-brown to black, silver to silver-gold pruinose, weakly white and pale yellow (*ktg*) setose. Legs: *Cx* dark red-brown to black, silver pruinose, white setose; *cx*3 with 2–3 lateral macrosetae. *Tro* dark red-brown, largely apruinose, weakly white setose. *Fem* uniform dark red-brown to black, major setae mostly pale yellow (few black), minor setae long or short white. *Tib* uniform brown, major setae black and pale yellow, minor setae white. *Tar* dark red-brown, major and minor setae mostly black (may be a few pale yellow major setae). Wing (Fig. 2): Veins mostly dark red-brown, anterior veins more orange-brown proximally, membrane usually transparent, but may be pale yellowish, wing tip commonly dark stained. Cell *sc* with sc–r. Cells *r*1 and *r*2+3 slightly expanded and displaying corrugations. Wing length × breadth (mean, n = 10) 6.6 (6.4–7.6) × 2.3 (1.8–2.8) mm. Haltere: Pale yellow with pale brownish distal and proximal ends.
Abdomen: Dark red-brown to black, silver and dull reddish pruinose, black and white setose. T1 fairly uniformly silver pruinose, 3–4 white macrosetae laterally accompanied

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by many white setae, medially short black setose. T2–8 mostly silver pruinose but usually darker in appearance anteromedially with a dull reddish pruinescence, setae mostly white laterally and posterolaterally (including *c*. 3 macrosetae), mostly short black anteromedially. S as T but uniformly silver pruinose, white setose.

Terminalia (Figs 15–21): *Epand* in lateral view (Fig. 15) at least 3 times as long as deep, with narrowly rounded distal tip; *epand* lobes in dorsal view narrowly separated proximally. S8 well-developed, thickly setose along posterior margin and projecting distally as a somewhat trifurcate structure (in ventral view, Fig. 17) that largely hides from view both *hypd* and *goncx*. Central prong of S8 projecting distally as a dorsally directed finger-like lobe (Fig. 17) that demonstrates geographical variation (Figs 20, 21), the tip becoming broader distally in the eastern parts of the distribution. *Hypd* poorly developed. *Gonst* in lateral view as in Fig. 18. *Aed* S-shaped distally (Fig. 19).

Female: Essentially similar to male. Wing length × breadth (mean, n = 10) 6.6 (4.7–8.3) × 2.1 (1.5–2.8) mm (size and range almost identical to ♂). Terminalia (Fig. 76): Ovipositor laterally compressed, knife-like, elongate (almost 3 times as long as deep).

Material examined: SOUTH AFRICA: 1♀ Nieuwoudtville, Wild Flower Res. 3119AC, 690 m, 16.xi.1986, Londt & Quickelberge; 1♂ 5♀ Cape Town, Table Mountain near Cable Way (Bottom) Station, 3318CD, 25.iii.1979, Londt; 4♂ 2♀ Gydo Mt. 24 km NE Prince Alfred Hamlet, 3319AB, 1150 m, 21.xi.1986, Londt & Quickelberge, rocky area/Proteas; 2♀ Worcester, Karoo Botanic Gardens, 3319CB [33°36'57"S 19°27'09"E], 30.xii.1982–6.i.1983, Miller, Malaise trap; 3♂ 2♀ same date but 1–2.i.1983, Miller & Stabbins; 2♂ 1♀ Jan de Boers, 18 km NE Touws River, 3320AC, 1000 m, 20.xi.1986, Londt & Quickelberge, rocky area nr fields; 2♂ 1♀ Cogman's Kloof, Ashton-Montagu Road, 3320CC, 11.i.1983, Stabbins & Miller, along river; 3♂ 2♀ Oukloof, 3 km S Prince Albert, 3322AA, 10.xi.1986, Londt & Quickelberge, sand/Acacias; 3♀ Meiringspoort, 3322BC, 11–12.xii.1979, Londt & Stuckenberg, rocky hillside & stream edge; 1♀ Diepkloof *c*. 20 km E De Rust, 3322BD, 12.xii.1979, Londt & Stuckenberg, dry rocky hillside & stream; 2♂ 3♀ Uniondale, 3323CA, 12.xii.1979, Londt & Stuckenberg, steep hillside macchia; 1♀ Brenton-on-Sea, 3423AA, 10.xii.1979, Londt & Stuckenberg, dune & hillside vegetation; 2♂ Doring River Waterfall, 10 km NE Nieuwoudtville, 31°19.18'S 19°07.04'E, 660 m, 16–17.xi.2008, Londt, rocky riverine bush; 1♂ Akkerendam Nat. Res., 31°26'54"S 19°46'27"E, 1050 m, 5–6.ix.2002, Londt, Karoo bushes W slope of small hill; 2♂ Bulhoek, Klaver – Clanwilliam [32°01'S 18°47'E], x.1950, Mus. Exp. (SAMC); 1♀ Bulshoek, Clanwilliam [32°01'S 18°47'E], 12-56 [xii.1956], SAM [South African Museum] (SAMC); 1♀ Hillside behind Motel, 6 km SW Clanwilliam, 32°11'S 18°53'E, 200m, 1.xi.1991, Londt; 4♀ Urquhart Park Caravan Park, Graafff-Reinet, 32°15'S 24°33'E, 4–6.xii.1988, Londt, riverine veget. sandy ground; 4♂ Karoo National Park, 32°19'S 22°30'E, 13.xi.1993, Koch (ZMHB); 7♂ 3♀ Jamaka Farm, 32°20'S 19°01'E, 2–7.xii.2007, Koch (ZMHB); 1♀ Clanwilliam District, Algeria Forestry [32°22'S 19°04'E], 4–10.iii.1969, Potgieter & Strydom; 1♂ 1♀ Valley nr Observatory, 15 km E Sutherland, 32°23'S 20°48'E, 1600 m, 26.xi.1990, Whittington & Londt; 3♂ 2♀ Olifants River, between Citrusdal & Clanwilliam [*c*. 32°24'S 18°57'E], x–xi.1931, Mus. Staff (SAMC); 2♂ 2♀ Ouberg Pass, SE Touws River [32°25'S 20°21'E], xii.1962, SAM (SAMC); 1♂ Citrusdal [32°35'S 19°01'E], xi.1948, Mus. Exp. (SAMC); 1? Piketberg [32°54'S 18°46'E], i.1940, Mus. Staff (SAMC); 5♂ 5♀ Gonnemanskraal, N Jacobsbaai, 32°57'14"S 17°53'07"E, 0–10 m, 9–10.xi.2002, Londt, dune veget. & rocks; 1♀ same data but 21–26.xii.2002, Londt, dune sand & vegetation; 1♂ 1♀ Koup Siding [33°07'S 21°16'E], xi.1939, Mus. Staff (SAMC); 2♂ Constable [33°15'S 20°19'E], ii.1958 (SAMC); 2♂ Near Floriskraal dam, 19 km SE Laingsburg, 33°17'S 20°57'E, 700 m, 25.xi.1990, Whittington & Londt; 1♂ Witteberge *c*. 7 km E Constable, 33°17'54"S 20°19'24"E, 870 m, 12.xi.1998, Londt, sandy soil/succulents; 1♂ 1♀ Verkeerde Vlei [33°20'S 19°20'E], xii.1962, SAM (SAMC); 1?[♀] Witzenberg Valley [33°20'S 19°30'E], 3000 ft [*c*. 914 m], 19.i.1921, Turner (BMNH); 1? [♀] Ceres District, Witzenberg Valley, 3500 ft [*c*. 1067m], 21–23 xii.1920, Turner (BMNH); 1♀ Touws River [33°20'S 20°02'E], xii.66 [1966], Mills; 1♂ 9♀ Hondewater, 18 mi. E Touws River [33°20'S 20°02'E], xii.1962, SAM (SAMC); 1♂ 1♀ Seweweekspoort [33°22'S 21°25'E], 4–6.xii.1968, Potgieter & Jones; 1♂ 2? Malmesbury [33°27'S 18°44'E], 15.ii.1961, SAM Exped. (SAMC); 1♀ Hex River [33°29'S 19°35'E], xi.1884 (ZSMC); 1♀ Bloutoring Station, 30m E Touws River [33°30'S 20°14'E], xii.1962, SAM (SAMC); 1♀ Worcester [33°36'S 19°34'E], i.1934, Turner (BMNH); 1♂ 1♀ Paarl Mt. [33°44'S 18°56'E], ii.1932, Mackie (BMNH); 1♀ Montagu [33°44'S 20°07'E], xi.1919, Lightfoot (SAMC); 4♂ 2♀ Robertson District, Dassiesberg [33°48'S 19°53'E], i.1936, Mus. Staff (SAMC); 1♂ Algoa Bay [Port Elizabeth, 33°58'S 25°35'E], Brauns (ZSMC); 1♂ 1♀ 1? Cape Town [33°56'S 18°23'E], 1913, Peringuey (SAMC); 1♂ Cape Town (ZSMC); 1♂ 1♀ Lion's Head Nature Res, Kloofnek area, 33°56'29"S 18°23'10"E, 220 m, 14.xii.2004, Londt, fynbos stony path; 1♂ Stellenbosch [33°56'S 18°51'E], iv.1964,

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TABLE 1
Phenology of *Synolcus* species.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
acrobaptus	-	-	●	●	●	●	●	●	●	●	-	-
amnoni	-	-	-	●	●	-	-	-	-	-	-	-
argentius	-	●	●	●	-	-	●	-	-	-	-	-
armstrongi sp. n.	-	-	-	-	-	-	●	-	-	-	-	-
aurulentus	-	-	-	-	-	●	●	●	-	-	-	-
dubius	-	-	●	●	●	●	●	●	●	●	-	-
griseus	-	-	-	-	-	●	●	-	-	-	-	-
macrocercus sp. n.	-	-	-	-	●	-	●	●	-	-	-	-
malawi	-	-	-	-	●	-	-	-	-	-	-	-
minor	-	-	-	-	●	●	●	●	●	-	-	-
namibiensis sp. n.	-	-	-	●	-	-	-	-	-	-	-	-
spinosus	-	-	-	-	●	●	-	●	-	-	-	-
ukhahlamba sp. n.	-	-	-	-	-	●	●	-	-	-	-	-

Loubser; 1♀ Stellenbosch, iii.1964, Loubser; 1♀ Stellenbosch, x.1964, Loubser; 1♀ Stellenbosch, i.1950, Schoeman; 1♂ Swellendam District, Tradouw Pass [33°57'S 20°42'E], xi.1925, Mus. Exped. (SAMC); 1♂ 15 km S Villiersdorp [33°59'S 19°17'E], 28.xii.1983, Brothers; 4♂ 1♀ 1? Bontebok National Park, 34°04'S 20°28'E], 2–3.i.1993, Koch (ZMHB); 1♀ Kommetjie, hill overlooking town, 34°08'S 18°19'E, 13.xii.1988, Londt, macchia sandy ground & rocks; 2♀ Mossel Bay [34°11'S 22°08'E], 1.xii.1938, Turner (BMNH); 1♂ 'Capland, Bergius', 2228 [?] (ZMHB, with red 'Typus' label).

Type specimens: While I have not handled Loew's type specimens of *signatus*, I have studied a series of photographs of both a male type labelled '294', 'R', '65' and a female type labelled '295', '24', 'Cap. B. / Spei.', 'Victo- / rin.' (NHRS), which clearly show important details of both specimens, especially their wings and genitalia. I am, therefore, confident that these specimens truly represents *acrobaptus*.

Distribution, phenology and biology: Restricted to, but widely distributed within the south-western parts of South Africa (Fig. 88), being recorded from the Northern Cape, Western Cape and Eastern Cape provinces. Adults fly from September through to April (Table 1). Label data and personal experience indicate that the flies rest on low vegetation and on the ground (sandy and rocky).

Synolcus amnoni Londt, 1990

Figs 3, 22–25, 91

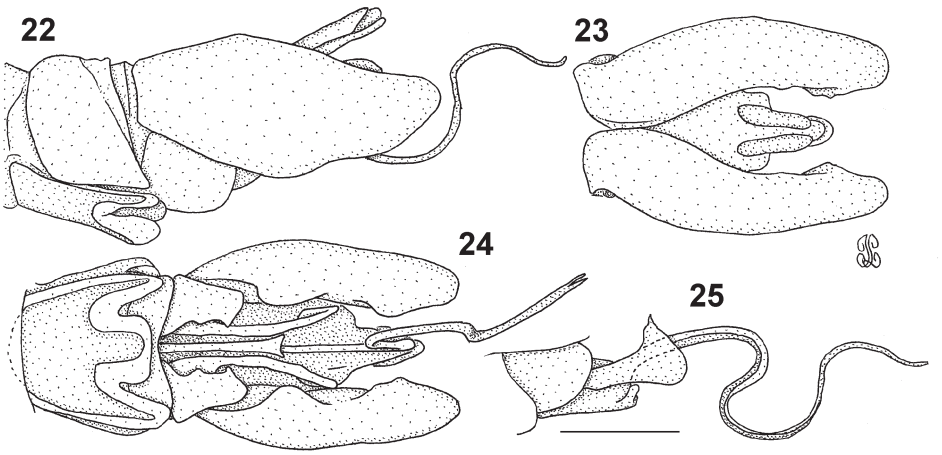
Synolcus amnoni: Londt 1990: 3, figs 1 (wing), 5–8 (♂ gen.).

Redescription (holotype greasy, not adequately displaying colours and pruinescence):

Male.

Head: Dark red-brown to blackish, strongly silver-gold pruinose, black, pale yellow and white setose. Antenna: Dark red-brown to blackish, fine silver-gold pruinose, scape and pedicel black (mostly ventrally) and pale yellow (mainly dorsally) setose, postpedicel with few pale yellow setae dorsally; mean segmental ratios (n = 2) 1:0.7:1.4:1.1 (0.2:1.0:0.1), i.e. pedicel shorter than scape, postpedicel almost 1.5 times length of scape,

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Figs 22–25. *Synolcus amnoni* Londt, 1990, holotype male genitalia (Nkhandla): (22) lateral, (23) dorsal, (24) ventral, (25) gonostylus and aedeagus (redrawn from Londt 1990). Scale line 1 mm.

stylus almost as long as postpedicel. Face: Blackish, strongly silver-gold pruinose. Mystax mostly black with white setae ventromedially (weak on lateral epistomal margins), setae slightly better developed ventrally. Frons and vertex: Blackish, weakly silver-gold pruinose, frons black setose, ocellar tubercle black setose. Occiput: Blackish, strongly silver-gold pruinose, black (dorsally), pale yellow (centrally) and white (mainly ventrally) setose.

Thorax: Dark red-brown to blackish, red-gold pruinose, black and pale yellow setose. Prothorax: Dark red-brown to blackish, red-gold pruinose, pale yellow setose (some black macrosetae). Mesonotum: Dark red-brown to blackish, red-gold pruinose, macrosetae uniformly black, minor setae short blackish (mainly anteriorly) and longish pale yellow (mainly posteriorly and marginally). Macrosetae (uniform black): *acr* poorly developed, *dc* moderately well-developed both posterior and anterior of transverse suture, 2 *npl*, 3 *spal* (+ 1–2 weaker setae), 2 *pal* (+ 1 weaker seta). Scutellum: Dark red-brown to blackish, red-gold pruinose, disc pale yellow and black setose, 1–2 pairs black apical macrosetae (second pair weak). Pleura: Uniform dark red-brown to black, red-gold pruinose, weakly pale yellow setose. Legs: *Cx* dark red-brown to black, red-gold pruinose, white setose; *cx*3 with 1 lateral macrosetae. *Tro* dark red-brown, largely apruinose, weakly pale yellow setose. *Fem* dark red-brown anterodorsally, orange posteroventrally, major setae mostly black (few pale yellow), minor setae mostly short pale yellow. *Tib* mainly orange with dark red-brown distal tip, major setae black, minor setae pale yellow. *Tar* dark red-brown, major setae black, minor setae mainly pale yellow. Wing (Fig. 3): Veins mostly dark red-brown, proximally more orange-brown, membrane transparent, slightly pale yellowish. Cell *sc* lacking a distal crossvein (sc–r). Cells *r*1 and *r*2+3 slightly expanded and displaying corrugations. Wing length × breadth (mean, n=2) 9.5 (8.9–10.1) × 3.9 (3.6–4.1) mm. Haltere: Orange-brown.

Abdomen: Dark red-brown to black, silver-gold pruinose, yellow setose. T1 with *c*. 4 pale yellow macrosetae laterally, accompanied by pale yellow setae. T2–7 silver-gold pruinose, yellow setose. T8 and terminalia apruinose. Terminalia yellow, orange and black (few distally on *epand*) setose. S similar to T.

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Terminalia (Figs 22–25): *Epand* in lateral view (Fig. 22) a little more than twice as long as deep, with broadly rounded distal end; *epand* lobes in dorsal view abutting proximally (Fig. 23). S8 moderately developed, somewhat trifurcate distally (Fig. 24), only partly obscuring *hypd*. Central prong of S8 not projecting further distally than lateral prongs (Fig. 24). *Gonst* in lateral view as in Fig. 25, *aed* sinuous distally (Fig. 25). *Hypd* poorly developed, hind margin gently indented medially.

Female: Unknown.

Type material examined: SOUTH AFRICA: 1♂ holotype 'South Africa: Natal / Vernon Crookes N. R. / 3030BC / Date 10.x.1983 / Coll A Freidberg'; 1♂ paratype 'South Africa / KwaZulu-Natal / Nkandla Forest Reserve / 28°44'46"S 31°8'37"E / 20/11/2001', 'A. Armstrong & H. Murray / NCS Record ID: 163172 / Grassland mistbelt'.

Distribution, phenology and biology: Endemic to KwaZulu-Natal, South Africa (Fig. 91), being recorded from two nature reserves. Adults fly during the spring and early summer months of October and November (Table 1). Label data and A. Armstrong (pers. comm.) indicate that the flies inhabit the grassland biome.

