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Endroedymolpus, a new genus with two new species from the South African Eumolpinae (Coleoptera, Chrysomelidae)

by **Stefano Zoia**

Abstract. *Endroedymolpus* gen.nov. is described from the Western Cape Province, South Africa, with two new species: *E. taurinus* sp.nov. and *E. smaragdinus* sp.nov. This genus belongs to the tribe Adoxini and is related to the genus *Macetes* CHAPUIS, 1874 from which it mainly differs in its habitus and in the lack of dense pubescence on the dorsum. *Endroedymolpus peringueyi* (LEFÈVRE, 1890) is proposed as a new combination for *Macetes peringueyi*.

Key words: Chrysomelidae – Eumolpinae – Adoxini – *Endroedymolpus* gen.nov. – new species – new combination – South Africa

The primary aim of this study was the description of a curious new South African Eumolpinae species found in the collections of the Naturhistorisches Museum Basel by my friends Lev Medvedev and Mauro Daccordi. This species is remarkable for the presence of a pair of very unusual tubercles on the pronotum, which take the form of two sharp horns in the male. More specimens of this species, together with specimens of another new taxon belonging to the same new genus, were found in two collections in Pretoria (South Africa) and in author's collection. Both new taxa therefore now form the subject of my communication.

Taxonomy

Endroedymolpus gen.nov.

Type species: *Endroedymolpus taurinus* sp.nov.

Description. Body moderately elongate, convex, with very thin scattered hairs; wings well developed; antennae with club segments not strongly enlarged; eyes prominent, oval; mandibles strong; head prognathous; pronotum distinctly transverse, narrower than the elytra and narrowing from the base towards the apex; setal insertion at the anterior angle of the pronotum, level with the lateral margin, distant from the episternum and the lateral arms of the sternum (Fig. 12); scutellum with distal margin rounded or obtusely angled; elytra convex, wider than the pronotum, narrowing from the base towards the apex or subparallel in the proximal third, irregularly punctate; epipleura wide basally, gradually narrowing towards the apex; legs strong, moderately long, with enlarged femora; tibiae not emarginate preapically; third tarsomere widely bilobed; claws bifid; prosternum wider than long (width/length ratio 4/3), with sparse white hairs; mesosternum behind the coxae wider than long (ratio 2.8/2); metasternum in the middle as long as the medial length of the mesosternum, with a distinct longitudinal groove and the posterior margin slightly sinuous; fore coxal cavities closed; pygidium without a median groove.

Distribution. The new genus seems to be endemic to the Western Cape Province, South Africa, in a zone stretching north from Cape Town to the Namibian boundary, probably being restricted to a fynbos environment.

Differential diagnosis. A genus of Adoxini related to *Macetes* CHAPUIS, 1874 and allied genera and recognisable mainly for a pronotum narrower than the elytra and narrowing from the base towards the apex and a lack of dense pubescence on the dorsum.

Name derivation. This genus is named in memory of Dr. Sebastian Endrödy-Younga who personally collected a large number of the specimens studied. He kindly put the Eumolpinae of the Transvaal Museum collection at my disposal during my last stay in Pretoria. The genus name is masculine.

Endroedymolpus taurinus sp.nov. (Figs 1–3, 5–13)

