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The spider beetles of the continental Africa. Part II – *Dignomorphus danielssoni* n. gen. and n. sp. from South Africa  
(Coleoptera: Ptinidae)

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ABSTRACT. A new genus and species of spider beetles, *Dignomorphus danielssoni* n. gen. and n. sp. from South Africa is described, illustrated and compared with related genera.

Key words: entomology, taxonomy, Coleoptera, Ptinidae, *Dignomorphus danielssoni* new genus, new species, South Africa.

INTRODUCTION

The first publication (BOROWSKI 2009) of a planned series concerning the spider-beetles from continental Africa referred to the genus *Mezium* CURTIS and contained information on 11 species (including those described as new and introduced). In the present paper a new southern African species, *Dignomorphus danielssoni* n. gen. and n. sp., is described, representing a hitherto unknown genus. Superficially it resembles some species of *Dignomus* WOLL. and *Pseudomezium* PIC, but numerous characters (see below) point to its generic distinctiveness.

TAXONOMY

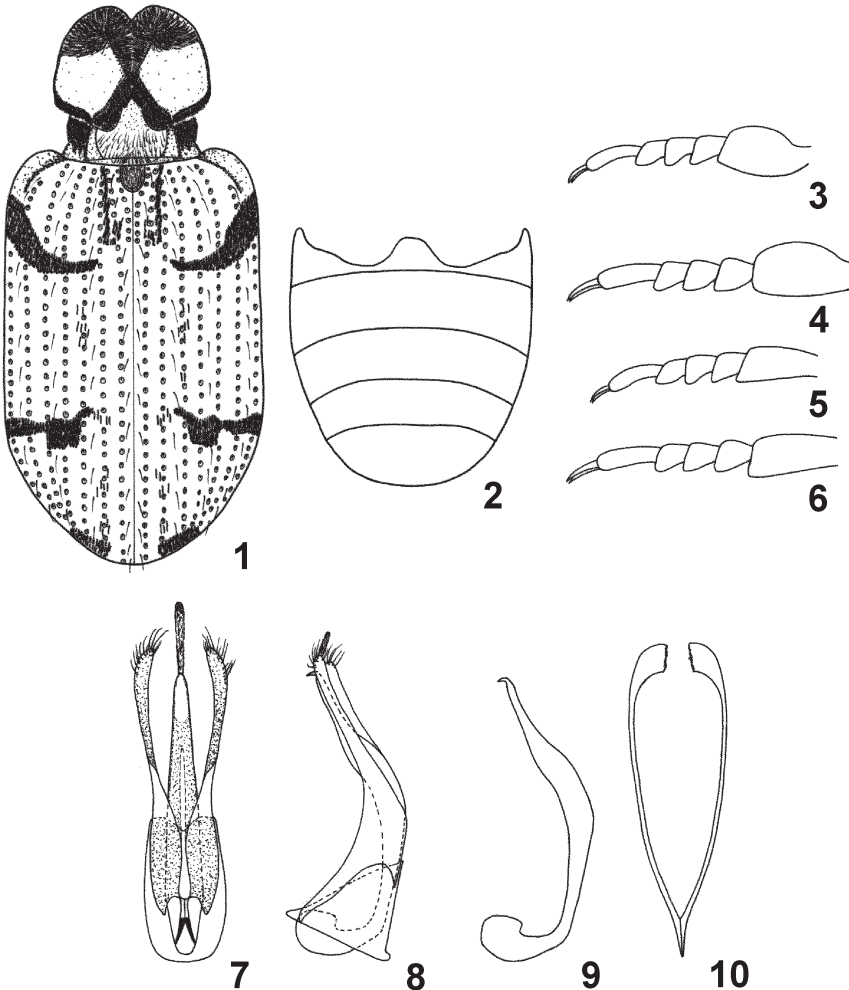
***Dignomorphus* n. gen.**

(Fig. 1-10)

Type species: *Dignomorphus danielssoni* n. sp., gender: masculine.

## DIAGNOSIS

In a general outlook, and especially in pronotal structure, the genus *Dignomorphus* n. gen. reminds species of *Dignomus* Woll. and *Pseudomezium* Pic, but differs from the latter in presence of (absent in *Pseudomezium*) mesonotal scutellum and hind wings, as well as in the shape of wide, partly parallelsided, apically broadly rounded elytra (in *Pseudomezium* narrowly elliptical, strongly tapering behind middle, with sharply spiniform apices); additionally, pronotal disc is in the new genus divided into



1-10. *Dignomorphus danielssoni* n. gen. & n. sp.: 1 – habitus of male (holotype); 2 – visible abdominal sternites; 3 – male tarsomeres of middle leg; 4 – male tarsomeres of hind leg; 5 – female tarsomeres of middle leg; 6 – female tarsomeres of hind leg; 7 – aedeagus, ventral view; 8 – aedeagus, lateral view; 9 – median lobe, lateral view; 10 – male genital segment

two widely separated tubercles, while in the *Pseudomezium* the division is marked but indistinctly and only in posterior part. The new taxon is distinguished from *Dignomus* by pronotal structure, pubescence of elytra, structure of tarsi and male genitalia. In the latter genus the pronotum is never so deeply divided as in *Dignomorphus* n. gen. and pronotal tubercles are never armed with a sharp thick spine, so prominent in the new species. Erect elytral setae in *Dignomorphus* n. gen. occur only on odd intervals, like in such genera as *Mezium* CURTIS, *Pseudeurostus* HEYDEN or *Niptus* BOIELD., but in *Dignomus* pubescence of all intervals is alike. Very characteristic of males of the new genus are swollen basal joints of meso- and metatarsi; otherwise this feature occurs only in the representatives of *Casapus* WOLL. and some *Dignomus* (but even so only on hind legs). Male genitalia in *Dignomorphus* n. gen. seem more specialized than in *Dignomus*: even though symmetrical parameres are highly similar, the penis is distinctly, sharply carinate in lower part, while upper portion is extraordinarily swollen unlike any species of *Dignomus*.