Synolcus argentius Londt, 1990

Figs 4, 26–29, 77, 88

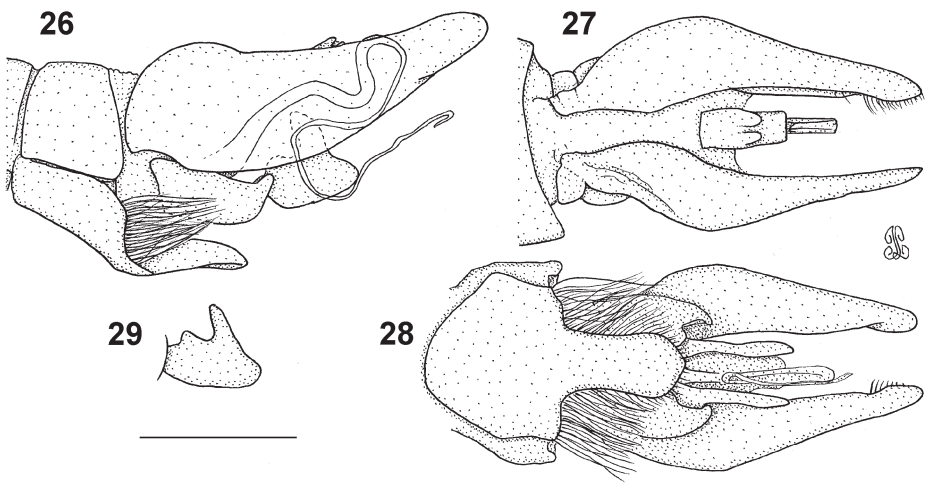
Synolcus argentius: Londt 1990: 3–7, figs 9–12 (♂ gen.), 13 (♀ gen.).

Redescription:

Male.

Head: Dark red-brown to blackish, strongly silver pruinose, white and black setose. Antenna: Dark red-brown to blackish, fine silver-gray pruinose, scape and pedicel black setose, postpedicel may have some tiny yellow setae dorsally; mean segmental ratios (n=5) 1:0.8:1.6:1.0 (0.2:0.7:0.1), i.e. pedicel slightly shorter than scape, postpedicel about 1.5 times length of scape, stylus about as long as scape. Face: Blackish, strongly silver pruinose. Mystax white (rarely with few black setae dorsomedially), setae better developed ventrally. Frons and vertex: Blackish, weakly silver pruinose, frons white setose laterally (rarely with few black setae), ocellar tubercle black setose. Occiput: Blackish, strongly silver pruinose, black (dorsally) and white (centrally and ventrally) setose. *Thorax*: Dark red-brown to blackish, silver to silver-gold pruinose, black, pale yellow and white setose. Prothorax: Dark red-brown to blackish, silver-gold pruinose, white setose (macrosetae pale yellow). Mesonotum: Dark red-brown to blackish, silver-gold pruinose, macrosetae mostly black (may have few pale yellow), minor setae short blackish (mainly anteriorly) and longish whitish (mainly posteriorly). Macrosetae (mostly black or with few pale yellow): *acr* and *dc* moderately developed posterior of transverse suture only, 2 *npl*, 1–2 *spal* (usually 1 strong, 1 weak when present), 1–2 *pal* (1 strong, 1 weak or absent). Scutellum: Dark red-brown to blackish, silvery-gold pruinose, disc black and white setose, 1 pair black (or rarely pale yellow) apical macrosetae. Pleura: Uniform dark red-brown to black, silver to silver-gold pruinose, weakly white and pale yellow (*ktg*) setose. Legs: *Cx* dark red-brown to black, silver pruinose, white setose; *cx*3 with 3 lateral macrosetae. *Tro* orange-brown, largely apruinose, weakly white setose. *Fem* uniform dark red-brown to black, major setae mostly pale yellow (few black), minor setae mostly short white. *Tib* brown with dark red-brown distal ends, major setae mostly pale yellow (few black), minor setae white. *Tar* dark red-brown, major and minor setae

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Figs 26–29. *Synolcus argentius* Londt, 1990, male genitalia (1 km N Kuboes): (26) lateral (showing aedeagus shape as seen through other organs), (27) dorsal, (28) ventral, (29) gonostylus. Scale line 1 mm.

black and pale yellow. Wing (Fig. 4): Veins mostly dark red-brown, anterior veins more orange-brown, membrane transparent, wing tip dark stained. Cell *sc* with sc–r. Cells *r*1 and *r*2+3 slightly expanded and displaying corrugations. Wing length × breadth (mean, n = 5) 7.6 (6.1–8.4) × 2.7 (2.2–3.1) mm. Haltere: Brown-orange with pale brown proximal end.

Abdomen: Dark red-brown to black, strongly silver pruinose, pale yellow, black and white setose. T1 fairly uniformly silver pruinose, 4–5 pale yellow macrosetae laterally accompanied by many white setae, medially short white (few black) setose. T2–8 mostly silver pruinose but usually with darker areas laterally (depending on angle of view), setae mostly white laterally and posterolaterally (including 1–3 macrosetae), mostly short black anteromedially. S similar to T but uniformly silver pruinose, white setose.

Terminalia (Figs 26–29): *Epand* in lateral view (Fig. 26) almost 3 times as long as deep, with fairly broadly rounded distal tip; *epand* lobes in dorsal view (Fig. 27) fairly narrowly separated proximally. S8 well-developed, thickly setose along posterior margin and projecting distally as broad dorsoventrally flattened lobe (in ventral view) that largely hides from view both *hypd* and *goncx* (Fig. 28). *Hypd* poorly developed. *Gonst* in lateral view short, deep with two lobes dorsally (Fig. 29). *Aed* highly sinuous (Fig. 26).

Female: Essentially similar to male. Wing length × breadth (mean, n = 5) 8.2 (6.6–8.9) × 2.6 (2.2–2.8) mm (females slightly bigger than males). Wing tip weakly stained to transparent. 1♀ has two subcostal crossveins. Terminalia (Fig. 77) similar to *acrobaptus*: Ovipositor laterally compressed, knife-like, elongate (a little more than twice as long as deep).

Type material examined: SOUTH AFRICA: 3♀ paratypes ‘Sth Africa: Cape Prov / Richtersveld 2816DA / 1 km E of Grootderm / 2.ix.1983 J. Londt & B. Stuckenberg Foot / of small hill’; 3♂ 3♀ paratypes ‘Sth Africa: Cape Prov / Richtersveld 1 km N / Kuboes 1.ix.1989 200m / 28°25'30"S 16°59'30"E / J. Londt B Stuckenberg / P. Croeser Rocky E / slope Euphorbia scrub’; 1♂ holotype 1♂ 9♀ paratypes ‘Sth Africa: Cape Prov / Richtersveld 5 km NE / Grootderm 1.ix.1989 / 28°31'00"S 16°38'00"E / J. Londt B Stuckenberg / P. Croeser 50m Sandy / slope Euphorbia scrub’.

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Other material examined: NAMIBIA: 1♀ Bethanie, Barby 26 [25°51'S 16°33'E], 2–7.x.1972, Strauss, Coetzee & Penrith (NMNW); 1♂ Bethanie, Riverside 135 [26°36'S 16°56'E], 23–26.x.1971, Penrith, Coetzee & Olivier (NMNW); 1♀ Bethanie, Churutabis 108 [27°26'S 17°28'E], 4–12.x.1972, Mokgoabone *et al.* (NMNW); 1♂ Namuskluft 88 [27°48'S 16°52'E], 7–15.x.1970, Penrith & Coetzee (NMNW). SOUTH AFRICA: 1♂ 2♀ 5 km NE Grootderm, 28°29'52"S 16°39'25"E, 90 m, 27.viii.2002, Londt, sandy & rocky ridge with succulents; 1♀ Port Nolloth [29°15'S 16°52'E], i.[18]91 (SAMC).

Note: Londt (1990) transferred the four specimens in NMNW, recorded ten years earlier (Londt 1980), to this species. With the discovery of *namibiensis* these Namibian specimens probably need re-examination.

Distribution, phenology and biology: Restricted to the north-western parts of South Africa and southern Namibia (Fig. 88), being recorded from the Northern Cape province and a few localities in southern Namibia. Adults fly mainly from August to October (Table 1). While a single female is recorded from Port Nolloth, collected in January, the identification requires confirmation. Label data and personal experience indicate that the flies rest on low vegetation and on the ground (sandy and rocky).

Synolcus armstrongi sp. n.

Figs 5, 30–34, 78, 89

Etymology: Named for Dr Adrian Armstrong, of Ezemvelo KZN Wildlife, whose collecting activities led to the discovery of this species.

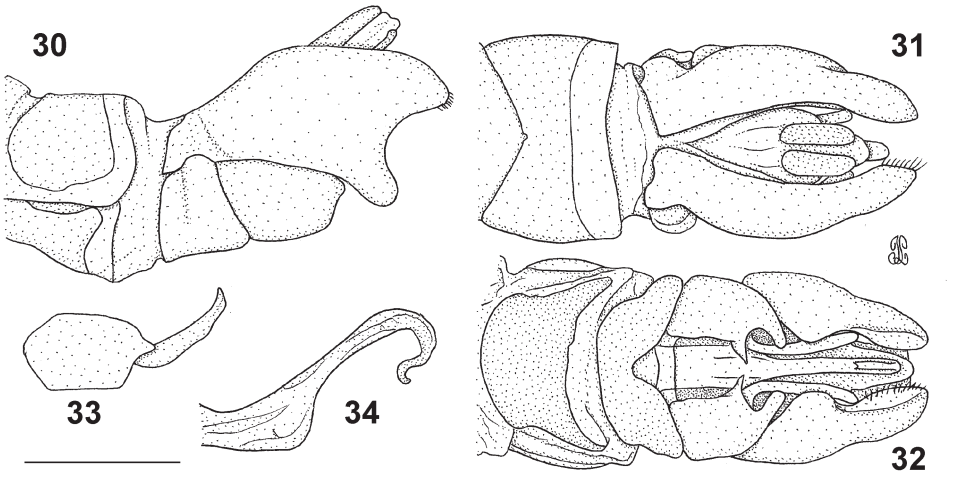
Description:

Male.

Head: Blackish, strongly gold-silver pruinose, white, pale yellow and black setose. Antenna: Dark red-brown to blackish, fine gold-silver pruinose, scape and pedicel black (ventral) and mixed black and pale yellow (dorsal) setose, postpedicel with few black and yellowish setae dorsally; mean segmental ratios (n=5) 1:0.9:1.6:1.2 (0.2:0.9:0.2), i.e. pedicel slightly shorter than scape, postpedicel about 1.5 times length of scape, stylus a little longer than scape. Face: Blackish, strongly gold-silver pruinose. Mystax pale yellow (ventral) and black (dorsal), setae slightly better developed ventrally. Frons and vertex: Blackish, gold-silver pruinose, frons black and white setose laterally, ocellar tubercle black setose. Occiput: Blackish, strongly silver pruinose, black (dorsally) and pale yellow (centrally and ventrally) setose.

Thorax: Dark red-brown to blackish, silver, gold-silver and dark red-brown pruinose, black and pale yellow setose. Prothorax: Dark red-brown to blackish, gold-silver pruinose, pale yellow setose (including macrosetae, but there may be 1–2 black macrosetae). Mesonotum: Dark red-brown to blackish, gold-silver pruinose with dark red-brown pruinose median band and lateral patches, macrosetae mixed black and pale yellow, minor setae blackish (mainly anteriorly) and pale yellow-white (mainly posteriorly). Macrosetae: *acr* and *dc* fairly well-developed posterior of transverse suture, *dc* extend weakly anterior to suture, 2 *npl* (mixed black and pale yellow), 2 *spal* (mixed black and pale yellow), 3 *pal* (pale yellow only). Scutellum: Blackish, strongly gold-silvery pruinose, disc pale yellow setose, 1 pair pale yellow apical macrosetae. Pleura: Dark red-brown to black, silver to gold-silver pruinose, weakly pale yellow setose except for strong *ktg*. Legs: *Cx* blackish, gold-silver pruinose, pale yellow setose; *cx*3 with 2 lateral macrosetae. *Tro* dark red-brown, moderately pruinose, weakly pale yellow setose. *Fem* uniform dark red-brown to black, major setae pale yellow (1–2 small black ones at distal end of *fem*1), minor setae pale yellow. *Tib* extensively orange with distal end dark red-brown,

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Figs 30–34. *Synolcus armstrongi* sp. n., paratype male genitalia (Karkloof): (30) lateral, (31) dorsal, (32) ventral, (33) gonocoxite and gonostylus, (34) aedeagus. Scale line 1 mm.

major setae mostly black (few pale yellow), minor setae pale yellow and black. *Tar* blackish, major and minor setae pale yellow (dorsally) and black (ventrally). Wing (Fig. 5): Veins mostly dark red-brown, anterior veins more orange-brown proximally, membrane transparent (slight yellow appearance due to microtrichiae). Cell *sc* lacking sc–r. Cells *r*1 & *r*2+3 moderately expanded and displaying corrugations. Wing length × breadth (mean, n = 5) 10.9 (10.4–11.6) × 4.5 (4.2–4.9) mm. Haltere: Orange with pale brownish proximal end.

Abdomen: Blackish, gold-silver pruinose, pale yellow setose. T1 fairly uniformly gold-silver pruinose, 4 pale yellow macrosetae laterally accompanied by many pale yellow setae. T2–8 gold- silver pruinose, pale yellow setose (including 1–7 macrosetae). S similar to T.

Terminalia (Figs 30–34): *Epand* in lateral view (Fig. 30) not projecting very far beyond *proct*, with a distinctive ventrally directed lobe a little beyond half length and with somewhat bilobed appearance; *epand* lobes in dorsal view narrowly separated proximally. S8 normal (lacking special development) and not projecting distally. *Hypd* and *goncx* clearly seen in ventral view. *Hypd* moderately well-developed, deeply indented medially (allowing base of *aed* to be seen, Fig. 32). *Gonst* elongate with upturned distal tip in lateral view (Fig. 33). *Aed* fairly robust distally with somewhat S-shaped tip (Fig. 34).

Female: Essentially similar to male. Wing length × breadth (mean, n = 3) 11.5 (10.8–12.4) × 4.1 (3.6–4.5) mm (length and range similar to male, but not expanded and therefore narrower). Terminalia (Fig. 78): Ovipositor laterally compressed, somewhat knife-like and moderately elongate (about twice as long as deep).

Holotype: ♂ SOUTH AFRICA: 'South Africa / KwaZulu-Natal / Karkloof Nat. Res. / 29°18'7"S / 30°12'28"E / 16/1/2001', 'A. Armstrong & P. Ngwenya / NCI Record ID: 162181 / Grassland' [Google Earth altitude 1677 m].

Paratypes: 1♂ 1♀ same data as holotype but '162182'; 1♂ same data as holotype but '162183' (with prey Hemiptera, Pentatomidae); 1♂ same data as holotype but '162184' and 'Grassland montane / Plateau'; 1♀ same data as holotype but '162185' and 'Grassland / Plateau'; 1♂ 1♀ 'South Africa / KwaZulu-Natal

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/ Minerva Private Nat. Res. / 29°47'10"S / 30°12'18"E / 11/1/2000', 'A. Armstrong, Wakelin, Oelleman / NCI Record ID: 163179 / Grassland mistbelt / Summit' [Google Earth altitude 1496 m].

Distribution, phenology and biology: A KwaZulu-Natal endemic collected at two nature reserves (Fig. 89). Adults fly during the mid-summer month of January (Table 1). Label data and Armstrong (pers. comm.) indicate that this species inhabits grassland adjacent to indigenous forest. A single prey record is available, viz. Hemiptera (Pentatomidae).

Synolcus aurulentus Engel, 1929

Figs 6, 35–38, 79, 89

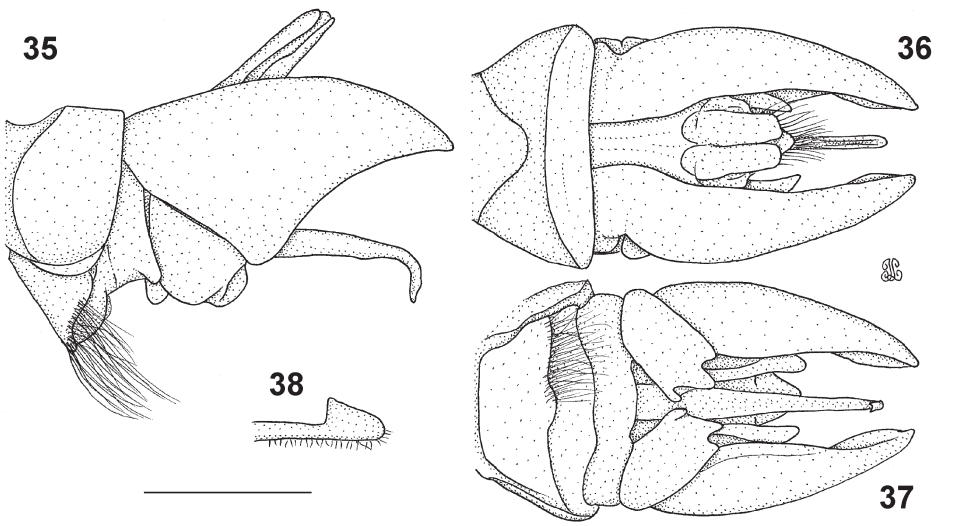
Synolcus aurulentus: Engel 1929: 156–157, fig. 4 (♂ gen.); Hull 1962: 426; Oldroyd 1974: 165; Londt 1980: 27–30, figs 3 (wing), 12–14 (♂ gen.), 15 (♀ gen.); 1990: 2, 10.
Synolcus aurulentus rufus Hull, 1967: 260–261; Oldroyd 1980: 346 (catalogue).

Redescription:

Male.