Type material. Holotype ♂: RSA, W. Cape NE, Clanwilliam env., 10.x.1999, M. Snížek leg. (coll. Naturhistorisches Museum Basel). Paratypes (35 ♂♂, 33 ♀♀): S. Afr.: W Cape, Botterkloof Pass N, 31.48S – 19.16E, 15.9.1994: E - Y: 3005, flower. vegetation, Endrödy & Bellamy (2 ♂♂, 4 ♀♀); S. Afr., Cape-Cedarbg, jeep track, 870 m, 32.29S – 19.16E, 7.11.1983; E - Y: 2052, grassnetting, leg. Endrödy-Younga (4 ♂♂); S. Afr.: SW Cape, Clanwilliam 39 km E, 32.02S – 19.13E, 16.9.1994; E - Y: 3012, on flowers, leg. Endrödy-Younga (2 ♂♂); RSA, W. Cape NE, Clanwilliam env., 10.x.1999, M. Snížek leg. (14 ♂♂, 10 ♀♀); S. Afr; SW Cape Prov., Wiedow farm, 31.46S – 18.46E, 12.9.1987, E - Y: 2492, fynbos vegetation, leg. Endrödy-Younga (3 ♀♀); S. Afr., Cape-Cederbg, Leeuvlak Kraal, 32.28S – 19.23E, 6.11.1983; E - Y: 2050, grassnetting, leg. Endrödy-Younga (1 ♂, 1 ♀); S. Afr., Cape-Cedarbg, jeeptrack, 1000–1150 m, 32.28S – 19.14E, 7.11.1983, E - Y: 2053, grassnetting, leg. Endrödy-Younga (5 ♂♂, 4 ♀♀); South Africa, C. P., 15 km N Botterkloof Pass, 31.41S 19.18E, 18.ix.1986, R. Oberprieler (3 ♀♀); South Africa, C. P., Gifberg Pass, 250–560m, 31.45S 18.47E, 17.ix.1986, R. Oberprieler (1 ♀); Sout Pan + 10 km O, 31.15S, 17.59E, 13.IX.1987, S. Afr. Cape Prov., W. Wittmer 1987 (4 ♂♂, 4 ♀♀); Suurfontein-Ouderkraal, Cederberg, 6.XI, Cape Prov. S. A., W. Wittmer 1983 (1 ♀); Cederberg, jeeptrack, 900–1100 m, Cape Prov. S. A., 7.XI.1983, W. Wittmer (3 ♂♂, 1 ♀); Leeuvlak Kraal, Cederberg, 6.XI, 32°28'S/19°23'E, Cape Prov. S. A., W. Wittmer 1983 (1 ♀) (coll. Transvaal Museum - Pretoria; coll. Institute of Plant Protection - Pretoria; coll. Naturhistorisches Museum Basel; coll. S. Zoia - Milano).

Description. Body (Figs 1, 2, 3) elongate, metallic green, usually with cupreous pronotum and cupreous hue on other parts of the body; sometimes with even the pronotum largely metallic green; a single specimen from Clanwilliam is cupreous overall.

Head usually cupreous, prognathous, with a median anterior obtuse tubercle (more evident in the male, less so in the female) and two lateral carinae above the antennal insertion; integument sparsely punctate, with very short white hairs inside each puncture, and strongly reticulate over the whole surface; anterior clypeal margin deeply concave in the shape of a wide 'V'; the three segments of the maxillary palpi subequal in length; the apical segment of the labial palpi twice as long as the penultimate segment. Distance between the eyes nearly 4 times the width of one eye in frontal view. Antennae (Fig. 7) reaching the humeral zone in length; the first 6 antennomeres red, more or less metallic, especially on the upper side; the club more or less largely dull black.

Pronotum transverse (in the holotype: length 1.95 mm, width 3.09 mm), narrowing from the base towards the apex; metallic green with most or all of the disc and sides cupreous, rarely completely green with a golden hue; the surface sparsely punctate, with

short white hairs in each puncture, and strongly reticulate; the basal margin wider than the distal margin, with the maximum pronotal width near the base; lateral margin narrow, complete, not visible from above towards the front; distal margin without border except laterally, basal margin entirely bordered; pronotal disc with two symmetrical acute teeth in the male (Figs 1, 2, 12) and two blunt tubercles in the female (Fig. 3).

Legs, including tarsi, metallic, usually cupreous with or without green hue; fore femora strongly enlarged, each equipped with a small but distinct medial tooth on the inner margin, at the end of a very thin longitudinal carina; fore tibiae straight and relatively slender, longer in the male, enlarged only at the apex; length of tarsi about 2/3 of tibial length; mesothoracic legs with moderately enlarged femora, each equipped with a very small tooth medially on the inside; metathoracic legs with enlarged femora, sometimes equipped with a very small tooth, tibiae straight, a little longer than femora, tarsal length about 2/3 of tibial length.

Scutellum rounded apically, partially covered with white hairs.