#### DESCRIPTION

Body black with somewhat paler antennae, mouthparts and legs. Head, legs and ventral surface densely covered with white scales. Antennae 11-jointed, antennomeres elongate. Interantennal space narrow, in shape of thin elevated carinula. Eyes naked, moderately convex, slightly protruding from the head outline. Pronotum strongly convex, hump-like, divided in middle into two elevations by deep longitudinal groove (fig. 1). Middle of each part is occupied by broad, smooth, shining, prominent tubercles; hind margin of both prolonged into strong, sharp thorn. Anterior third of pronotum densely covered with long hair; additionally short, dense tomentous pubescence occurs, condensed in parts median to both sides of median groove, and at sides between pronotal base and main tubercles. On each side of pronotal base one large and three small vertically protruding tubercles occur. Base between two large tubercles with distinct brown, thick, erect hairs. Mesonotal scutellum conspicuous, ovate. Elytra partly parallelsided, apically broadly rounded, humeral protuberances large, prominent. Elytral surface covered with tiny white scales, forming transverse fasciae and more or less distinct spots. Puncturation conspicuous, punctures deep, arranged into regular rows. Hairs in punctures indistinct, very short, reaching half of the diameter of a puncture; pilosity on odd intervals short, brown, erect, slightly inclined backwards; even intervals without pubescence. Abdomen with 5 visible segments, sternites 2.-5. of similar width (fig. 2). Hind wings developed. Sexual dimorphism expressed only in tarsal structure: basal tarsomeres of middle and hind legs conspicuously swollen (figs. 3-4); in females tarsomeres of similar thickness in all tarsi (figs. 5-6). Male genitalia with symmetrical parameres. Apical part of penis with distinctly protruding spermatic duct (fig. 7); male genital segment biramous (fig. 10).

#### NAME DERIVATION

Name of the genus reflects its general similarity to species of *Dignomus* WOLL.

*Dignomorphus danielssoni* n. sp.

## DESCRIPTION

Length 2.7-3.0 mm. Body black, lustrous. Antennae reddish-brown with darkened distal joints; basal 4-5 joints covered with white scales. Small, snow-white squamulae densely cover entire head. Pronotum with distinct reticulate microsculpture at apical and side margins. Pronotal pubescence on anterior part directed backwards, towards middle. Mesonotal scutellum ovate, covered with tiny white squamulae. Elytra black, only lateral and apical margins reddish-brown. Puncture rows narrow, punctures deep, somewhat rectangular in outline. Intervals distinctly wider than rows, lustrous. Elytral scales snow-white, ovate, forming two transverse fasciae and preapical spot; some additional irregular flecks of few (up to about a dozen) scales may occur. Ventral surface covered with dense white scales intermingled with recumbent squamiform white hairs. Male genitalia as in figs. 7-9; male genital segment as in fig. 10.

## NAME DERIVATION

The name has been given in honour of the discoverer of the species, Dr. Roy DANIELSSON.

## TYPE MATERIAL

Holotype, male: "RSA, Cape Prov. De Hoop Nature Reserve, 0-200m, 34°27'S, 20°25'E, 10-13.X.1994, loc.12, leg. R. Danielsson" (Museum of Zoology, Lund University, Sweden)

Paratype, female: "S. Africa, Mossel Bay, Cape Province, June 1921, leg. R.E. Turner" (author collection).

## REMARKS

As shown in the first paper of a series concerning the spider-beetles of continental Africa, the Cape Province is one of 5 world centers of distribution of the Ptinidae. The species diversity of ptinids in this part of Africa is extraordinarily great, more than 30 species hitherto described and reported make only "the tip of the iceberg". The new genus described here should be classified near *Dignomus*, which seems to be its closest relative. However, several characters point to its generic distinction. Particularly interesting is the swelling of basal joint of male meso- and metatarsi, otherwise observed only in the genus *Casapus* endemic to the Canary Is., and in some mediterranean species – e.g. *D. reichei* (BOIELD.), *D. kroliki* (BOROWSKI), *D. xylopertha* (BOIELD.), *D. carinatus* (LUC.) or *D. aureopilis* (DESBR.) – of *Dignomus*; however, in these palaeartic taxa the basal joint is swollen only in the metatarsi. The species of both the genus *Casapus* and *Dignomus* develop mainly in dry animal – especially mammal – excrements, and it seems highly probable that this is the case also with *Dignomorphus danielssoni* n. gen., n. sp. To sum up, it may be supposed that the genera *Pseudomezium*, *Casapus*, *Dignomus* and *Dignomorphus* n. gen. share a common ancestor. Representatives of *Casapus* and *Pseudomezium*, occurring in specific environments (small isolated islands, caves), have lost the ability to fly, whereas those of *Dignomus* and *Dignomorphus* n.

gen., inhabiting open continental areas, must actively search for appropriate places to develop, and therefore retained the membranous wings.

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