Head: Dark red-brown to blackish, strongly silver-gold pruinose, black, pale yellow and white setose. Antenna: Dark red-brown to blackish, fine gold pruinose, scape and pedicel black setose, postpedicel with few yellow setae dorsally; mean segmental ratios (n = 5) 1:0.7:1.3:1.1 (0.2:0.8:0.1), i.e. pedicel shorter than scape, postpedicel a little longer than scape, stylus almost as long as postpedicel. Face: Blackish, strongly silver pruinose. Mystax mostly black with a variable number of yellow setae ventromedially. Frons and vertex: Blackish, strongly red-gold pruinose, frons black setose laterally, ocellar tubercle black setose. Occiput: Blackish, strongly gold-silver pruinose, black (dorsally), yellow (centrally) and white (ventrally) setose.
Thorax: Dark red-brown to blackish, silver and red-gold pruinose, black and pale yellow setose. Prothorax: Dark red-brown to blackish, red-gold pruinose, pale yellow setose. Mesonotum: Dark red-brown to blackish, red-gold pruinose with broad blackish median band and lateral patches, macrosetae uniformly black, minor setae short blackish pale yellow. Macrosetae: *acr* poorly developed posterior of transverse suture, *dc* moderately developed posteriorly, extending well anterior of transverse suture, 2 *npl*, 2 *spal* (usually 1 strong, 1 weak), 1–2 *pal* (1 strong, 1 weak or absent). Scutellum: Dark red-brown to blackish, strongly red-gold pruinose, disc black and pale yellow setose, 1 pair black apical macrosetae (rarely with 3 macrosetae and rarely yellow in colour). Pleura: Uniform dark red-brown to black, silver to red-gold pruinose, weakly pale yellow setose, *c*. 8 yellow and blackish *ktg*. Legs: *Cx* dark red-brown to black, red-gold pruinose, pale yellow setose; *cx*3 with 1 lateral macroseta (+ weaker setae). *Tro* dark red-brown, largely apruinose, weakly pale yellow setose. *Fem* dark red-brown to black, distal tips brown-orange, major setae mostly pale yellow (some black), minor setae long or short pale yellow. *Tib* proximally brown-orange, distally dark red-brown, major and minor setae black and pale yellow. *Tar* dark red-brown, major and minor setae mostly black (may be a few yellowish major setae). Wing (Fig. 6): Veins mostly dark red-brown, orange-brown proximally, membrane largely transparent, but pale brownish in appearance due to dark microtrichiae, wing tip may be weakly brown stained. Cell *sc* lacking sc–r. Cells *r*1 and *r*2+3 considerably expanded and displaying corrugations. Wing length × breadth (mean, n = 5) 10.2 (9.6–10.5) × 4.5 (4.1–4.7) mm. Haltere: Pale brown-yellow.
Abdomen: Dark red-brown to black, silver-gold, red-gold and blackish pruinose, mostly pale yellow setose. T1 fairly uniformly silver-gold pruinose, *c*. 4 pale yellow macrosetae

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Figs 35–38. *Synolcus aurulentus* Engel, 1929, male genitalia (Knysna Forest): (35) lateral (showing aedeagus tip), (36) dorsal, (37) ventral, (38) gonostylus tip. Scale line 1 mm.

laterally accompanied by many pale yellow setae, a few black minor setae medially. T2–8 mostly red-gold pruinose but darker blackish pruinose anteromedially, setae pale yellow laterally and posterolaterally (including 1–3 macrosetae). S as T but uniformly silver-gold pruinose, pale yellow setose.

Terminalia (Figs 35–38): *Epand* subtriangular in lateral view (Fig. 35) about twice as long as deep, with fairly acutely pointed distal tip and broadly rounded, ventrally directed lobe at about midlength; *epand* lobes in dorsal view separated proximally (Fig. 36). S8 fairly narrow, somewhat ventrally directed distally, with weakly developed medial projection (*hypd* and *goncx* not obscured from view). *Gonst* as in Fig. 38. *Aed* fairly straight with downturned tip (Fig. 35).

Female: Essentially similar to male. Wing length × breadth (mean, n = 5) 9.9 (8.2–11.5) × 3.4 (2.8–3.9) mm. Wing not expanded as in male. Terminalia (Fig. 79): Ovipositor laterally compressed, knife-like, moderately elongate (a little more than twice as long as deep).

Type material examined: SOUTH AFRICA: 1♂ lectotype '25.i.1922 / Cape Colony / Dr. Brauns / Knysna / forest [34°00'S 23°00'E]'; 1♀ paralectotype 'Knysna Cape / Dr. Brauns /Colony / i.1922'.

Other material examined: SOUTH AFRICA: 1♂ 10 km SW Middelburg [31°30'25"S 25°01'03"E], 11.xii. 1960, Brown (SANC); 5♂ 2♀ Outeniqua State Forest near Knysna, 3323CC, 23.i.1984, Barraclough, forest & forest margins; 1♀ Alexandria Forest Reserve, 3326DA, 28.xii.1985, Londt, forest & forest margins; 1♂ 1♀ Franskraal, 5 km ESE Gansbaai, 3419CB, 7–9.i.1983, Miller, Malaise trap, dunes; 8♀ Diepwalle, Knysna Forest, 3423AA, 9.xii.1979, Londt & Stuckenberg, deep forest & margin; 3♂ 5♀ Tsitsikamma forest near Storms River, 3423BB, 7.xii.1979, Londt & Stuckenberg, forest & forest margins; 2♂ Cape Recife Reserve, Port Elizabeth, 3425BA, 22–27.xii.1985, Londt; 1♀ Somerset East [32°43'S 25°35'E], 10–22. xii.1930, Turner (BMNH); 2♂ Spitzkop, Meirings Poort [33°03'S 20°35'E], i.1935, Mus. Staff (SAMC); 1♂ 1♀ Seweweekspoort [33°22'S 21°25'E], 4–6.xii.1968, Potgieter & Jones; 1? Seven Weeks Poort [33°22'S 21°25'E], ii.1932, Barnard (SAMC); 1♀ Hex River [33°29'S 19°35'E], xii.1884 (SAMC); 1♂ 1♀ Loerie [33°52'S 25°01'E], i.1960, SAM (SAMC); 1♂ 1♀ Diepwalle Forest, 33°57'S 23°10'E, 400 m, 13.i.1983, Miller; 1♀ George [33°58'S 22°27'E], 26.xii.1996, Picker, forest; 1♂ 1♀ Storms River [33°58'S 23°53'E], 31.xii.1953 (BMNH); 1♀ Port Elizabeth [33°58'S 25°35'E], 1.xii.1961, Taylor; 1♀ Witels Forest, 33°59'S

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24°07'E, 13–18.xii.1977, Jacobs; 4♂ Diepwalle, Knysna area, 34°00'S 23°00'E, 26.xii.1988, Londt, forest & forest margins; 1♂ Tsitsikamma [Coastal National Park, 34°01'S 23°55'E], Musprah (BMNH); 1♂ Knysna [34°02'S 23°02'E], xii.1952, Heyes; 1♀ Knysna, 19.xii.[19]53 (BMNH); 3♂ Coldstream, Humansdorp [34°02'S 24°46'E], i.1921, Tucker (SAMC); 1♂ Robberg, Plettenberg Bay area, 34°03'S 23°22'E, 8.xii.1988, Londt, on tall shrubs in Nat. Res.; 1♀ Bontebok National Park, Swellendam, 34°04'S 20°28'E, 2–3.i.1993, Koch (ZMHB); 1♂ Noetzie near Knysna, 34°04'S 23°08'E, 30 m, 17.xii.1995, Cradock; 1♂ 1♀ Goukamma Nat. Res., Eastern section near Buffelsbaai, 34°05'S 22°57'E, 29.xii.1994–15.i.1995, van Noort, dune fynbos, Malaise trap (SAMC).

Other recorded material not studied: Hull (1967) lists for his subspecies *rufus* – ♂ Holotype, ♀ allotype, 1♂ 2♀ paratypes, Tsitsikamma Forest, Storms River, 11–13.i.1951, loc. No. 134; 1♂ 1♀, same place, Stormsrivierpiek, loc. No. 137; 1♀, Assegaaibos, 30 mi west north west of Humansdorp, 1.3.1951, loc. No. 192 (Brinck and Rudebeck).

Distribution, phenology and biology: Restricted to the southern tip of South Africa, mostly southwards of the 33°S latitude (Fig. 89), being recorded for the Western Cape and Eastern Cape provinces. Adults fly from December through to February (Table 1). Label data and personal experience indicate that the flies rest on vegetation and appear to be associated with forests, forest margins or thick undergrowth.

Synolcus dubius (Macquart, 1846)

Figs 1, 7, 39–43, 80, 90

Asilus dubius: Macquart 1846: 89, pl. 8, fig. 15 (wing).
Synolcus dubius: Loew 1860: 149–150; Kertész 1909: 283 (catalogue); Engel 1927: 144; Hull 1962: 526; Oldroyd 1974: 163, figs 158 (whole ♂), 160 (♀ gen. incorrect caption, should be fig. 159); 1980: 346 (catalogue); Londt 1980: 30–33, figs 1 (whole ♂), 4 (wing), 16–18 (♂ gen.), 19 (♀ gen.); 1990: 2, 10–11.
Synolcus signatus Loew, 1858: 362; 1860: 148–149, figs 1a (♂ gen.), 1b (♂ wing), 1c (head), 2a (♀ wing), 2b (♀ gen.); Londt 1980: 30–32.
Synolcus tenuiventris Loew, 1858: 362; 1860: 147–148; Kertész 1909: 283 (catalogue); Engel 1927: 143–145; Hull 1962: 526, figs 354 (ant.), 2300, 2304 (♂ gen.); Oldroyd 1974: 163.

Notes on synonymies:

Synolcus signatus Loew, 1858

The synonymy of *signatus* with *dubius* is discussed under *acrobaptus* above.

Synolcus tenuiventris Loew, 1858

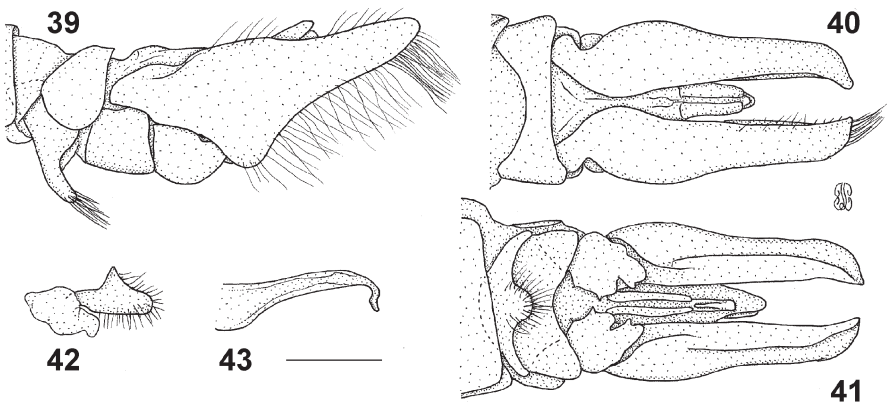
This longstanding synonymy, first recorded by Kertész (1909), has never been disputed. I have seen a series of photographs of the type male labelled '291', '71' (NHRS). These confirm the synonymy. Loew's (1860) illustrations (figs 1a (♂ gen.), 1b (♂ wing), 1c (head), 2a (♀ wing), 2b (♀ gen.)) clearly represent this species (or *dubius*) and not *signatus* as indicated by Loew.

Redescription:

Male.

Head: Dark red-brown to and orange-brown, strongly silver-gold pruinose, pale yellowish and black setose. Antenna: Orange (scape and pedicel) and red-brown (postpedicel and stylus), fine silver-gray pruinose, scape and pedicel black setose, postpedicel with a few small pale yellow setae dorsally; mean segmental ratios (n=5) 1:0.7:1.3:1.3 (0.2:1.0:0.1), i.e. pedicel shorter than scape, postpedicel longer than scape, stylus about as long as postpedicel. Face: Dark red-brown with orange-brown region ventrally, strongly silver-gold pruinose. Mystax entirely pale yellow (rarely with a few small blackish setae),

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Figs 39–43. *Synolcus dubius* (Macquart, 1846), male genitalia (Pietermaritzburg): (39) lateral, (40) dorsal, (41) ventral, (42) gonostylus, (43) aedeagus tip. Scale line 1 mm.

setae better developed ventrally. Frons and vertex: Dark red-brown, silver-gold pruinose, frons pale-yellow setose laterally (rarely with some blackish setae), ocellar tubercle black setose. Occiput: Dark red-brown, strongly silver-gold pruinose, black (dorsally) and pale yellowish to white (centrally and ventrally) setose.

Thorax: Variable from bright orange to orange-brown with dark red-brown to blackish markings, silver-gold pruinose, black and pale yellowish setose. Prothorax: Usually orange-brown, silver-gold pruinose, pale yellowish setose. Mesonotum: Orange to orange-brown, silver-gold pruinose with dark red-brown pruinose median band and lateral patches, macrosetae black, minor setae short, blackish or yellowish. Macrosetae: *acr* poorly developed posterior of transverse suture only, *dc* moderately developed posterior of transverse suture (extending slightly anterior of suture), 2 *npl*, 2 *spal* (sometimes 1 strong, 1 weak), 1 *pal* (may be accompanied by moderately developed setae). Scutellum: Orange to orange-brown, silver-gold pruinose, disc pale yellow and black setose, 1 pair poorly developed black apical macrosetae. Pleura: Variable between bright orange to orange-brown, silver-gold pruinose, weakly pale yellow setose except for group of *c*. 12 moderately developed *ktg*. Legs: *Cx* orange to orange-brown, silver-gold pruinose, pale yellowish setose; *cx*3 with 1 lateral macroseta. *Tro* orange, weakly apruinose, weakly pale yellowish setose. *Fem* largely orange with variable dark red-brown anterodorsal marking not reaching distal end, major setae pale yellow (posteriorly) and black (anteriorly), minor setae mostly pale yellowish. *Tib* orange with slightly darker brown-orange distal end, major and minor setae black and pale yellow. *Tar* brown-orange, major and minor setae mostly black (are some pale yellow). Wing (Fig. 7): Veins dark red-brown, membrane slightly yellowish stained, mostly transparent, appearing grayish due to microtrichiae (especially distally). Cell *sc* lacking sc–r. Cells *r*1 and *r*2+3 considerably expanded and displaying corrugations. Wing length × breadth (mean, n = 10) 11.8 (9.3–15.0) × 4.6 (3.6–5.9) mm. Haltere: Orange with red-brown distal end.

Abdomen: Brown-orange to dark red-brown, silver-gold pruinose, pale yellow setose. T1 fairly uniformly brown-orange, silver pruinose, 5–6 pale yellow macrosetae laterally accompanied by many pale yellow setae, medially short setose. T2–8 becoming progressively darker posteriorly, from brown-orange to dark red-brown, silver-gold pruinose,

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but darker in appearance anteromedially, setae pale yellow. S as T but uniformly silver-gold pruinose, pale yellow setose.

Terminalia (Figs 39–43): *Epand* in lateral view (Fig. 39) more than twice as long as deep, with fairly narrowly rounded distal tip and moderately well-developed ventral lobe in proximal region; *epand* lobes in dorsal view (Fig. 40) divergent proximally, converging fairly rapidly before gradually diverging toward their tips which are slightly medially directed. S8 moderately well-developed with medially situated, somewhat ventrally directed setose lobe (Figs 39, 41). *Hypd* fairly narrow with medially indented hind margin (Fig. 41). *Gonst* in lateral view (Fig. 42) with pointed projection dorsally at about midlength. *Aed* fairly stout with narrow ventrally-directed tip (Fig. 43).

Female: Essentially similar to male. Wing length × breadth (mean, n = 10) 12.6 (9.3–14.9) × 4.1 (3.0–5.0) mm (wing not expanded and therefore relatively narrower than in male). Terminalia (Fig. 80): Ovipositor laterally compressed, knife-like, elongate (almost 3 times as long as deep). *Note*: This elongate condition, while the norm for species of the *acrobaptus* group, is exceptional within the *dubius* group where ovipositors are generally much shorter.