Elytra with maximum width at the humeral level (holotype: length 3.81 mm, width 3.40 mm); metallic green with a cupreous hue on upper sutural margins, humeri and sometimes lateral margins; surface sparsely and strongly punctate, with very short white hairs inside the punctures, and clearly reticulate; humeri prominent; apical corner of elytron nearly a right angle.

Aedeagus as in Figs 5, 6, 8 and 9; sides rounded pre-apically, narrowing gradually to a short point; in lateral view, dorsally regularly curved, the apex sinuously narrowed; internal sac, near ostium, with two short and thin sclerotizations, exhibiting a parallel or a 'V' position in relation to the position of the sac.

Female genitalia as in Figs 10, 11 and 13; gonapophyses well sclerotized; spermatheca 'C'-shaped, gradually narrowing from base to apex; spermathecal duct and accessory gland inserted at opposite sides of spermathecal base, the former being long and having a regular diameter along its length, the latter being a little longer than the spermatheca.

Body length: ♂♂ 4.6–7.0 mm (holotype 6.7 mm) ($\bar{x}$ 5.4 mm, $\sigma^{n-1} \pm 0.48$), ♀♀ 4.1–6.4 mm ($\bar{x}$ 5.4 mm, $\sigma^{n-1} \pm 0.48$).

Distribution. The new species seems to be localised in the Western Cape Province, north of Cape Town, in the Cedaerberg Region and Kobe Mountains. All available data are reported above, including the fact that this species occurs in fynbos and grassland. The true host plant is unknown; the species occurs from mid-September to mid-November.

Name derivation. The species name is from the Latin *taurus*, "bull", and refers to the horn-like projections on the pronotum.

***Endroedymolpus smaragdinus* sp.nov.** (Figs 4, 14–18)

Type material. Holotype ♂: RSA, Cape, 30.x.96, near Garies, Werner leg. (Naturhistorisches Museum Basel). Paratypes (3 ♂♂, 15 ♀♀): S. Afr., Namaqualand, Springbok, Mesklip, 29.49S – 17.52E, 30.8.1976; E-Y: 1187, on flowers, leg. Endrödy-Younga (1 ♂, 2 ♀♀); RSA, N. Cape W, Springbok, Messelpad env., 7.xi.1999, M. Snížek leg. (1 ♂, 3 ♀♀); RSA, N. Cape, Springbok env., 18.x.1999, M. Snížek leg. (5 ♀♀); South Africa, C. P., Wildeperdhoek Pass, 29.57S 17.38E, 11.ix.1986, R. Oberprieler (1 ♀); South Africa, C. P., Studer's Pass 24

k NE Garies, 30.26S 18.04E, 13.ix.1986, R. Oberprieler (1 ♀); RSA, Cape, 30.X.96, near Garies, Werner leg. (2 ♀♀); RSA, 24/25.X.96, Cape, near Kamieskroon, Werner leg. (1 ♀); RSA, 31.X/1.XI.96, Cape, near Kamieskroon, Werner leg. (1 ♂) (coll. Transvaal Museum - Pretoria; coll. Institute of Plant Protection - Pretoria; coll. S. Zoia - Milano).

Description. Body elongate, metallic green.

Head green, in some cases with a cupreous hue, prognathous, with two lateral carinae over the antennal insertion; integument sparsely punctate, punctures sometimes confluent on vertex, more or less pubescent with white hairs, reticulate; anterior margin of clypeus deeply concave. Labrum cupreous. Distance between eyes nearly 4 times the width of one eye in frontal view. Antennae (Fig. 17) reaching the humeral zone in length; first antennomere cupreous, remainder red, antennomeres 2–6 more or less darkened distally, antennomeres 7–11 dull.

Pronotum transverse (holotype: length 1.54 mm, width 2.37 mm), narrowed from proximal 1/6 to apex; metallic green; surface sparsely punctate, shiny, each puncture elongate, with sparse and very thin white hairs, reticulation absent or very fine. Base broader than the distal margin; maximum width attained shortly before the base; lateral margin very narrow, complete, not visible from above in distal portion; distal margin without border except lateral, base entirely bordered; two lateral, superficial impressions distally on pronotum, in both male and female.

