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Revision of the genus *Planidia* Kerremans

(Coleoptera, Buprestidae)

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Abstract

The taxonomic revision of the Ethiopian Buprestid genus *Planidia* Kerr. is given in the present paper. Generic characters are discussed and two species are replaced to another genera (*P. alluaudi* Kerr. to *Discoderoides* Théry and *P. limpopoënsis* Obenb. to *Phlocteis* Kerr.). One species is described as new to science (*P. freudei* sp. n.), another one was sunken in synonymy (*P. velutina* Kerr. = *P. gridellii* Obenb.). Key to five species of *Planidia* is given, the sixth species (*P. vansoniana* Théry) remains unknown to author and its unique type-specimen is probably lost.

Introduction

This revision was originally inspired by Dr. H. Freude of the Zoological State Collection, Munich, who asked me to describe new species of *Planidia*, designated but never described by the late Prof. Obenberger. During preparation of the paper emerged the necessity of the complete revision of the genus, given bellow.

My work have been facilitated by the help of Dr. A. Cobos Sanchez (Instituto de Aclimatacion, Almería), Dr. A. Descarpentries (Musée d'Histoire Naturelle, Paris) and Dr. L. Schulze (Transvaal Museum, Pretoria), who supplied me additional material and valuable information. It is my pleasant duty to express them my cordial thanks.

Planidia Kerremans, 1899

Planidia Kerremans, 1899, Ann. Soc. ent. Belg. 43: 273.

Typus generis: *Planidia velutina* Kerremans, 1899 from Abyssinia (by monotypy).

The genus *Planidia* Kerr. is member of the tribe Coraebini as defined by Schaefer (1949). Among numerous Ethiopian genera of this tribe it may be distinguished by the following characters:

Head with longitudinal furrow in the middle, antennal cavities large, separated by narrow, almost carinate part of epistom. Antennae short, regularly serrate beginning from the fifth segment, but already the fourth one distinctly triangular except *P. vasoni* Obenb., in which it is subglobose. Anterior margin of pronotum arcuate, sides parallel, posterior angles rounded or roundly obtuse. Lateral

margins of pronotum, seen laterally, direct and horizontal in the anterior half. Pair of the fine lateral longitudinal carinae developed on the disc of pronotum near lateral margins and more or less parallel with them. Short carinae or bulges at the base of pronotum besides scutellum lacking (well developed in the closely related genus *Parademostis* Obenb.). Chin-piece (mentonière) simple, arcuate, well developed. Metasternum besides its process deeply excavate for reception of intermediate legs. Inner sides of those cavities well defined, limited by sharp lateral edges of the metasternal process. Similarly is adapted also the first visible abdominal sternite for reception of the posterior legs, its cavities being bordered by lateral edges of intercoxal process of the sternite. Pygidium flat, with short strong acute point at the apex, and moderately excised besides it. Only in *P. elongatula* Obenb. the apex of pygidium is prolonged into rounded lobe, longitudinally finely carinate in the middle. Simply punctate disc of the last abdominal sternite usually flatly concave, passing fluently into wide flat rugose border at the apex, but separated from it by distinct groove laterally. Posterior angles of the disc prominent as short flat and blunt teeth (fig. 2). Only in *P. van-soni* Obenb. is the whole disc of the last abdominal sternite distinctly separated from its flat rugose marginal border by complete groove (fig. 3). Elytra narrow, with distinct humeral bulges and deep impressions between them and scutellum. Legs simple, the basal segment of the posterior tarsi as long as two following ones together, tarsal claws strongly dentate at the base.

The genus *Planidia* Kerr. was established by Kerremans (1899) for the single species, *Planidia velutina* Kerr. Later added Kerremans (1914) further species — *Planidia alluaudi* Kerr. Number of the known *Planidia*-species have been then increased by Obenberger (1922, 1931, 1940) and Théry (1955) to eight species, all from eastern and southern Africa. However, at least two of those species must be replaced to another genera:

1. *Discoderoides alluaudi* (Kerremans, 1914) **comb. n.**

Planidia alluaudi Kerremans, 1914, Voyage de Ch. Alluaud et R. Jeannel en Afrique orientale 1911—1912, Coleoptera 6: 231.

During my work on this revision I was told by Dr. Descarpentries, that, according to his study of the type-specimen of *Planidia alluaudi* Kerr. in the Museum d'Histoire Naturelle, Paris, the species belongs to the genus *Discoderoides* Théry. I have been able to confirm his opinion by study of an additional specimen deposited in the National Museum, Prague and compared with the type-specimen by the late Prof. Obenberger.

Chin-piece of this species is distinctly incised laterally for reception of antennae, as it is characteristic for the genus *Discoderoides* Théry, epistome between antennal cavities flat, larger than that in *Planidia* and metasternum as well as the first visible abdominal sternite are not deeply excavate for reception of legs.

2. *Phlocteis limpopoënsis* (Obenberger, 1931) **comb. n.**

Planidia limpopoënsis Obenberger, 1931, Folia zool. hydrob. 2: 200.