Material examined: MOZAMBIQUE: 1? [♀] Lourenço Marques [Maputo, 25°58'S 32°35'E], ix–xii.1913 (BMNH). SOUTH AFRICA: 1♀ Loskopdan Nat. Res. area, 2529AD, 24.i.1978, Londt, bushveld near river; 1♀ Noordkaap, 20,5 km S Nelspruit, 2530DB, 1–2.xii.1976, Miller; 1♀ Ndumu Game Reserve, 2632DC, 4–9.x.1982, Londt, camp & riverine bush; 3♂ 2♀ Kosi Bay Nat. Res., 2632DD, 30.xi–2.xii.1982, Londt, Barraclough & Stuckenberg, forest & open woodland; 1♂ Makaheli Forest, *c*. 5 km NE Mangusi, 2632DD, 30.xi–2.xii.1982, Barraclough, Londt & Stuckenberg, forest; 3♂ Mseleni, 2732BC, 29.xi.1982, Stuckenberg, Barraclough & Londt, Woodland/sandy area; 1♂ 1♀ Cathedral Peak area, 2829CC, 17–27.xii.1977, Londt & Miller, indigenous forest Malaise trap; 1♂ 3♀ Cathedral Peak area, 2829CC, 16–18.xii.1977, Londt, Malaise trap; 1♂ The Kop Forest, Kranskop, 2830DD, 4.i.1970, Stuckenberg; 2♀ Entumeni Nat. Res., 16 km W Eshowe, 2831CD, 670 m, 26.i.1980, Miller & Stabbins, indigenous forest; 4♂ 1♀ Eshowe district, Ntumeni forest, 2831CD, 6.x.198, Freidberg; 2♂ 1♀ Dlinza Forest Reserve, Eshowe, 2831CD, 450 m, 20–23.x.1978, Londt; 1♂ Ongoye (Ngoye) Forest, near Eshowe, 2831DC, 29.ix.2006, Davies, main track through forest; 1♂ 1♀ Umlalazi Nat. Res., 1.5 km E Mtunzini, 2831DD, 4.xi.1979, Miller, coastal indigenous forest; 2♂ Umlalazi Nat. Res., 1.5 km E Mtunzini, 2831DD, x.1978, Miller, indigenous forest, Malaise trap; 2♂ Umlalazi Nat. Res.,1.5 km E Mtunzini, 2831DD, xi.1978, Miller, indigenous forest, Malaise trap; 1♂ 1♀ Umlalazi Nat. Res., 2831DD, 2–10.x.1982, Londt, dune forest & edges; 1♀ St Lucia Nat. Res., 2832AD, 18–20.xii.1981, Londt & Stuckenberg, coastal bush & forest; 1♀ St Lucia Nat. Res., 2832AD, 7.x.1983, Freidberg; 1♀ Cape Vidal, 20 mi [*c*. 32 km] N St Lucia [2832BA], 0–20 m, 24.xi.1971, Irwin, coastal dune forest; 7♂ 3♀ Injasuti Nat. Res., 2929AB, 5–11.xii.1983, Londt, at M/V light trap; 1♀ Umgeni Poort Convent, 2929BD, 1550–1610 m, 25–27.iii.1988, Whittington, in mixed grassland exotic scrub clear & warm; 1♂ Karkloof, 2930AB, 19.i.1983, Barraclough; 1♂ Clifton Canyon, Gillitts, 2930DD, 5.i.1980, Miller & Stabbins, indigenous forest; 1♂ Vernon Crookes Nat. Res., 3030BC, 23–30.x.2005, Davies, coastal forest; 1♂ Hogsback, 3226DB, 13–16.xii.1985, Londt, forest & forest margins; 1♀ Alexandria Forest Reserve, 3326DA, 28.xii.1985, Londt, forest & forest margins; 1♀ Leipsig Mission Station, Blouberg [23°00'S 28°59'E], 3–5.i.1955, Transvaal Museum Expedition; 1♀ Entabeni Forestry Station, Soutpansberg Range, 23°00'S 30°14'E, *c.* 1350 m, 15.i.1974, Stuckenberg, grassland near forest; 1♀ Entabeni Forestry Station, Soutpansberg Range, 23°00'S 30°14'E, *c.* 1350 m, 15.i.1974, Stuckenberg, forest edge & *Lantana* flowers; 1♀ Entabeni, Soutpansberg [23°00'S 30°14'E], xi.1931, van Son; 1♀ Entabeni For. Res. [23°00'S 30°14'E], 7–11.i.1987, Uys (SANC); 3♂ 2♀ Ben Lavin Nat. Res., 23°08'S 29°57'E, 2700 ft [*c*. 823m], 21.xi.1997, Barraclough & James, light trap; 1♀ Modjadji Nat. Res., 23.38S 30.20E, 13–14.i.1987, Eardley; 1♂ 1♀ Woodbush [23°44'S 30°02'E], i.1923, Roberts; 1♂ 2♀ Malta, Pietersburg [Polokwane, 24°10'S 30°14'E], 3.ii.1927, van Son; 2♂ Ekuthuleni, *c*. 7 km S Mica, 24°12'52"S 30°49'03"E, 352 m, 24–29.ix.2006, Londt, riverine vegetation along Olifants River; 1♂ Blyderivierspoort dam Nat. Res., 24°32'S 30°47'E, 25–26.xi.1984, Eardley (SANC); 2♀ Nylsvley Nature Res., 24°39'S 28°42'E, 1095 m, xi.1978, Ferreira (SANC); 1♀ Nylstroom [24°42'S 28°24'E], 4.xii.1944, Schumann; 1♂ Warmbaths [Bella Bella, 24°52'S 28°17'E], Wayner (SAMC); 1♀ Sudwala Caves, 25°22'S 30°41'E, 870 m, 17.xi.1997, Barraclough & James, indigenous woodland; 1♀ Nelspruit [Mbombela, 25°28'S 30°58'E], xii.1917, Breijer; 1♂ Malelane [25°29'S 31°31'E], 1.x.1963, Johannsmeier (SANC); 1♀ Pretoria, 25°44'S 28°13'E,

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16.xi.1997, Loew; 1♀ Barberton, 25.48°S 31.03°E, 20–21.iii.1979, Moolman (SANC); 1♂ Eldoraigne, Centurion, 25°50'S 28°09'E, 26.iv.1999, Yetman; 1♂ Kyalami, 25°56'S 28°07'E, 10.iii.1998, Nolting; 1♂ Illovo, Johannesburg [26°07'46"S 28°03'03"E], 26.x.1985, Webb; 1♂ Kosi Bay Nat. Res., 26°5721"S 32°49'51"E, 37 m, 10–15.xii.2010, Londt, dune forest; 2♀ Kosi Bay Nat. Res., 26°57'28"S 32°49'36"E, 20 m, 8–14.x.2011, Londt, Ugudu Lodge area dune forest; 1♂ Kosi Bay Nat. Res., 26°57'46"S 32°48'35"E, 20 m, 9–13.x.2011, Londt, picnic area sandy mixed savannah; 1♀ Kosi Bay Nat. Res., 26.957589°S 32.827366°, 15 m, 9–13.x.2011, Miller, Malaise trap close to chalet; 1♂ Tembe Game Reserve, 26°58.3'S 32°31.5'E, 7.x.1999, Herbert, Masters & Van Heerden, sand forest and environs; 1♀ Lake Nhlange margin, Kosi Bay, 26°59'S 32°50'E, 14.x.2001, Reavell; 1♂ Manguzi Forest Reserve, 26.992588°S 32.723958°E, 60 m, 9–13.x.2011, Miller, Malaise trap on forest trail; 1♂ Pongola Bush Nat. Res., 27°21'S 30°26'E, 18.i.1995, Stuckenberg, indigenous forest; 1♂ Mantuma Camp Reception, Mkuzi Game Reserve, 27°35'55"S 32°13'05"E, 15.xi.2002, Conway; 1♀ Ngome [27°52'S 31°24'E], 3.i.1981, '202'♀ prey of '201'♀ [i.e. *S. minor* – see below]; 1♂ 2♀ False Bay Park, Lake St Lucia [27°58'S 32°22'E], 9–15.x.1985, Manning, thick sand forest; 1♀ Zinave Game Ranch, 20 km W of Ngweni, 27°59'S 32°18'E, 2.ii.1990, Schoeman; 1♂ Hluhluwe Game Reserve, 28°04'S 32°08'E, 4.xii.1992, Bagnall; 1♂ Cape Vidal area, 28°06'S 30°33'E, 30 m, 9.x.1992, Londt, coastal bush/forest; 1♂ Cape Vidal, 28°08'13"S 32°32'43"E, 31 m, 26.xi.1998, Leftwich, grassy clearing in coastal forest; 1♂ Eastern Shores, GSLWP, 28°18'07"S 32°27'18"E, 2.x.2001, Armstrong & Ngwenya, forest dune valley/bottomlands; 1♀ Van Reenen [28°22'S 29°23'E], xii.1926, Turner (BMNH); 1♀ Dukuduku Nat. Res., 15 km E Mtubatuba [28°23'S 32°19'E], 23.ix.1977, Brothers; 2♂ 4♀ St Lucia Estuary area, 28°23'S 32°25'E, 10 m,5–10.x.1992, Londt, coastal bush and forest; 2♂ St Lucia Bay [28°23'S 32°25'E], x.1919, Bell-Marley (DMSA); 1♀ 'Zululand', Mposa [28°31'S 31°47'E], x.1951, Munro (SANC); 1♂ St Lucia Estuary, 7.x.1983, Stuckenberg, coastal bush & grassland; 1♂ Empangeni, 28°38'S 31°42'E, 18.ii.1990, Reavell (with prey: alate Isoptera); 1♂ 2♀ Royal Natal National Park [28°41'S 28°59'E], 6–10.xii.1984, Londt, riverine bush montane slopes; 2♀ Royal Natal National Park, 28°41.362'S 28°56.327'E, 1425 m, 13.xii.2004, Mostovski, Malaise trap stream yellowwood; 1♂ 1♀ Empangeni District, Enseleni Reserve [28°41'S 32°03'E], 8.x.1983, Stuckenberg, flowering meadow; 1♂ 2♀ Mfongosi [28°42'S 30°48'E], xii.1911, Jones (SAMC); 1♂ 1♀ Nkandla Forest Reserve [28°44'S 31°09'E], xii.1952 (BMNH); 1♀ Nkandla For. Res. [28°45'S 31°09'E], 19–21.x.2003, Mostovski, Malaise tr.; 1♀ Nkandla, i.1937, Lawrence, forest (SAMC); 1♂ Mpushini Falls, Dlinza, Eshowe, 28°50'S 31°25'E, 520 m, xi.1983, Digby; 2♂ 1♀ Kusikwayo Eastern section, Ongoye Forest, 28°50'S 31°43'E, 380 m, 6.ix–21.x.2008, Miller & Davies, Malaise trap forest understory (SANC); 1♀ Entumeni Nat. Res., 28°52'35"S 31°22'54"E, 26.i.1988, Londt, coast scarp forest; 5♂ 3♀ Ntumeni forest [28°53'S 31°19'E], 6.x.1983, Stuckenberg; 1? Eshowe [28°53'S 31°28'E], xi xii.1943, Bevis (DMSA); 1♂ 1♀ Eshowe, 28°53'S 31°28'E, 3.x.1995, Eckard; 3♀ Cathedral Peak [28°57'S 29°12'E], 18.xii.1966, Londt; 1♀ Cathedral Peak, Mike's Pass [28°57'S 29°14'E], 1700 m, 24.ii.1984, Moolman (SANC); 1♀ Didima, Cathedral Peak, 28°57.000'S 29°14.395'E, 1422 m, 13–16.xii.2004, Mostovski; 1♀ Cathedral Peak Forestry Research Station, 1330 m, 15.xi.1990, Pajor; 2♀ Umlalazi Nat. Res., 28°57'S 31°46'E, 50 m, 8.xi.1997, Londt, dune forest & margins; 1♂ Monk's Cowl, Drakensberg [29°00'S 29°23'E], 23–25.x.1993, Koch (ZMHB); 2♀ Lekkerwater Farm, 29°00'S 29°24'E, 1470 m, 18.xii.1996, Londt, in grotto near farm (1♀ with Lepidoptera, small unidentified moth, prey); 1? Hudley [29°00'19"S 31°42'21"E], 28.xi – 6.xii.1948, Pinhey; 1♀ Dragon Peaks Park [29°01'S 29°26'E], 9–12. xi.1993, Mey & Ebert (ZMHB); 1♂ Monk's Cowl Nat. Res., 29°02'20"S 29°24'09"E, 1358 m, 21.i.2006, Londt, montane grassland; 1♂ Monk's Cowl Nat. Res., 29°03'S 29°24'E, 1440 m, 10.xii.1995, Londt, stream & forest edges (with prey: Mecoptera, Bittacidae, *Bittacus nebulosus*); 1♂ Monk's Cowl Nat. Res., 29°03'S 29°24'E, 1440 m, 15–16.xii.1992, Londt, grass/streamside bush; 2♂ 1♀ Injasuti, 29°08'32"S 29°25'34"E, 1635 m, 8.xii.1998, Leftwich, within montane forest; 1♀ Geekies farm, Karkloof [29°15'S 30°20'E], 12.xii.1978, Londt; 1♂ Geekies farm, Karkloof, 21.xii.1983, Stuckenberg; 1♂ Karkloof, 29°17'S 30°23'E, 23.xii.1988, Wirminghaus; 1♂ Karkloof Nat. Res., 29°18'00"S 30°13'40"E, 1260 m, Londt, mixed *Podocarpus* forest edge; 1? Giant's Castle, 29°20'S 29°29'E, 2006 m, 2.ii.1995, Barraclough, forest and margins; 1♀ Fort Nottingham Nat. Res., 29°24'44"S 29°55'00"E, 1525 m, 5.ii.2011, Londt, *Podocarpus* forest area; 1♂ 1♀ Karkloof [29°27'S 30°19'E], ii.1897, Marshall (BMNH); 1♂ Howick, 29°28'S 30°13'E, 1060 m, 29.xii.1991, Whittington, garden vegetation; 1♀ Howick, 29°28'S 30°13'E, 1060 m, 21.xi.1993, Whittington, garden vegetation; 1♀ Howick, 29°28'40"S 30°13'20"E, 6.ii.1991, Whittington, domestic lights; 1♂ 3 pupal cases Howick, 29°29'S 30°13'E, 1060 m, 6.xi.1993, Whittington, from building sand; 2♂ Salt Rock, 29°29'S 31°15'E, 10 m, 5–12.x.1991, Londt, caravan park & area; 2♂ Otto's Bluff [29°30'30"S 30°21'45"E], 28.xi.1979, Londt; 1♀ Ballito, 29°32'S 31°13'E, 30 m, 11.x.1991, Londt, damp woodland; 1♂ Hilton [29°32'30"S 30°18'18"E], 24.xi–9.xii.2003, Mostovski, Malaise trap, garden; 1♂ same data but 10–23.xii.2003; 1♂ same data but 15–26.i.2004; 1♂ Ferncliff [Forest/Nature Reserve, 29°33'00"S 30°20'30"E], 6.xii.1961, Stuckenberg; 1♂ 1♀ same data but 975 m, 23.xi.1987, Londt & Seymour, mistbelt mixed forest; 1♂ 2♀ Ferncliff Nat. Res., 29°33'S 30°20'E, 9.i.1990, Londt & Whittington, indigenous forest; 1♀ same data but 16.i.1990, Chinn & Whittington,

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indigenous forest; 1♂ same data but 30.xi.1994, Cradock; 1♀ same data but 1020 m, 16.xii.1996, Londt, forest margin; 1♀ Pietermaritzburg, 29°33.051'S 30°20.490'E, 25.xi.2003, Davies & Conway, mist belt indigenous forest; 1♂ Ferncliff, 22.ii.1988, Whittington, indigenous forest; 1♂ Bishopstowe, near Pietermaritzburg, 2930CB, 9.xi.1981, Seymour; 1♂ 2♀ Townbush, Pietermaritzburg, 2930CB, 5.xi.1971, Irwin; 1♂ same data but xi.1976, Miller, Malaise; 1♂ same data but xii.1976, Miller, Malaise trap; 1♀ same data but 18.xi.1979, Londt; 1♀ same data but 10.iii.1983, Londt; 1♂ same data but 12.xi.1988, Londt; 1♂ Pietermaritzburg, 1953, Wattle Research Institute (BMNH); 1♂ Queen Elizabeth Park Nat. Res., 29°34.157'S 30°19.299'E, 856 m, 1–5.xii.2003, Londt & Mostovski, forest patch, Malaise trap; 1♂ Pietermaritzburg, 2930CB, 1.xi.1984, Croeser; 1♂ Pietermaritzburg, 29°34'54"S 30°21'33"E, 745 m, 6.i.2012, Londt, Athlone house garden; 1♂ 2♀ Tongaat [29°35'S 31°08'E], 1908–9, Burnup; 1? Upper Tongaat [29°35'S 31°08'E], xi.1919, Barker (DMSA); 1♂ Upper Tongaat, xi.1919, Barker (BMNH); 1♀ Pietermaritzburg [29°36'S 30°23'E], 20.xi.1955, B. Stuckenberg; 1♂ 1♀ Pietermaritzburg, xi.1940, Lawrence (SAMC); 1♀ Botha's Hill, 29°45'S 30°45'E, 29.ix.1994, Cradock; 1♂ 1♀ Botha's Hill, 29°45'S 30°45'E, 30.x.1993, Cradock (with prey: Coleoptera, Chrysomelidae & Scarabaeidae); 1♀ Botha's Hill, 29°45'S 30°45'E, 2.x.1994, Cradock; 1♀ Botha's Hill, 29°45'S 30°45'E, 7.xi.1994, Cradock; 1♂ 1♀ Botha's Hill, 27.xi.1993, Cradock; 2♀ Gillitts [29°47'S 30°48'E], 17.xi.1976, Londt, indigenous forest; 1♀ Gillitts, St Hellier, 7.xii.1978, Londt; 1♀ Pinetown District, Emberton [29°47'S 30°47'E], 21.xi.82, Manning, shady streamside herbs; 1♀ Kloof [29°47'S 30°50'E], 17.xii.1987, Reavell, in swimming pool; 1♀ Jacksons Falls, Mhlatuzana River, 29°48'S 30°45'E, 500 m, 1.xi.1990, Barraclough, indigenous forest; 1♀ same data but 18.xii.1990, Whittington, indigenous forest; 2♀ New Germany Nat. Res., 29°48'S 30°53'E, 25.12.1993, Cradock (with prey: Diptera, Tipulidae & Lepidoptera, unidentified moth); 1♀ Pinetown [29°49'S 30°51'E], 12.xii.1908, Leigh (ZSMC); 1♀ Kelvin Grove, 29°50'S 29°20'E, 20.xi.1993, Cradock; 1♀ Durban [29°51'S 31°01'E], 8.xii.1906, Leigh; 1♂ 'Port Natal' [Durban] (BMNH); 1♂ 1♀ Umbilo, Durban [29°54'S 30°59'E], 5.x.1913, Bevis (DMSA); 2♀ Umbilo, 5.x.1913, Bevis (BMNH); 2♀ Gxalingenwa Nat. Res., 30°00'38"S 29°38'39"E, 30.i.2003, Armstrong, forest; 1♂ Ixopo [30°09'S 30°05'E], 11.xii.1986, McGregor, carrying off bee; 1♀ Oribi Gorge Nat. Res., 30°41'S 30°17'E, 30.xi.2008, Davies; 2? Port Shepstone [30°45'S 30°27'E], i.1913, Barnard (SAMC); 2♂ 1♀ Port St Johns [31°38'S 29°32'E], 20–25.xi.1961, Stuckenberg; 1♀ 1? Port St Johns, xi.1916, Swinny; 1♀ Port St Johns, xii.1961, Gess (SAMC); 1♀ Port St Johns, xii.1923, Turner (BMNH); 3♀ Port St Johns, x.1923, Turner (BMNH); 1♀ Port St Johns, ix.1923, Turner (BMNH); 4♂ 4♀ Coffee Bay [31°58'S 29°09'E], 16–20.x.1970, Londt; 1♀ Bonza Bay, East London [33°02'S 27°55'E], 22.i.1976 (BMNH); 1♂ East London [33°02'S 27°55'E], i.1924, Holden (SANC); 1♀ Port Alfred [33°36'S 26°54'E], 28.x.1967, Londt; 1♀ Vredehoek [33°56'00"S 18°25'30"E], 1989, Cochrane (SAMC); 1♀ Vredehoek, Cape Town [33°56'00"S 18°25'30"E], 7.xi.1993, Larsen (SAMC); 1♂ 4♀ Rondebosch, Cape Town [33°58'S 18°28'E], 16–30.xii.1980, Lamoral, in garden; 1♀ Rondebosch, Cape Town, 30.xi.1992, van Noort (SAMC); 1♀ Rondebosch, 9.xi.1996, Griffiths; 2♀ Cape Town, Kirstenbosch Botanical Gardens [33°59'S 18°25'E], 22–24 xi.1982, Eardley (SANC); 1♂ Cape Town, Constantiaberge above Donkerbooskloof, above Tokai Forest, 34°02.0'S 18°23.5'E, 400 m, 25.i–2.ii.1994, van Noort, mesic mountain fynbos on sandstone, *Protea* dominated, Malaise trap (SAMC); 1♀ same data but 2–9.ii.1994 (SAMC); 1♂ same data but 2–14.iii.1994 (SAMC); 1♂ same data but 14–23.iii.1994 (SAMC); 1♀ Kirstenhof, Cape Town, 34°4.14'S 18°27.09'E, 20.xi.1998, van Noort, in garden (SAMC); 1♀ 'Caffraria' (ZMHB).