Legs with cupreous femora, darkened at base; tibiae and tarsi red with a slight metallic hue; profemora enlarged, each equipped with a small but distinct tooth in the middle of the inner margin; tibiae straight and slender, a little longer in the male, enlarged only at the apex; length of tarsi about 2/3 of tibial length; mesofemora moderately enlarged, each equipped with a very small medial tooth on the inside; metathoracic legs with enlarged femora, each equipped with a small tooth, tibiae straight, enlarged apically, tarsal length about 2/3 of tibial length.

Scutellum nearly square, with distal margin more or less angled.

Elytra with maximum width at humeral level (holotype: length 3.4 mm, width 2.9 mm); metallic green, shiny, in some cases with very weak cupreous hue on proximal and distal edges and proximally on suture; surface sparsely punctate, with thin white hairs, without reticulation; humeri prominent; a transverse depression present on both sides in first third of elytra; apical angle slightly acute in the ♂, nearly right-angled in the ♀.

Aedeagus as in Figs 14, 15 and 16; the sides gradually dehiscent, apex short and rounded; distal part, in lateral view, forms a right angle with proximal part and briefly narrowed apically; internal sac, near ostium, with two short and slender angled sclerotizations, somewhat 'Y'-shaped.

Female genitalia as in Fig. 18; spermatheca 'C'-shaped, gradually narrowing distally, wider near base; spermathecal duct and accessory gland inserted at opposite sides of the base of the spermatheca; the former long and of a regular diameter along its entire length, the latter more than twice as long as the spermatheca.

Body length: ♂♂ 4.6–5.6 mm (holotype 5.6 mm) ($\bar{x}$ 5.0 mm, $\sigma^{n-1} \pm 0.42$), ♀♀ 4.9–6.5 mm ($\bar{x}$ 5.2 mm, $\sigma^{n-1} \pm 0.44$).

Distribution. I also assign to this taxon, with some doubt, a single male specimen, not a paratype, labelled as follows: S. Afr., S. W. Cape, Vanrhyn's Pass, 31.23S – 19.02E, 24.10.1981, E-Y:1890, flowering fynbos, leg. Enrödy-Younga (Transvaal Museum coll.

– Pretoria). This specimen shows a darker colouration of the pronotum and a larger aedeagus with a slightly more prominent apex.

The distribution of *E. smaragdinus* sp.nov. could thus comprise the Western Cape Province, from the Bokkeveldberge to the Namibian border.

Name derivation. The name refers to the shiny green colour of this species.

Discussion

The most recent works containing keys to the African genera of Eumolpinae are those of SELMAN (1965, 1972); however, they reported only a part of the known genera. Moreover, characters chosen for discrimination are not always well defined and are not valid for all of the known species. Selman's keys for the tribes, at the very least, coincide partially with those of GRESSITT & KIMOTO (1961) and are completely unsatisfactory. Previously, BECHYNĚ (1952) discussed the value of the currently used characters to identify the main divisions of Eumolpinae, pointing out that none of those characters has an absolute value; exceptions occur in every tribe. Nevertheless, successive works do not present adequate solutions to the problem, the main divisions being largely based on characters that lack any phylogenetic significance and often subject to great variations among genera belonging to the same tribe or even among species included in the same genus. A new comprehensive study on this matter is desirable for a better understanding of the taxonomic position of some taxa.

The first major division in Selman's keys, "body usually glabrous above, prothorax transverse..." or "body usually pubescent, prothorax cylindrical...", is ambiguous in the case of *Endroedymolpus* gen.nov.; it must properly be included in Adoxini, close to *Pallena* CHAPUIS, 1874 and *Macetes*. The former is related to, yet easily separable from the new genus for the short elytra with strongly convex sides, smaller body size, less swollen fore femora and less prominent eyes. *Macetes* was included by SELMAN in his keys (1965, 1972), possibly after the examination of only some of the known species, as he wrote "...heavily pubescent, setae adpressed...", a statement that excludes, besides the species here described, at least *Macetes peringueyi* LEFÈVRE, 1890. This species is similar to *Endroedymolpus smaragdinus* sp.nov. and must be transferred to the same genus, in accordance with the diagnostic characters reported above.