Distribution, phenology and biology: The most widely distributed species, being found along the southern and eastern coastlines of South Africa as well as the eastern highlands of Mpumalanga and southern Mozambique (Fig. 90), has been recorded for the Western Cape, Eastern Cape, KwaZulu-Natal, and Mpumalanga provinces. Adults fly from September through to April (Table 1). Label data and personal experience show that adult flies rest mainly on vegetation, usually bushes and trees, and are associated with forests, forest margins and thin undergrowth. The occurrence of this species in suburban Cape Town is interesting and it appears to represent a discontinuity in distribution. It is possible that the species was inadvertently introduced through the importation of plant material from further east. Seven confirmed prey records are available: Isoptera (alate), Lepidoptera (two unidentified moths), Mecoptera (Bittacidae – *Bittacus nebulosus*), Diptera (Tipulidae), Coleoptera (Chrysomelidae, Scarabaeidae). One record states that one male was caught carrying off a bee (Hymenoptera: Apoidea). The species appears to be a generalist predator.

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Synolcus griseus Engel, 1927

Figs 8, 44–47, 81, 91

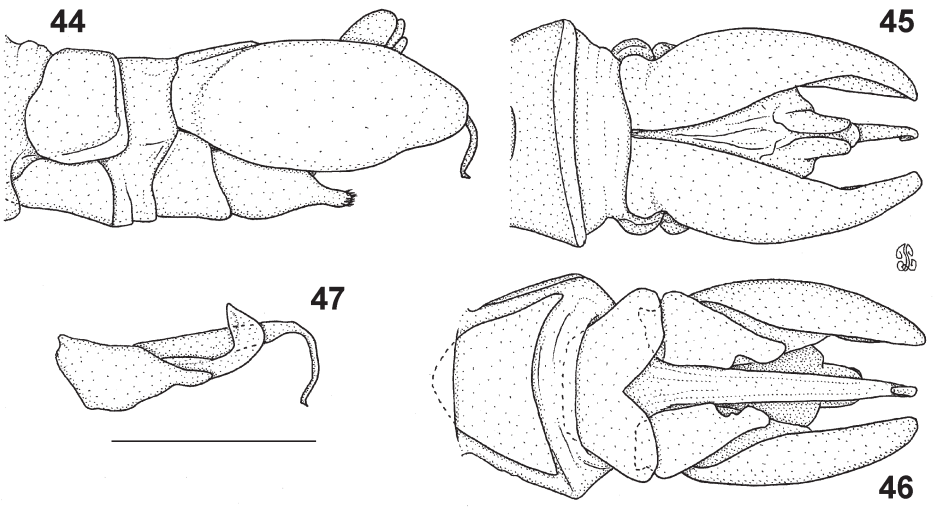
Synolcus griseus: Engel 1927: 146, fig. 9 (♂ gen.); Hull 1962: 526; Oldroyd 1974: 165, fig. 159 (♀ gen. – incorrect caption – should read fig. 160); 1980: 346 (catalogue); Londt 1980: 33–35, figs 5 (wing), 20–22, 23 (♀ gen.), 24–26 (♂ gen.); 1990: 2.

Redescription:

Male.

Head: Dark red-brown to blackish, strongly gold-silver pruinose, black and white setose. Antenna: Dark red-brown to blackish, fine silver-gray pruinose, scape and pedicel black setose, postpedicel with a few tiny yellowish setae dorsally; mean segmental ratios (n = 5) 1:0.7:1.4:1.3 (0.2:0.9:0.2), i.e. pedicel shorter than scape, postpedicel twice length of pedicel, stylus about as long as postpedicel. Face: Blackish, silver pruinose. Mystax white ventromedially, black dorsally and laterally on epistomal margin, setae slightly better developed ventrally. Frons and vertex: Blackish, weakly silver-gray pruinose, frons black setose laterally, ocellar tubercle black setose. Occiput: Blackish, strongly silver pruinose, black (dorsally) and white (centrally and ventrally) setose.

Thorax: Dark red-brown to blackish, silver pruinose, black, pale yellow and white setose. Prothorax: Dark red-brown to blackish, silver pruinose, pale yellow setose (a few black macrosetae). Mesonotum: Dark red-brown to blackish, silver pruinose, with broad black median band and large lateral patches, macrosetae black, minor setae short blackish and whitish. Macrosetae: *acr* poorly developed, confined to area posterior of transverse suture, *dc* moderately developed posteriorly and extending anteriorly beyond transverse suture, 2 *npl*, 1 *spal* (plus 1 or 2 weaker setae), 1 *pal* (1 weaker seta may also be present). Scutellum: Dark red-brown to blackish, silvery pruinose, disc fine white setose, 1 pair black apical macrosetae (1♀ has a second weaker pair). Pleura: Uniform dark red-brown to black, silver pruinose, weakly white and pale yellow setose except for *c*. 10 moderately



Figs 44–47. *Synolcus griseus* Engel, 1927, male genitalia (Entabeni): (44) lateral, (45) dorsal, (46) ventral, (47) gonocoxite, gonostylus and aedeagus. Scale line 1 mm.

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developed pale yellowish *ktg*. Legs: *Cx* dark red-brown to black, silver pruinose, white setose; *cx*3 with 1 lateral macroseta. *Tro* dark red-brown, weakly pruinose, white setose. *Fem* uniform blackish, major setae mostly black (few pale yellow), minor setae long or short pale yellowish. *Tib* predominantly dark red-brown but orange proximally, major setae black, minor setae yellowish. *Tar* dark red-brown, major setae black minor setae black and yellowish. Wing (Fig. 8): Veins mostly dark red-brown, proximal end more orange-brown, membrane usually transparent, but may be slightly yellowish stained at wing tip. Cell *sc* lacking a distal crossvein (sc–r) (except in 1 wing of 1♂). Cells *r*1 and *r*2+3 somewhat expanded and displaying corrugations. Wing length × breadth (mean, n = 3) 7.4 (6.5–8.2) × 3.1 (2.6–3.6) mm. Haltere: Orange.

Abdomen: Dark red-brown to black, strongly silver pruinose, whitish (a few tiny black) setose. T1 fairly uniformly silver pruinose, 3–4 whitish macrosetae laterally accompanied by many white setae, medially a few short black setose. T2–8 silver pruinose but intensity dependent on angel of view, setae mostly whitish (including *c*. 3 macrosetae posterolaterally). S essentially as T but no black setae evident.

Terminalia (Figs 44–47): *Epand* in lateral view (Fig. 44) elongate oval, about twice as long as deep, with broadly rounded distal tip; *epand* lobes in dorsal view narrowly separated proximally (Fig. 45). S8 without special modification (Figs 44, 46). *Hypd* fairly narrow with fairly deeply medially indented posterior margin. *Gonst* distally projecting to somewhat pointed setose tip (Fig. 44). *Aed* fairly stout with ventrally directed narrow apical section (Fig. 47).

Female: Essentially similar to male. Wing length × breadth (mean, n = 5) 7.7 (7.2–8.2) × 2.8 (2.7–3.0) mm (size range similar to ♂, wing not expanded, therefore narrower). Terminalia (Fig. 81): Ovipositor laterally compressed, knife-like, short (less than 1.5 times as long as deep).

Holotype (examined): 1♂ SOUTH AFRICA: Krabbefontein [23°46'S 30°07'E], xii.1902, Dr Breyer (ZSMC). *Note*: The type locality, Krabbefontein, was a farm owned by H.S. Altenroxel in the area north of Tzaneen in the Limpopo (then Transvaal) Province (Bleloch 1902: 172, 174; Buchan 1903: 122; Worsfold 1913: 97), on the left bank of the Groot Letaba River most probably close to or between Westfalia and Merensky High School. Another farm of the same name is located in the Western Cape of South Africa (34.25°S 19.03°E), but that locality is clearly out of the distribution range of the species.

Other material examined: SOUTH AFRICA: 2♂ 1♀ Entabeni Forest Station, Soutpansberg Range, 2230CC, i.1975, Stuckenberg, grassland; 1♀ Entabeni Forest Reserve, 22.00°S 30.16°E, 7.i.1987, Uys; 1♂ 3♀ Lone Creek River, 5 km W Sabie, 2530BB, 5.xii.1976, Miller. ZIMBABWE: 1♀ Mt Chiranda [Chirinda], Mashonaland [19°14'S 32°14'E], 14.xii.1910, Swynnerton (BMNH).

Distribution, phenology and biology: Restricted to the eastern highlands of South Africa and Zimbabwe (Fig. 91), being recorded for the Mpumalanga and Limpopo provinces of South Africa and eastern Zimbabwe. Adults have been captured during the midsummer months of December and January (Table 1). Label data provide little information, but localities suggest that the species has an association with forests and/or forest margins.

Synolcus macrocercus sp. n.

Figs 9, 48–53, 82, 88

Etymology: From Greek *makros* (long) and *kerkos* (tail); with reference to the elongate S8 possessed by this species.

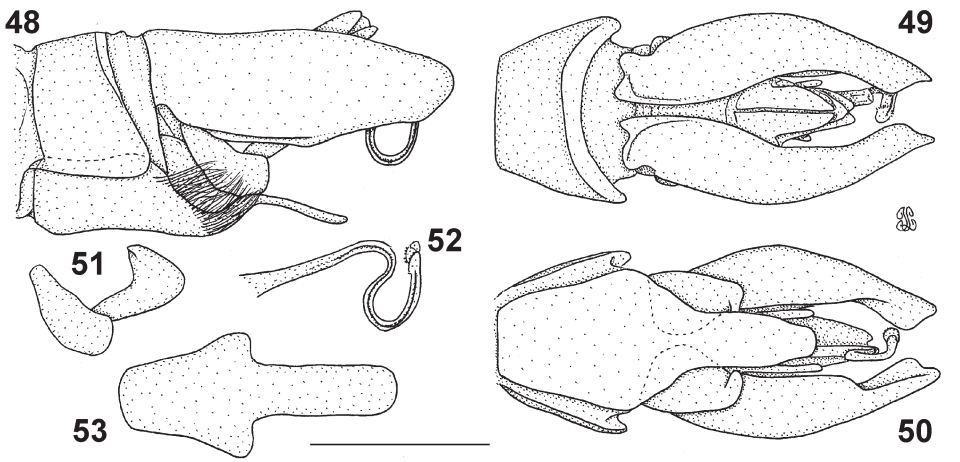
Description:

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Male.

Head: Dark red-brown to blackish, strongly silver pruinose, pale yellow-white and dark red-brown to black setose. Antenna: Dark red-brown to blackish, fine silver pruinose, scape and pedicel dark red-brown to black setose, postpedicel with few pale yellowish white setae dorsally; mean segmental ratios (n=6) 1:0.9:1.7:1.3 (0.2:1.0:0.1), i.e. pedicel and scape of similar length, postpedicel a little more than 1.5 times length of scape, stylus almost 1.5 times length of scape. Face: Blackish, strongly silver pruinose, weakly ventrolaterally. Mystax mostly white with a variable number of black setae dorsomedially. Frons and vertex: Blackish, strongly silver pruinose, frons white and black (few) setose laterally, ocellar tubercle black setose. Occiput: Blackish, silver pruinose, black (dorsally) and white (centrally and ventrally) setose.

Thorax: Dark red-brown to blackish, silver, gold-silver and silver-gold pruinose, black and white setose. Prothorax: Dark red-brown to blackish, silver pruinose, white setose (may have few dark red-brown macrosetae). Mesonotum: Dark red-brown to blackish, mostly silver-gold pruinose, macrosetae black, minor setae short blackish (mainly anteriorly) and longish white (mainly posteriorly). Macrosetae: *acr* poorly developed, *dc* moderately developed posterior of transverse suture only, 2 *npl*, 2–3 *spal*, 1 *pal*). Scutellum: Dark red-brown to blackish, silver to silver-gold pruinose, disc fine white or dark red-brown setose, 1 pair black (or rarely whitish) apical macrosetae. Pleura: Dark red-brown to black, silver to silver-gold pruinose, weakly white and pale yellow (*ktg*) setose. Legs: *Cx* dark red-brown, silver to gold-silver pruinose, white setose; *cx*3 with 2 lateral macrosetae. *Tro* red-brown, weakly pruinose, weakly white setose. *Fem* dark red-brown (slightly paler anteroventrally), major setae mostly pale yellow-white (few black), minor setae whitish. *Tib* brown-orange to red-brown, major setae dark red-brown and pale yellow-white, minor setae white. *Tar* red-brown, major and minor setae mostly black (a few pale yellow). Wing (Fig. 9): Veins mostly red-brown, anterior veins more orange-brown especially proximally, membrane transparent, but wing tip dark brown



Figs 48–53. *Synolcus macrocercus* sp. n., paratype male genitalia: (48) lateral, (49) dorsal, (50) ventral, (51) gonocoxite and gonostylus, (52) aedeagus tip (2 km N of Middelpos); (53) variation in S8 shape (Worcester). Scale line 1 mm.

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stained. Cell *sc* with sc–r (may be 2 close together). Cells *r*1 and *r*2+3 slightly expanded and displaying corrugations. Wing length × breadth (mean, n = 6) 6.0 (5.4–6.3) × 2.2 (1.9–2.4) mm. Haltere: Pale yellow with pale brownish distal and proximal ends.

Abdomen: Red-brown to blackish, silver to red-gold and dark red-brown pruinose, black and pale yellow-white setose. T1 fairly uniformly silver pruinose, 2–3 yellow-white macrosetae laterally accompanied by many white setae, posteromedially short black setose. T2–8 mostly silver pruinose but may be darker in appearance anteromedially and anterolaterally with a dark red-brown pruinescence, setae mostly pale yellowish white posterolaterally (including 1–3 macrosetae), mostly short black anteromedially. S similar to T but fairly uniformly silver pruinose, mixed black and white setose.

Terminalia (Figs 48–53): *Epand* in lateral view (Fig. 48) elongate, almost 3 times as long as deep, with broadly rounded distal end; *epand* lobes in dorsal view narrowly separated proximally (Fig. 49). S8 well-developed, thickly setose along much of posterior margin and projecting distally as an elongate, almost parallel-sided, lobe with broadly rounded tip (Figs 48, 50). S8 largely obscures from view both *hypd* and *goncx*. Medial lobe of S8 demonstrates some variation between males from the two known localities (Figs 50, 53). *Hypd* reduced and obscured from view in undissected genitalia. *Gonst* in lateral view fairly short with large, dorsally-directed tip (Fig. 51). *Aed* S-shaped distally (Fig. 52), with slightly swollen, membranous tip.

Female: Essentially similar to male. Wing length × breadth (mean, n = 10) 6.1 (4.9–7.8) × 2.0 mm (1.7–2.4) mm (size and range similar to male, but narrower and not corrugated). Wing with weakly or unstained tip. Tergites with mixed black and white setae. Terminalia (Fig. 82): Ovipositor laterally compressed, knife-like, elongate (about 2.5 times longer than deep).

Holotype: SOUTH AFRICA: ♂ 'S Africa: Cape #34 / 2 km N Middelpos / 31° 54'S:20°14'E 1250m / Date: 29.xi.1990 / Londt & Whittington / Dry scrub on dam bank'.

Paratypes: 3♂ 1♀ same data as holotype; 2♂ 7♀ 'S Africa: Cape #1/ Karoo Botanic Gardens / Worcester 3319Cb [Karoo National Botanical Gardens, 33°36'57"S 19°27'09"E] / 30.xii.1982–6.i.1983 / Malaise trap / Coll R.M. Miller'.

Distribution, phenology and biology: Known from only two localities in South Africa (Fig. 88), one in each of the Northern Cape and Western Cape provinces. The species occurs together with *acrobaptus* at the Karoo Botanical Gardens. Adults have been collected in November, January and February (Table 1), on dry scrub vegetation close to the ground or in a Malaise trap.

Synolcus malawi Londt, 1990

Figs 10, 54–57

Synolcus malawi: Londt 1990: 8–9, figs 2 (wing), 14–17 (♂ gen.).

Redescription (based on NMSA paratype and original description):

Male.

Head: Blackish, silver pruinose, white and black setose. Antenna: Blackish, fine silver-gray pruinose, scape and pedicel black setose; segmental ratios 1:0.8:1.5:1.4 (0.3:1.0:0.1), i.e. pedicel shorter than scape, postpedicel 1.5 times length of scape, stylus almost as long as postpedicel. Face: Blackish, silver pruinose. Mystax mixed black and white. Frons and vertex: Blackish, silver-gray pruinose, black setose including ocellar

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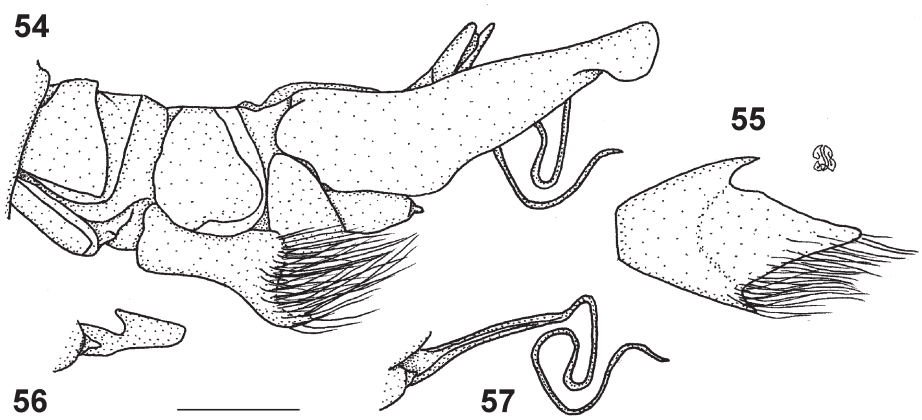
tubercle. Occiput: Blackish, silver pruinose, black (dorsally and centrally) and white (centrally and ventrally) setose.

Thorax: Blackish, silver pruinose, black, yellowish and white setose. Prothorax: Blackish, silver pruinose, white setose. Mesonotum: Blackish, silver pruinose with blackish median band and lateral patches, macrosetae black, minor setae black (mainly anteriorly) and white (mainly posteriorly). Macrosetae: *acr* and *dc* moderately developed posterior of transverse suture only, 2 *npl*, 2 *spal*, 2–3 *pal* (accompanied by smaller setae). Scutellum: Blackish, silver pruinose, disc fine white setose, 1 pair black apical macrosetae. Pleura: Black, silver pruinose, weakly white and yellow (*ktg*) setose. Legs: *Cx* black, silver pruinose, white setose; *cx*3 with 2 lateral macrosetae. *Tro* dark red-brown, largely apruinose, white setose. *Fem* black, major setae mostly pale yellow (few black), minor setae long or short white. *Tib* mostly dark red-brown (proximally orange-brown), major setae black and pale yellow, minor setae white. *Tar* dark red-brown, major setae black, minor setae black and yellowish. Wings (Fig. 10): Veins mostly dark red-brown, anterior veins orange-brown proximally, membrane transparent, wing tip dark stained. Cell *sc* with sc–r. Cells *r*1 and *r*2+3 greatly expanded and displaying corrugations. Wing length × breadth (mean, n = 2) 7.8 (7.6–7.9) × 3.3 (both specimens) mm. Haltere: Pale yellow with pale brownish proximal end.

Abdomen: Dark red-brown to black, silver and dull reddish pruinose, white setose. T1 fairly uniformly silver pruinose, 3–4 white macrosetae laterally accompanied by many white setae. T2–8 mostly silver pruinose but usually darker in appearance anteromedially with a dull reddish pruinescence, setae white. S as T but uniformly silver pruinose, white setose.

Terminalia (Figs 54–57): *Epand* in lateral view (Fig. 54) more than 3 times as long as deep, with fairly broadly rounded distal tip; *epand* lobes in dorsal view narrowly separated proximally. S8 well-developed, thickly setose along posterior margin and projecting distally as a triangular lobe (Fig. 55) that largely hides from view both *hypd* and *goncx*. *Hypd* reduced. *Gonst* in lateral view short with hooked distal end (Fig. 56). *Aed* convolutedly sinuous distally (Fig. 57).

Female: Unknown.



Figs 54–57. *Synolcus malawi* Londt, 1990, paratype male genitalia (Lichenya paratype): (54) lateral, (55) ventral view of S8, (56) gonostylus, (57) aedeagus (redrawn from Londt 1990). Scale line 1 mm.

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Type material examined: MALAWI: 1♂ paratype 'Lichenya Plateau / 2000m / 5/24.xi.1981', 'Coll. Mus. Turvuren / Malaŵi South Reg. / Mount Mulanje [15°57'S 35°37'E] / xi.1981 R. Jocqué'. *Note*: Other types have not been re-examined.

Distribution, phenology and biology: Known only from Mount Mulanje in southern Malawi. This is the northernmost record of the genus (Fig. 87). The type series was collected in November (Table 1). Label data makes no mention of the habitat occupied, but the locality and coordinates suggest indigenous forest.

Synolcus minor (Bromley, 1947)

Figs 11, 58–61, 83, 89

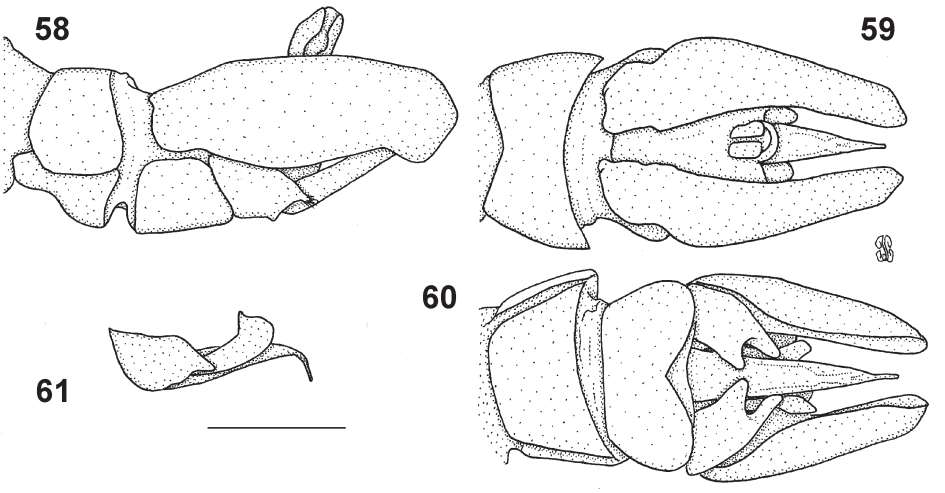
Merogymnus minor: Bromley 1947: 114–115, fig. 3 (♂ gen.).
Hobbyus minor: Hull 1962: 527; Oldroyd 1974: 159; 1980: 338 (catalogue).
Synolcus minor: Londt 1980: 35–37, figs 6 (wing), 27–30 (♂ gen.); 1990: 2, 11, fig. 18 (♀ gen.).

Redescription:

Male.

Head: Blackish, strongly gold-silver pruinose, pale yellow and black setose. Antenna: Blackish, fine gold-silver pruinose, scape and pedicel black setose, postpedicel with a few yellowish setae dorsally; mean segmental ratios (n = 5) 1:0.7:1.3:1.2 (0.2:0.9:0.1), i.e. pedicel shorter than scape, postpedicel almost 1.5 times length of scape, stylus a little longer than postpedicel. Face: Blackish, strongly gold-silver pruinose. Mystax mostly black, with large group of pale yellow setae ventromedially. Frons and vertex: Blackish, silver and red-gold pruinose, frons black setose, ocellar tubercle black setose. Occiput: Blackish, strongly silver pruinose, black (dorsally) and pale yellow to white (centrally and ventrally) setose.
Thorax: Blackish, silver and red-gold pruinose, black, pale yellow and white setose. Prothorax: Blackish, gold-silver pruinose, white setose except for few black macrosetae. Mesonotum: Blackish, silver to silver-gold pruinose with blackish pruinose median band and lateral patches, macrosetae black, minor setae short blackish (mainly anteriorly) and longish white (mainly posteriorly). Macrosetae: *acr* and *dc* moderately developed mainly posterior of transverse suture but they extend almost to anterior margin, 2 *npl*, 2 *spal* (and few smaller setae), 1 *pal* (+ 1 weaker seta). Scutellum: Blackish, silvery pruinose, disc white setose, 1 pair black apical macrosetae. Pleura: Blackish, silver to silver-gold pruinose, weakly white and pale yellow (*ktg*) setose. Legs: *Cx* black, silver pruinose, white setose; *cx*3 with 1 lateral macrosetae. *Tro* blackish, largely apruinose, weakly white setose. *Fem* uniform dark red-brown to black, major setae mostly black (some pale yellow), minor setae mostly pale yellow. *Tib* orange with blackish distal end, major and minor setae black and pale yellow. *Tar* blackish, major and minor setae mostly black (may be a few pale yellow minor setae). Wing (Fig. 11): Veins mostly dark red-brown, anterior veins more orange-brown proximally, membrane transparent, wing tip not dark stained but slightly gray due to microtrichiae. Cell *sc* without sc–r. Cells *r*1 and *r*2+3 greatly expanded and displaying corrugations. Wing length × breadth (mean, n = 5) 9.2 (8.6–9.7) × 4.2 (3.6–4.3) mm. Haltere: Pale yellow with pale brownish distal and proximal ends.
Abdomen: Blackish, silver pruinose, mainly white to pale yellow setose. T1 fairly uniformly silver pruinose, 3 pale yellow macrosetae laterally accompanied by many white setae. T2–8 mostly silver pruinose but weakly so anteromedially, setae mostly

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Figs 58–61. *Synolcus minor* (Bromley, 1947), male genitalia (Melmoth): (58) lateral, (59) dorsal, (60) ventral, (61) gonocoxite, gonostylus and aedeagus. Scale line 1 mm.

pale yellow (including 1–3 macrosetae posterolaterally), a few black minor setae. S as T but uniformly silver pruinose, pale yellow setose.

Terminalia (Figs 58–61): *Epand* in lateral view (Fig. 58) fairly elongate, but less than 3 times as long as deep, with broadly rounded, somewhat downcurved distal ends; *epand* lobes in dorsal view fairly widely separated proximally (Fig. 59). S8 normally developed, hind margin almost straight to slightly indented (Fig. 60). *Hypd* moderately well-developed with clearly medially indented posterior margin. *Gonst* in lateral view with dorsally directed point subapically (Fig. 61). *Aed* fairly straight, stout, tapering to ventrally directed tip (Fig. 61).

Female: Essentially similar to male. Wing length × breadth (mean, n=6) 8.5 (7.3–9.9)×3.1 (2.6–3.6) mm (not expanded and therefore narrower). Terminalia (Fig. 83): Ovipositor laterally compressed, short (less than twice as long as deep).

Type material examined: SOUTH AFRICA: 1♂ paratype 'Eshowe [28°53'S 31°28'E] / xi–xii.1943 / L. Bevis' (DMSA).

Other material examined: SOUTH AFRICA: 1♀ Ngome [27°52'S 31°24'E], 25.xii.1979, on grasses near stream; 1♀ Ngome, 25.xii.1980, in open grassland along riverine forest; 1♂1♀ Ngome, 28.xii.1980, on neatly cut front lawn, ♂ with crane fly prey; 1♂ Ngome, 31.xii.1980, on front lawn; 1♀ Ngome, 3.i.1981, '201'♀ had caught '202'♀ there was a struggle but never any doubt eventually '202' was still [prey was *S. dubius* see above]; 1♀ Kwanzimela [28°35'S 31°24'E], 3.iii.1986, Reavell, mistbelt forest; 1♂ Melmoth District, Farm Morgenzon, 28°37'S 31°27'E, 800 m, 31.i.1986, Hurt, in kikuyu in road bordering pine plantation; 1♂ same data but 23.i.1986, Hurt, on mature sugarcane; 1♂ same sata but 790 m, 6.ii.1986, Hurt, in medium grass adjacent sugarcane; 1♀ Nkandla Forest, 28°38'S 29°30'E, 900 m, 9.i.1982, Miller & Stabbins [with prey: Hymenoptera, Sphecidae]; 2♂1♀ Entumeni Forest Reserve, 28°53'11"S 31°22'39"E, 680 m, 22.i.2012, Londt, picnic site and near gate, forest & margins.

Distribution, phenology and biology: Restricted to South Africa, this is a KwaZulu-Natal provincial endemic (Fig. 89). Adults fly from November through to March (Table 1). Label data suggest that this species inhabits indigenous forests and forest margins, being also found in grass (including lawns and sugarcane fields) which was, presumably, adjacent to forest. Label data record a male feeding on a cranefly (prey item not preserved)

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and on another species of *Synolcus* (*dubius*) (prey item labelled and pinned separately). Only one other prey record is available – Hymenoptera (Sphecidae).

Synolcus namibiensis sp. n.

Figs 12, 62–66, 84, 88

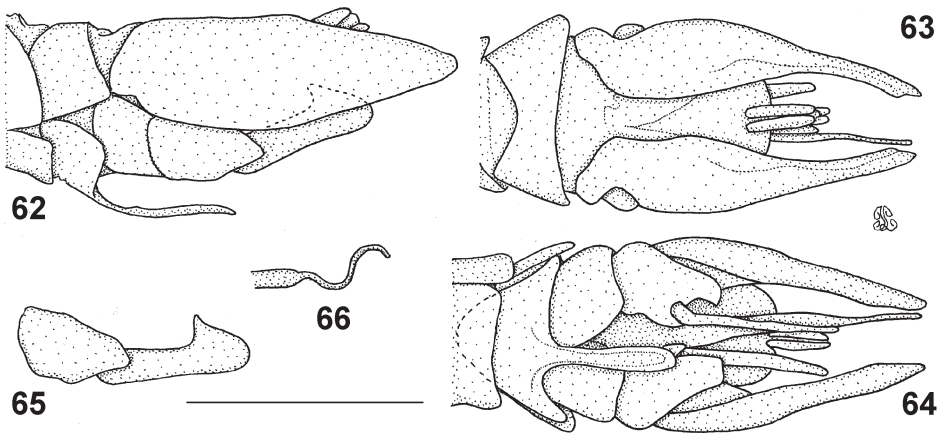
Etymology: Named after Namibia, where the type material was collected.

Description:

Male.

Head: Dark red-brown to blackish, strongly silver pruinose, white and black setose. Antenna: Blackish, silver pruinose, scape and pedicel mainly black (ventral) and white (dorsal) setose (may be mixed ventrally), postpedicel with few whitish setae dorsally; mean segmental ratios (n=4) 1:0.8:1.3:1.4 (0.3:1.0:0.1), i.e. pedicel slightly shorter than scape, postpedicel almost 1.5 times length of scape, stylus and postpedicel subequal in length. Face: Blackish, silver pruinose. Mystax mixed black (mainly dorsally and ventrolaterally) and white (mostly centrally), setae slightly better developed ventrally. Frons and vertex: Blackish, silver pruinose, frons white setose laterally, ocellar tubercle white setose. Occiput: Blackish, silver pruinose, mostly white setose except for a few black macrosetae dorsally.

Thorax: Dark red-brown to blackish, silver pruinose, black, pale yellow and white setose. Prothorax: Blackish, silver pruinose, white setose. Mesonotum: Blackish, silver pruinose, macrosetae mainly white (few black), minor setae short blackish (mainly anteriorly) and longish white (mainly posteriorly). Macrosetae: *acr* and *dc* moderately developed mainly posterior of transverse suture, mostly white posteriorly, black anteriorly, 2 pale yellowish white *npl*, 2 pale yellowish white *spal* (1 may be black), 1 pale yellowish white *pal*. Scutellum: Blackish, silvery pruinose, disc white setose, 1 pair pale yellow-white apical macrosetae. Pleura: Dark red-brown to black, silver pruinose, weakly white and pale yellow (*ktg*) setose. Legs: *Cx* dark red-brown to black, silver pruinose, white setose; *cx*3 with 1 lateral macroseta. *Tro* dark red-brown, largely apruinose, weakly



Figs 62–66. *Synolcus namibiensis* sp. n., paratype male genitalia (Ai-Ais): (62) lateral, (63) dorsal, (64) ventral, (65) gonocoxite and gonostylus, (66) aedeagus tip. Scale line 1 mm.

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white setose. *Fem* uniform dark red-brown to black, major and minor setae white. *Tib* mainly brown-orange (distal ends dark red-brown), major setae mainly white (few black), minor setae white. *Tar* red-brown, major and minor setae mixed black and white. Wing (Fig. 12): Veins mostly red-brown, anterior veins more orange-brown proximally, membrane transparent, wing tip not dark stained. Cell *sc* with sc–r. Cells *r*1 and *r*2+3 slightly expanded and displaying corrugations. Wing length × breadth (mean, n = 4) 5.8 (5.3–6.4) × 2.1 (1.8–2.2) mm. Haltere: Pale yellow with pale brownish distal and proximal ends.

Abdomen: Dark red-brown to black, silver pruinose, black and white setose. T1 silver pruinose, 3–4 whitish macrosetae laterally accompanied by many white setae. T2–8 silver pruinose, setae mostly white (including 2–3 posterolateral macrosetae), a few short black setae anteromedially. S as T but uniformly silver pruinose, white setose.

Terminalia (Figs 62–66): *Epand* in lateral view (Fig. 62) elongate oval, about 3 times as long as deep, with fairly narrowly rounded distal end; *epand* lobes in dorsal view fairly widely separated proximally (Fig. 63). S8 well-developed, thickly setose along posterior margin, and projecting distally as a narrow, finger-like medial lobe (Figs 62, 64). *Hypd* moderately developed with deeply incised hind margin. *Gonst* in lateral view as in Fig. 65. *Aed* fairly long and straight with S-shaped filamentous tip (Fig. 66).