***Endroedymolpus peringueyi* (LEFÈVRE, 1890) comb.nov.**

Macetes peringueyi LEFÈVRE, 1890.

Endroedymolpus gen.nov. is quite different from *Macetes* in having the dorsum with a sparse and very fine pubescence (in *Macetes* the dorsum is densely clothed with pubescence), the elytra not so regularly convex, narrowing from the base to the apex or parallel in the proximal third and usually with prominent humeri followed by a transverse depression which defines a more or less evident gibbosity near the base of each elytron.

Macetes is distributed in South East Africa, from Lake Tanganyika to Eastern Cape Province in South Africa, while *Endroedymolpus* seems restricted to Namaqualand (Namibia and South Africa).

The following catalogue of species is proposed for these genera:

***Endroedymolpus* gen.nov.**

(**type species:** *E. taurinus* sp.nov.)

taurinus sp.nov. (type locality: S. Afr.: W Cape, Botterkloof Pass N, 31.48 S – 19.16 E, flower. vegetation)

smaragdinus sp.nov. (type locality: S. Afr., Namaqualand, Springbok, Mesklip, 29.49 S – 17.52 E, on flowers)

peringueyi (LEFÈVRE, 1890: 41) (type locality: Namaqualand Minor)

***Macetes* CHAPUIS, 1874**

(**type species:** *M. albicans* CHAPUIS, 1874)

albicans CHAPUIS, 1874: 293 (type locality: Afrique australe)

clypeata JACOBY, 1900: 224 (type locality: Dumbrody, Port Elizabeth, S. Africa)

ornatipennis JACOBY, 1901: 243 (type locality: Cape)

puberula (MARSHALL, 1865) (*Pseudocolaspis*) (type locality: Bonae Spei promontorium)

pusilla JACOBY, 1904: 257 (type locality: Ifafa Mountains, Natal)

rugicollis JACOBY, 1904: 257 (type locality: Lower Tugela, Natal)

thoracica JACOBY, 1903: 296 (type locality: Lake Nyassa)

variegata JACOBY, 1901: 242 (type locality: S. Africa, Dunbrody)

Endroedymolpus is easily identifiable at first sight by its habitus. I examined only a few specimens of *E. peringueyi*, preserved in the Naturhistorisches Museum Basel, that match Lefãvre's description of this taxon well; using the more evident characters, one can divide the three species of this genus as follows:

- *E. taurinus* sp.nov. – has two horns (♂) or tubercles (♀) on the pronotum; body usually bicoloured with largely cupreous, sparsely punctate and strongly reticulate pronotum; elytra clearly reticulate.

- *E. smaragdinus* sp.nov. – males and females without tubercles on the pronotum; body metallic green; pronotum with shiny, sparsely and very finely punctate but not, or very finely, reticulate, surface; the punctation on the anterior portion of the pronotum is mostly finer than on the head; elytra shiny, strongly and sparsely punctate, without reticulation.

- *E. peringueyi* – males and females without tubercles on the pronotum; body metallic green; pronotum with shiny, sparsely and strongly punctate, but not reticulate, surface; the punctation on the anterior part of the pronotum similar to that on the head; punctation of the elytra a little finer and sparser than in *E. smaragdinus* nov., without reticulation. The aedeagus morphology of *E. peringueyi* is unknown to me.