Female: Essentially similar to male. Wing length × breadth (mean, n = 2) 6.0 (5.9–6.1) × 1.8 (1.8–1.9) mm (size range almost identical to males but wing slightly narrower due to lack of expansion). Terminalia (Fig. 84): Ovipositor laterally compressed, knife-like, elongate (almost 3 times as long as deep).

Holotype: NAMIBIA: ♂ 'Namibia: Ai-Ais [27°55'S 17°29'E] / Fish River Canyon / 7–8.x.1993 / leg. F. Koch' (NMNW).

Paratypes: 3♂ 2♀ same data as holotype (1♂ 1♀ NMNW, 1♂ 1♀ ZMHB, 1♂ NMSA).

Distribution, phenology and biology: Known only from the type locality in southern Namibia (Fig. 88), where adults were collected in October (Table 1). Although label data do not provide information regarding habitat, the species probably behaves much like *acrobaptus* and its other allies.

Synolcus spinosus Londt, 1980

Figs 13, 67–71, 85, 91

Synolcus spinosus: Londt 1980: 37–38, figs 7 (wing), 31–33 (♂ gen.), 34 (♀ gen.); 1990: 2.

Redescription:

Male.

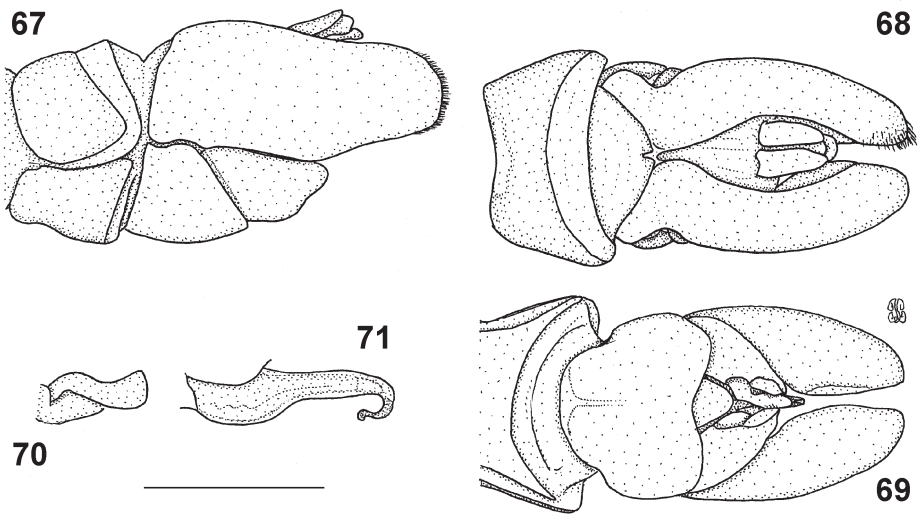
Head: Dark red-brown to blackish, strongly gold-silver pruinose, white, pale-yellow and black setose. Antenna: Dark red-brown to blackish, fine silver-gray pruinose, scape and pedicel black setose, postpedicel with few yellowish setae dorsally; mean segmental ratios (n = 2) 1:0.8:1.7:1.1 (0.1:0.9:0.1), i.e. pedicel shorter than scape, postpedicel more than 1.5 times length of scape, stylus about as long as scape. Face: Dark red-brown to blackish, strongly gold-silver pruinose. Mystax black dorsally, pale yellowish ventrally (and ventrolaterally), setae slightly better developed ventrally. Frons and vertex: Blackish, strongly silver and red-gold pruinose, black setose (including ocellar setae). Occiput: Blackish, strongly silver pruinose, black (dorsally and centrally) and white (centrally and ventrally) setose.

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Thorax: Dark red-brown to blackish, silver, gold-silver and dark red-brown pruinose, black and pale yellowish setose. Prothorax: Dark red-brown to blackish, gold-silver pruinose, pale-yellow setose except for dark red-brown macrosetae. Mesonotum: Dark red-brown to blackish, silver to gold-silver pruinose with dark red-brown pruinose median band and lateral patches, macrosetae black, minor setae blackish (mainly anteriorly) and pale yellow-white (mainly posteriorly). Macrosetae: *acr* and *dc* moderately developed posterior of transverse suture, *dc* extending anterior of suture, 2 *npl*, 2 *spal*, 3 *pal* (1 weak). Scutellum: Dark red-brown to blackish, strongly silvery pruinose, disc pale yellow setose, 1 pair black apical macrosetae. Pleura: Dark red-brown to black, silver to gold-silver pruinose, weakly (except *ktg*) white to pale yellow setose. Legs: *Cx* dark red-brown to black, gold-silver pruinose, pale yellow setose; *cx*3 with 2 lateral macrosetae. *Tro* dark red-brown, weakly pruinose, pale yellow setose. *Fem* uniform dark red-brown to black, major setae mixed black and pale yellow, minor setae pale yellow. *Tib* orange proximally, dark red-brown, distally, major and minor setae black and pale yellow. *Tar* dark red-brown, major and minor setae mixed black and pale yellow. Wing (Fig. 13): Veins mostly dark red-brown, anterior veins more orange-brown proximally, membrane transparent (slight yellow appearance due to microtrichiae). Cell *sc* lacking sc–r. Cells *r*1 and *r*2+3 considerably expanded and displaying corrugations. Wing length × breadth (mean, n = 2) 9.3 (8.0–10.4) × 3.8 (3.2–4.5) mm. Haltere: Pale brown with darker distal and proximal ends.

Abdomen: Dark red-brown to black, strongly silver to gold-silver, pale yellowish setose. T1 fairly uniformly silver pruinose, *c*. 5 pale yellow macrosetae laterally accompanied by many setae. T2–8 strongly silver pruinose (reflective properties change with angle of view), pale yellowish setose (including *c*. 3 posteroventral macrosetae). S similar to T.

Terminalia (Figs 67–71): *Epand* in lateral view (Fig. 67) fairly short (a little more than twice as long as deep), with broadly rounded, spinose distal end; *epand* lobes in



Figs 67–71. *S. spinosus* Londt, 1980, holotype male genitalia (Gladdespruit): (67) lateral, (68) dorsal, (69) ventral, (70) gonostylus, (71) aedeagus. Scale line 1 mm.

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dorsal view divergent proximally, becoming closely associated before curving outwards towards inwardly directed distal ends (Fig. 68). S8 unmodified, hind margin fairly straight to slightly medially indented. *Hypd* fairly well-developed with gently indented posterior margin (Figs 67, 69). *Gonst* in lateral view as in Fig. 70. *Aed* fairly stout with short U-shaped, filamentous tip (Fig. 71).

Female: Essentially similar to male. Wing length × breadth (mean, n = 3) 9.3 (8.9–9.6) × 3.5 (3.4–3.8) mm (length and range almost identical to male but breadth narrower due to lack of expansion). Terminalia (Fig. 85): Ovipositor laterally compressed, fairly short (about 1.5 times as long as deep).

Type material examined: SOUTH AFRICA: 1♂ holotype 2♀ paratypes 'Gladdespruit River / Headwaters at Kaapsehoop [25°35'22"S 30°46'12"E] / 2530DB Transvaal 5000ft [1524m] / 23 Febr 71 Stuckenberg / Grassland & Gallery forest'; 1♂ paratype ' Gladdespruit River / Headwaters at Kaapsehoop / 2530DB Transvaal 5000ft [1524m] / 3 xi 70 Stuckenberg / Grassland & Gallery forest'.

Other material examined: SOUTH AFRICA: 1♀ Barberton, 2531CC, 8.xii.1986, Meakin.

Distribution, phenology and biology: Known only from two localities in the Mpumalanga province of South Africa (Fig. 91), and collected in November and December (Table 1) from 'grassland and gallery forest'. The label data suggest that the species inhabits forest and forest margins.

Synolcus ukhahlamba sp. n.

Figs 14, 72–75, 86, 91

Etymology: Named after the uKhahlamba Drakensberg Park, a World Heritage Site, as all known records are from this mountainous region.

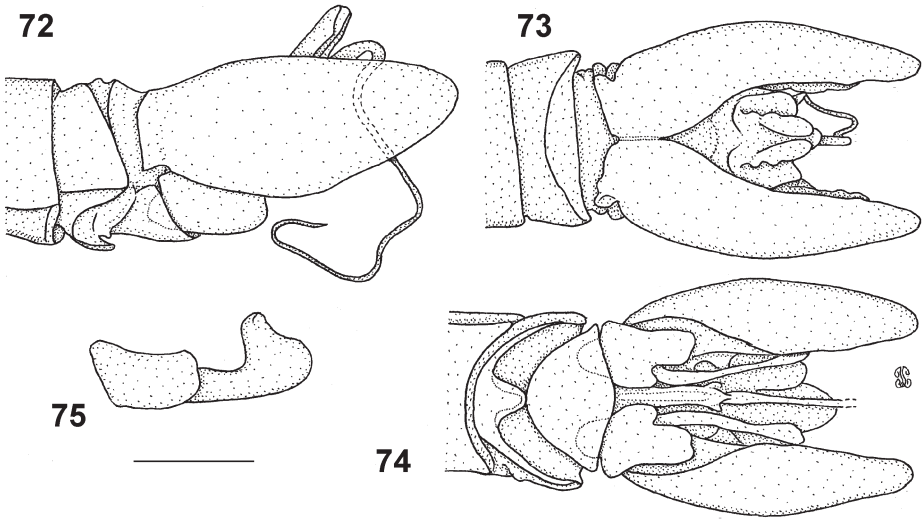
Description:

Male.

Head: Dark red-brown to blackish, strongly gold-silver pruinose, black and pale yellow setose. Antenna: Dark red-brown to blackish, fine silver-gray pruinose, scape and pedicel black (ventrally) and pale yellow (dorsally) setose, postpedicel with few yellowish setae dorsally; mean segmental ratios 1:0.7:1.2:1.0 (0.1:0.7:0.1), i.e. pedicel shorter than scape, postpedicel a little longer than scape, stylus as long as scape. Face: Blackish, strongly gold-silver pruinose. Mystax black (dorsally) and pale yellow (ventrally), setae slightly better developed ventrally. Frons and vertex: Blackish, gold-silver pruinose, black setose (including ocellar setae). Occiput: Blackish, strongly silver pruinose, black (dorsally) and pale yellowish (centrally and ventrally) setose.

Thorax: Dark red-brown to blackish, silver, gold-silver and dark brown pruinose, black, pale yellow and white setose. Prothorax: Dark red-brown to blackish, strongly gold-silver pruinose, pale yellow setose. Mesonotum: Dark red-brown to blackish, silver (posteriorly) gold-silver (anteriorly) pruinose with dark brown pruinose median band and lateral patches, macrosetae mostly black (few pale yellow as listed below), minor setae short blackish (mainly anteriorly) and longish pale yellow-white (mainly posteriorly). Macrosetae: *acr* poorly developed anteriorly, *dc* moderately well-developed posterior of transverse suture and extending weakly anterior of suture, 2 *npl*, 3–5 *spal* (different on either side, some fairly weak), 2 *pal* (1 strong black, 1 weak pale yellow). Scutellum: Dark red-brown to blackish, hind margin somewhat yellowish, silvery pruinose, disc black setose, 1 pair apical macrosetae (1 black, 1 pale yellow). Pleura: Dark red-brown

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Figs 72–75. *Synolcus ukhahlamba* sp. n., holotype male genitalia (Monk's Cowl): (72) lateral, (73) dorsal, (74) ventral, (75) gonocoxite and gonostylus. Scale line 1 mm.

to black, silver to gold-silver pruinose, weakly white and pale yellow setose except for stronger *ktg*. Legs: *Cx* dark red-brown to black, gold-silver pruinose, pale yellow setose; *cx*3 with 1 lateral macroseta. *Tro* dark red-brown, largely apruinose, weakly pale yellow setose. *Fem* mainly orange with dark red-brown to black anterodorsal faces, major setae mixed pale yellow and black, minor setae pale yellow. *Tib* extensively orange with dark red-brown distal tips, major setae mixed black and pale yellow, minor setae pale yellow. *Tar* dark red-brown, major and minor setae mixed black and pale yellow. Wing (Fig. 14): Veins mostly dark red-brown, anterior veins more orange-brown proximally, membrane transparent. Cell *sc* lacking sc–r. Cells *r*1 and *r*2+3 considerably expanded and displaying corrugations. Wing length × breadth 9.6 × 4.1 mm. Haltere: Yellowish with slightly darker proximal end.

Abdomen: Dark red-brown to black, gold-silver pruinose, pale yellow setose. T1 uniformly gold-silver pruinose, 3 pale yellow macrosetae laterally accompanied by many pale yellow setae. T2–8 gold-silver pruinose, pale yellow pruinose, pale yellow setose (including *c*. 3 posterolateral macrosetae). S similar to T.

Terminalia (Figs 72–75): *Epand* in lateral view (Fig. 72) elongate oval, a little more than twice as long as deep, with broadly rounded distal end; *epand* lobes in dorsal view closely associated proximally before diverging to fairly well separated distal tips (Fig. 73). S8 short, posterior margin somewhat trifurcate (Fig. 74). *Hypd* moderately developed with slightly medially protruding posterior margin (Fig. 74). *Gonst* in lateral view with fairly large distal end (Fig. 75). *Aed* with elongate, sinuous, filamentous distal region (Fig. 72).

Female: Essentially similar to male. All mesonotal macrosetae black. Scutellar apical macrosetae all black. Wing length × breadth (mean, n = 5) 11.1 (9.2–12.7) × 4.1 (3.5–4.6) mm (on average bigger than male). Terminalia (Fig. 86): Ovipositor laterally compressed, knife-like, fairly short (almost twice as long as deep).

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Holotype: ♂ SOUTH AFRICA: 'South Africa KZNatal / uKhahlamba-Drakensberg / Park Monk's Cowl N. R. / 29°03'03"S 29°24'12"E / 25.i.2006 J.G.H. Londt / 1462m Rank stream veget'.

Paratypes: SOUTH AFRICA: 3♀ 'South Africa: Natal / Injasuti Nature Res. / 2929AB 5–11.xii.1983 / Coll J.G.H. Londt / at M/V light trap'; 1♀ 'S Africa KZ-Natal #14 1998 / Mount Ararat near Groenvlei / 27°33.4'S 30°20.4'E 1680m / Date 28-Jan-1998 / Coll S. James / Grassland next to indig. forest'; 1♀ 'South Africa / KwaZulu-Natal / Mount Currie Nat. Res. / 30°28'22"S / 29°24'35"E / 4/1/2001', 'A. Armstrong & T. Ndlovu / NCS Record ID: 162186 / Grassland'.

Distribution, phenology and biology: Restricted to South Africa, this is a KwaZulu-Natal endemic (Fig. 91), being collected from high altitude areas. Adults fly during the midsummer months of December and January (Table 1). Label data and personal experience indicate that the species inhabits rank vegetation and grassland adjacent to indigenous forest.

Key to the species of *Synolcus*

The following key works best for well-preserved pinned specimens. Females of *armstrongi*, *aurulentus*, *griseus*, *minor* and *spinosus* are difficult to separate unless associated with males. Identifications need to be checked against descriptions and illustrations of genitalia.

1 Subcostal cross-vein (sc–r) present (*acrobaptus* species group) (female of *malawi* unknown) 2
– Subcostal cross-vein absent (*dubius* species group) (female of *amnoni* unknown) 9

2 Male 3
– Female 7

3 Wing tip dark grey-brown stained 4
– Wing tip not dark stained ..... **namibiensis** sp. n.

4 Wing clearly expanded anteriorly at level of r–m crossvein (Fig. 10) ..... **malawi** Londt, 1990
– Wing hardly, if at all expanded 5

5 Femora uniformly dark red-brown to black 6
– Femora dark red-brown to black anterodorsally, posteroventrally yellow-brown ..... **macrocercus** sp. n.

6 Genitalia as in Figs 15–21 (in lateral view epandrium more narrowly pointed distally, median lobe of S8 relatively short, considerably upturned and entirely hidden by setae in lateral view) ..... **acrobaptus** (Wiedemann, 1828)
– Genitalia as in Figs 26–29 (in lateral view epandrium more broadly pointed distally, median lobe of S8 relatively long, slightly upturned and not entirely hidden by setae in lateral view) ..... **argentius** Londt, 1990

7 Femora uniformly dark red-brown to black 8
– Femora dark red-brown to black anterodorsally, posteroventrally yellow-brown ..... **macrocercus** sp. n.

8 Ovipositor length to breadth ratio (measured in lateral view, breadth at midlength) <3.3:1.0 ..... **argentius** Londt, 1990
– Ovipositor length to breadth ratio (measured in lateral view, breadth at midlength) >3.3:1.0 ..... **acrobaptus** (Wiedemann, 1828) & **namibiensis** sp. n.