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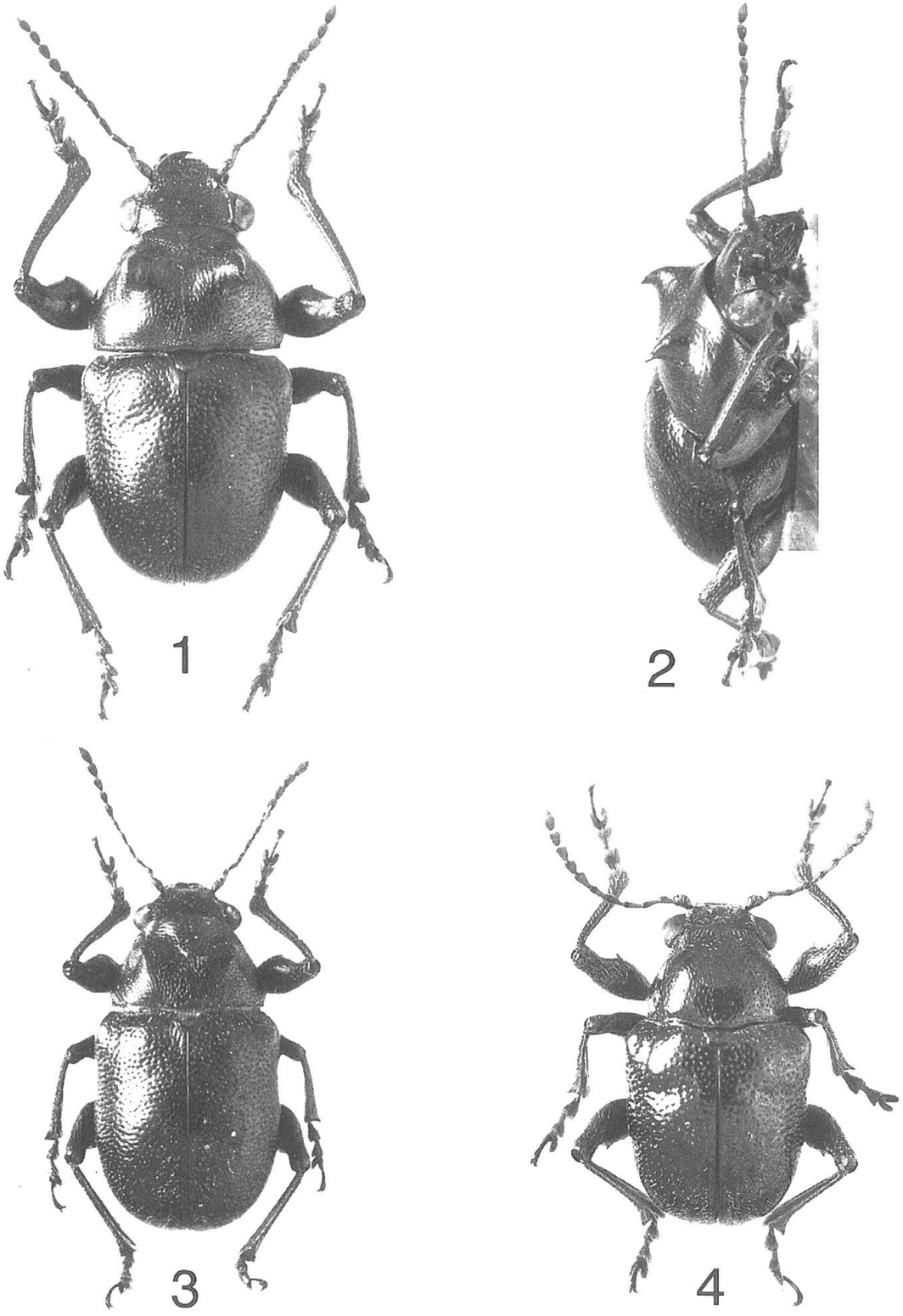
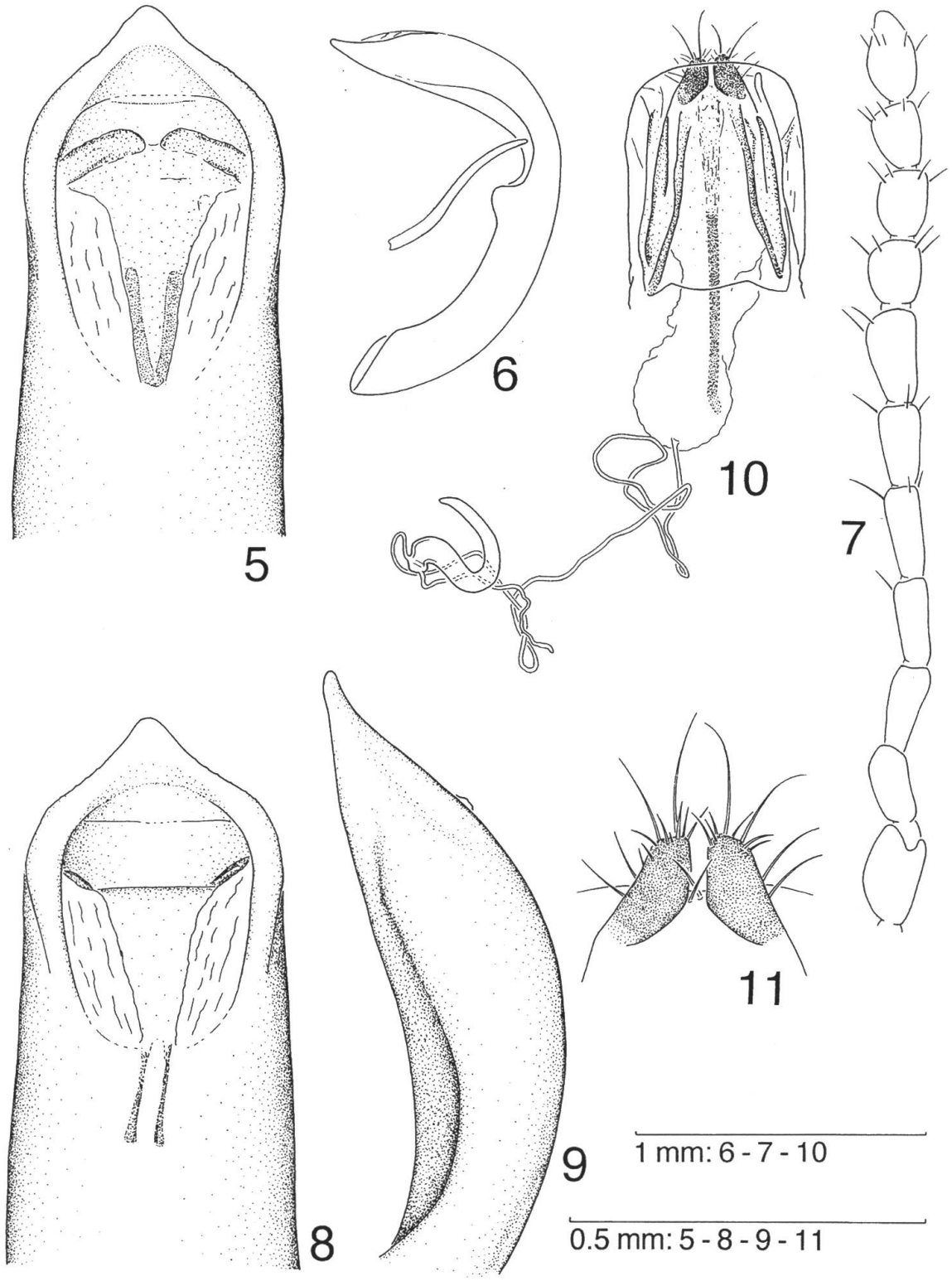
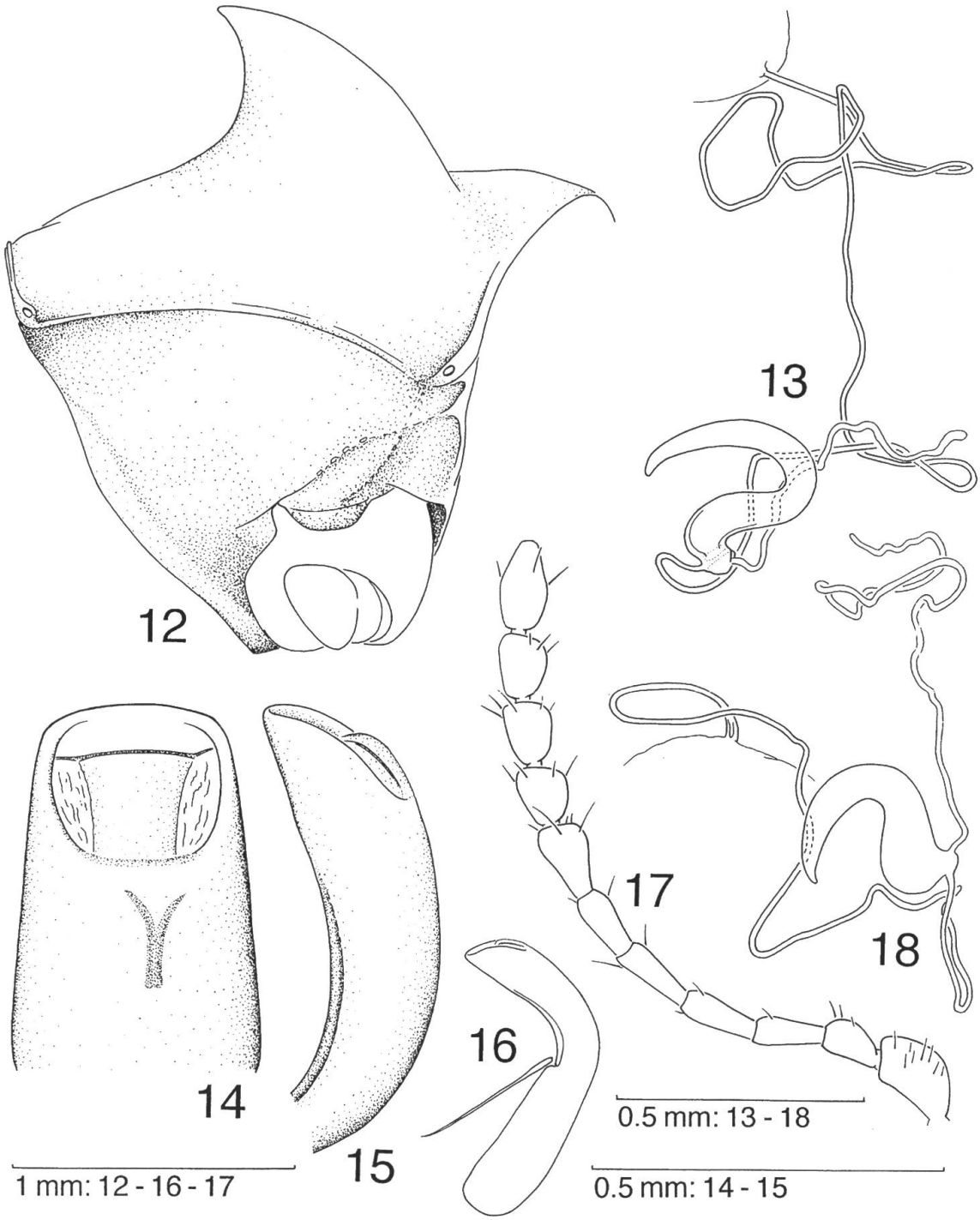