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9 Femora with both dark red-brown to black and yellow to yellow-brown coloration 10
– Femora entirely dark red-brown to black (note: species best separated on ♂ genital characteristics, females difficult to separate unless associated with males) 12
10 Femora dark red-brown to black anterodorsally, yellow to yellow-brown posteroventrally 11
– Femora extensively yellowish to yellow-brown with patches of dark red-brown coloration mainly at midlength ..... **dubius** (Macquart, 1846)
11 ♂ wing slightly expanded anteriorly (at level of r–m crossvein); ♂ genitalia as in Figs 22–25 ..... **amnoni** Londt, 1990
– ♂ wing moderately expanded anteriorly; ♂ genitalia as in Figs 72–75 ..... **ukhahlamba** sp. n.
12 Distal tip of gonocoxite, in lateral view, as a narrowly rounded, spine-bearing organ (Figs 44, 58) 13
– Distal tip of gonocoxite, in lateral view, broadly rounded 14
13 ♂ genitalia as in Figs 44–47 ..... **griseus** Engel, 1927
– ♂ genitalia as in Figs 58–61 ..... **minor** (Bromley, 1947)
14 ♂ genitalia as in Figs 30–34; epandrium somewhat bilobed distally ..... **armstrongi** sp. n.
– ♂ genitalia as in Figs 35–38; epandrium subtriangular, tip acutely pointed ..... **aurulentus** Engel, 1929
– ♂ genitalia as in Figs 67–71; epandrium broadly rounded distally ..... **spinosus** Londt, 1980

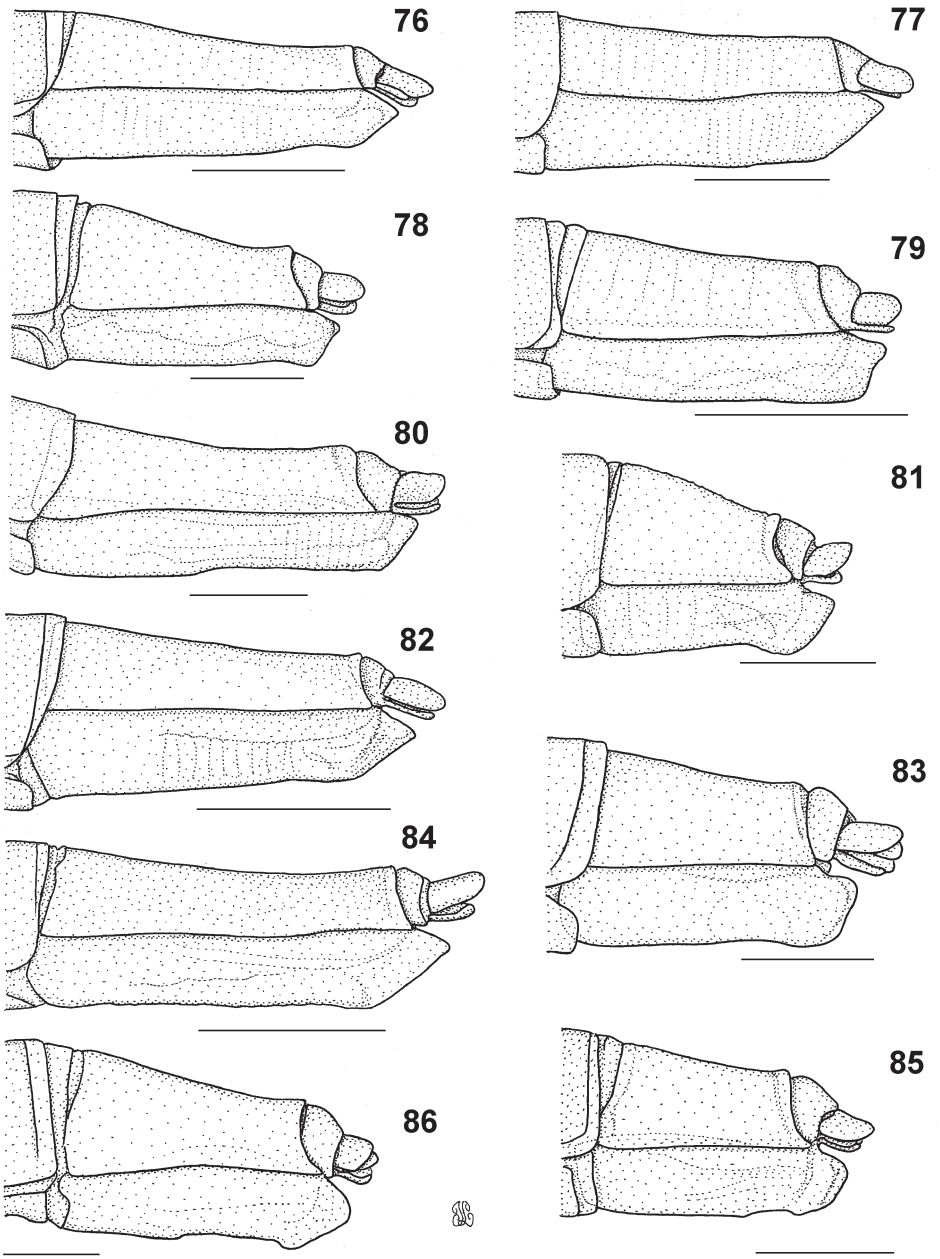
DISCUSSION

Taxonomy

Synolcus is an immediately recognizable genus characterized mainly by the possession of a highly constricted discal wing cell. The genus belongs to what Oldroyd (1974) called the '*Neolophonotus*-group' of genera which he located in the tribe Asilini. These genera, with the addition of others, were subsequently treated as members of what has been called the subfamily Apocleinae (e.g. Londt 2005). While Dikow (2009*a*, *b*) has synonymised the Apocleinae with the Asilinae the genera of Oldroyd's '*Neolophonotus*-group' remain characterised by the possession of asetose anatergites. Further work on the relationships within this complex is required.

While two fairly distinctive groups exist within *Synolcus*, species within these groups are remarkably similar and best identified using male genital characteristics. This scenario appears common within the '*Neolophonotus*-group' of genera to which *Synolcus* belongs, and may be indicative of fairly recent speciation. Species of the '*acrobaptus* group' are generally smaller than those of the '*dubius* group' and have fairly elaborate male genitalia that offer a number of useful characters for classificatory purposes. Findings reported in this paper, however, suggest that a degree of variation exists that could complicate the taxonomy. For example, it appears that *acrobaptus* displays geographical variation that will only be fully understood when far more material is available. Similarly, the discovery of a similar species, here described as *S. macrocercus*, known from only two

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Figs 76–86. *Synolcus* species, ovipositor: (76) *S. acrobaptus* (Wiedemann, 1828) (Cape Town); (77) *S. argentius* Londt, 1990 (5 km NE Grootderm, redrawn from Londt 1990); (78) *S. armstrongi* sp. n. (Karkloof paratype); (79) *S. aurulentus* Engel, 1929 (Knysna Forest, redrawn from Londt 1980); (80) *S. dubius* (Macquart, 1846) (Coffee Bay, redrawn from Londt 1980); (81) *S. grieseus* Engel, 1927 (Entabeni, redrawn from Londt 1980); (82) *S. macrocercus* sp. n. (Worcester paratype); (83) *S. minor* (Bromley, 1947) (Ngome, redrawn from Londt 1990); (84) *S. namibiensis* sp. n. (Ai-Ais paratype); (85) *S. spinosus* Londt, 1980 (Gladdespruit paratype, from Londt 1980); (86) *S. ukhahlamba* sp. n. (Injasuti paratype). Scale lines 1 mm.

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localities (one at which *acrobaptus* is also found) and showing slight variation between the localities, further adds evidence of what may be more complex relationships than are presently understood. The fact that *macrocercus* is also similar to *argentius* adds yet another dimension that will require future attention when the distributions of these taxa are better resolved.

Relationships among species within the *dubius* group also deserve greater attention. Most of the species in this group appear to have fairly restricted distributions (e.g. the KwaZulu-Natal endemic species). The obvious exception is *dubius* itself. This species has by far the widest distribution (Fig. 90) of any *Synolcus*, and the range may even have been extended in fairly recent times as a consequence of the species' ability to survive in, and possibly colonise suburban habitats (e.g. suburban Cape Town).

While male genitalia are clearly of taxonomic value, the ovipositor is also useful, especially in defining the two species groups. If the length to depth ratio is calculated it becomes obvious that the ovipositors of members of the *acrobaptus* group are far more elongate than those of the *dubius* group (Figs 76–86). The only exception is *dubius* whose ovipositor has similar dimensions to those of species within the *acrobaptus* group. The biological significance of these two groups of ovipositors is as yet unknown.

Distribution and biology

Synolcus is apparently a southern African endemic (Fig. 87). Members of the *acrobaptus* species-group are most commonly encountered in the winter-rainfall areas of the Western and Northern Cape provinces of South Africa. As a member of this group, *S. malawi* appears exceptional in occurring on Mount Mulanje, a climatically different locality found many kilometres from other places known to support species of the group. The biogeographical explanation for this seemingly disjunctive distribution is awaited

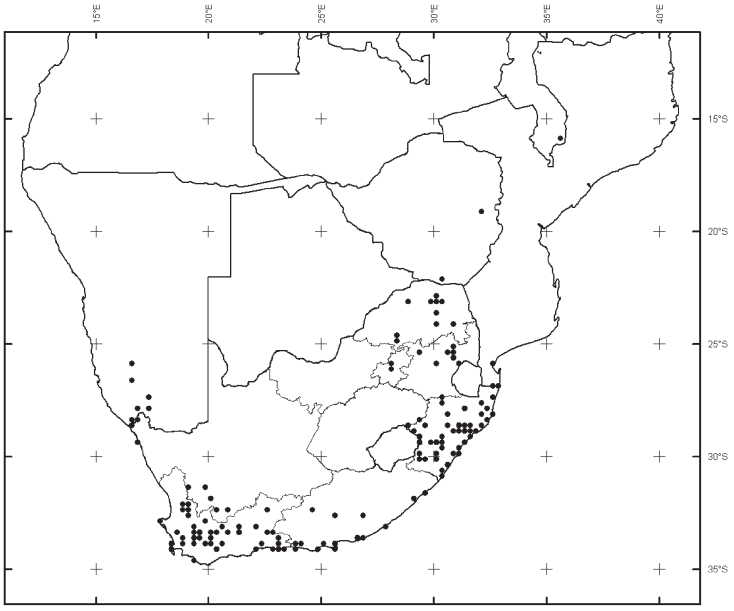


Fig. 87. The distribution of *Synolcus* Loew, 1858.

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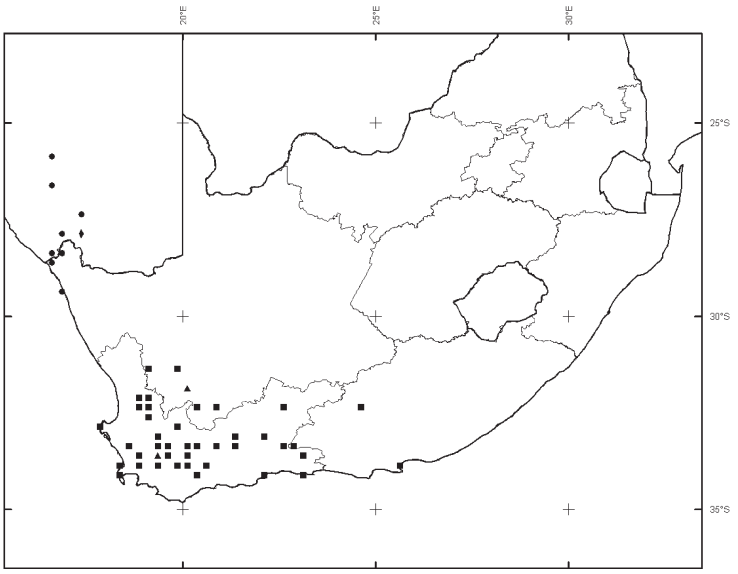


Fig. 88. The distributions of species in the *Synolcus acrobaptus* species-group (excluding *S. malawi* Londt, 1990): *S. acrobaptus* (Wiedemann, 1828) – squares, *S. argentius* Londt, 1990 – circles, *S. macrocercus* sp. n. – triangles, *S. namibiensis* sp. n. – diamonds.

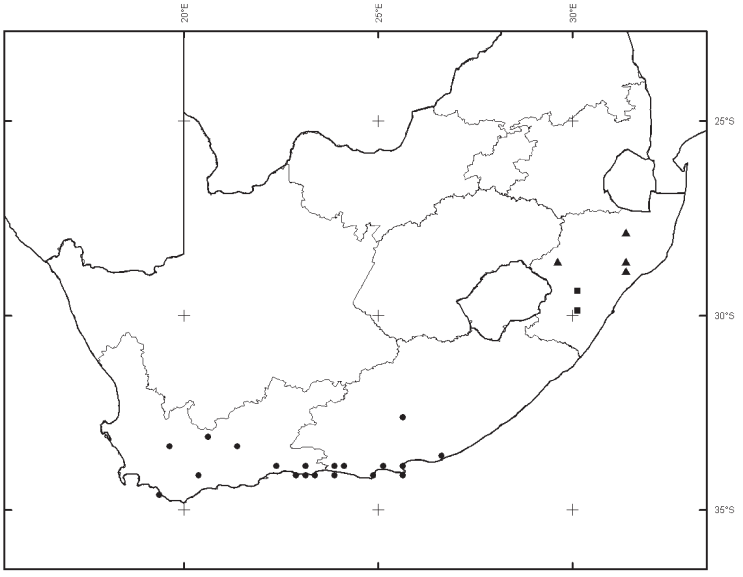


Fig. 89. The distributions of *Synolcus* species: *S. armstrongi* sp. n. – squares, *S. aurulentus* Engel, 1929 – circles, *S. minor* (Bromley, 1947) – triangles.

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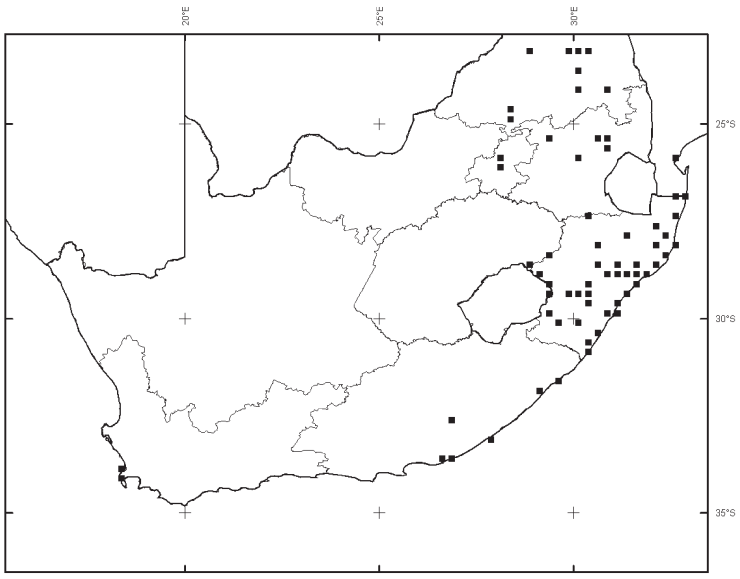


Fig. 90. The distribution of *Synolcus dubius* (Macquart, 1846).

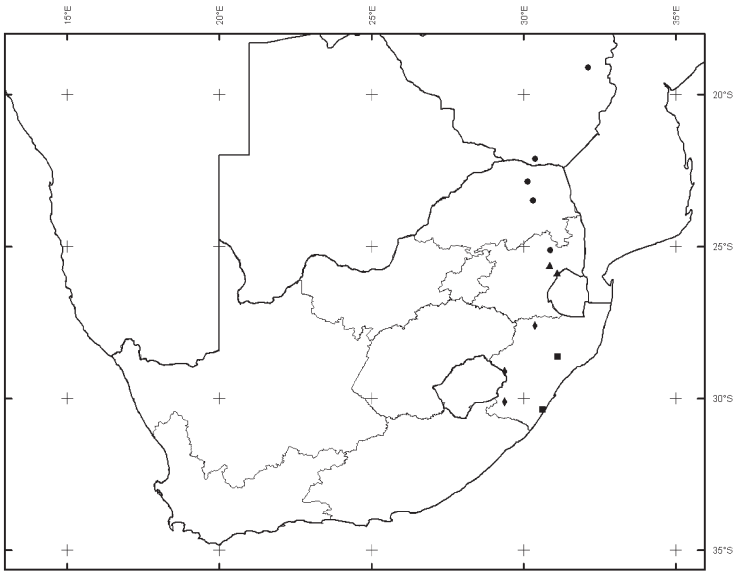


Fig. 91. The distributions *Synolcus* species: *S. amnoni* Londt, 1990 – squares, *S. griseus* Engel, 1927 – circles, *S. spinosus* Londt, 1980 – triangles, *S. ukhahlamba* sp. n. – diamonds.

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with interest. Species belonging to the *acrobaptus* group tend to be small and usually inhabit scrubby fynbos habitats where they are commonly encountered resting on low vegetation, on rocks or on open ground. Somewhat in contrast, members of the *dubius* species-group are larger and commonly associated with grassy areas adjacent to forest patches (*amnoni*, *armstrongi*, *minor*, *ukhahlamba* and probably *griseus* and *spinosus*) or bushes and trees (*aurulentus* and *dubius*) (Londt 1994). Adults fly from spring through summer and into autumn, those of the winter rainfall area tend to be active earlier than those in summer rainfall areas.

Although a degree of specific variation exists, the ovipositor is laterally compressed and 'knife-like', indicative of an oviposition strategy that probably involves putting eggs in places associated with woody plants. Unfortunately, the oviposition behaviour itself has not been observed and recorded. A few specimens have dry, foamy secretions adhering to the tips of their ovipositors. This foam is reminiscent of that described in the oviposition behaviour of both *Neolophonotus dichaetus* Hull, 1967 and *Millenarius graminosus* Londt, 2005 (Londt & Harris 1987; Londt 2005), and so it is assumed that species of *Synolcus* have similar oviposition habits. Eggs are probably pasted between leaves or in crevices in plants. On hatching, the emergent larvae probably fall to the ground and burrow into soil. This suggestion is substantiated by the presence of a female of *S. dubius* pinned together with three pupal exuviae and found in the NMSA collection with a label reading 'from building sand'.

Very few prey records exist in the literature. Hobby (1935: 97) recorded *S. aurulentus* as feeding on 'an immature Orthopteran'. However, his record was for a fly collected in Zimbabwe and so the identification is certainly erroneous, his species most probably being *S. griseus*. Londt (1990) provides two prey records for *minor*, one a crane fly (Tipulidae), the other being a female of *S. dubius*. Ten new prey records appear in this paper; one each for *armstrongi* and *minor*, and eight for *dubius*. The wide variety of prey suggests catholic tastes of the members of this genus.

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