Figs 1–4. *Endroedymolpus* gen.nov.: 1 – *E. taurinus* sp.nov. (paratype ♂ from Botterkloof Pass), dorsal view; 2 – idem, lateral view; 3 – *E. taurinus* sp.nov. (paratype ♀ from Wiedow farm), dorsal view; 4 – *E. smaragdinus* sp.nov. (paratype ♂ from Mesklip) dorsal view.



Figs 5–11. *Endroedymolpus taurinus* sp.nov.: 5 – aedeagus, dorsal view (paratype from Botterkloof Pass); 6 – idem, lateral view; 7 – antenna (paratype ♂ from Botterkloof Pass); 8 – aedeagus, dorsal view (paratype from Sout Pan); 9 – idem, lateral view; 10 – female genitalia with spermatheca (paratype from Leeuvlak Kraal); 11 – gonapophysis (paratype from Leeuvlak Kraal).



Figs 12–18. Figs 12–13, *Endroedymolpus taurinus* gen.nov. sp.nov.: 12 – prothorax, lateral view (paratype ♂ from Sout Pan); 13 – spermatheca (paratype ♀ from Leeuvlak Kraal). Figs 14–18, *Endroedymolpus smaragdinus* sp.nov.: 14 – aedeagus, dorsal view (paratype from Mesklip); 15–16 – idem, lateral view; 17 – antenna (paratype ♂ from Mesklip); 18 – spermatheca (paratype ♀ from Studer's Pass).