Planidia limpopoënsis var. *gratiosa* Obenberger, 1931, l. c.

This species differs in number of characters from other species of *Planidia* Kerr. and can hardly be considered as member of that genus.

General form of body shorter and larger than that in most *Planidia*, front broad, anterior margins of eyes in the frontal view parallel (converging towards the mouth parts in *Planidia*), epistome between antennal cavities flat and broader than that in *Planidia*. Chin-piece short, broadly distinctly emarginate in the middle, metasternum and the first abdominal sternite hardly excavate for reception of the intermediate and posterior legs.

Owing to that combination of characters I prefer to replace the species in the genus *Phlocteis* Kerremans. It seems me to be rather closely related to certain species of that genus, like *Phlocteis helferi* Obenb., *P. abyssinica* Obenb. and so on.

Key to species of *Planidia* Kerremans

Species of the genus *Planidia* Kerr known so far, may be distinguished according to the following key. Only one species, *Planidia vansoniana* Théry, unknown to me, was not included in it. It is discussed at the end of this paper.

- 1 (8) Apex of pygidium with short acute point in the middle and finely emarginate besides it.
- 2 (3) The fourth antennal joint subglobose. Simply punctate surface of the last abdominal sternite separated from its rugose marginal border laterally as well as at the apex by complete groove. Body wider than that in other species of the genus. South Africa *Planidia vansoniana* Obenberger
- 3 (2) The fourth antennal segment rather distinctly triangular. Disc of the last abdominal sternite passing fluently into the rugose marginal border at the apex, only laterally separated from it by deep groove. Body slender.
- 4 (5) Disc of pronotum before the widely V-shaped prebasal impression divided by another, short, transverse, in the midlength situated impression into two separately vaulted parts, each of them being accented by pair of bristles of coarse black hairs. Southwest Africa *Planidia freudei* sp. n.
- 5 (4) The entire disc of pronotum before the widely V-shaped prebasal impression regularly moderately vaulted, without an additional distinct transverse impression in the midlength. Species from East Africa.
- 6 (7) Body smaller, narrower. Elytra with broken band of rusty hairs, bordered by whitish ones, in the posterior third. Entire apex of elytra behind that band (apart from several light hairs at suture) black pubescent with one sharp whitish transverse band. Elytra with fine longitudinal posthumeral edge, beginning closely behind the humeral bulge and joining lateral margin of elytron behind epipleuron. East Africa *Planidia hauseri* Obenberger
- 7 (6) Body larger, comparatively wider. Apex of elytra behind the broken rusty, white bordered band in the posterior third of elytra with mixed rusty and black pubescence and little distinct whitish transverse band. The resulting pattern is lighter and more obscure than that of the preceding species. Posthumeral parts of elytra usually without fine longitudinal edges, roughly transversely rugose. East Africa *Planidia velutina* Kerremans
- 8 (1) Pygidium narrowly rounded, finely longitudinally carinate in the middle, without prominent acute point at the apex. South Africa *Planidia elongata* Obenberger

1. *Planidia vansoni* Obenberger, 1936

Planidia vansoni var. *strandella* Obenberger, 1936, Festschr. E. Strand 1: 139.

Holotypus in National Museum, Praha.

Variety *strandella* Obenberger was published in 1936 without publishing separately a description of the typical form. The species is lacking in Obenberger's (1935) Catalogue and in Obenberger's handwritten complements to that Catalogue the typical form of *Planidia vansoni* Obenb. is referred to the same page as the really published description of variety *strandella*. In this situation I consider as the original description of the typical form the Obenberger's (1936) reference in his description of variety *strandella* Obenb.: „Von der typischen Form dadurch verschieden, daß die rostfarbige bis braunockerfarbene Ornamentur der Flügeldecken durch schnee-weiße ersetzt ist.“ This remark fits perfectly with specimens in the Obenberger's collection (now in the National Museum, Prague), designated by him as types (syntypes) of *Planidia vansoni* Obenberger. From this series I elected the Lectoholotype (♂) of the species.

The name *strandella* Obenberger must be then considered as synonym of *Planidia vansoni* Obenberger (**syn. n.**), as it is based on an unimportant colour deviation, quite possibly an artefact.

Body comparatively wider than in other species of the genus. Length 6.5-7.9 mm, width of humera 2.0-2.2 mm.

Front vaulted besides the longitudinal furrow. Front mostly smooth, with sparse rusty hairs, vertex covered by very long and close whitish pubescence, covering completely integument. Two oblique strips of white hairs reach from the middle of that pubescent area towards anterior margins of eyes. Antennae serrate from the fifth segment, the fourth one hardly longer than wide, subglobose, equal in form to the third one.

Pronotum distinctly transverse (about 1.25 times wider than long), its anterior margin moderately arcuate. Disc of pronotum before posterior angles deeply and widely excavate and between those cavities shallowly deplanate. Scutellum triangular, moderately prolonged backwards, finely reticulate, dull. Anterior margin of pronotum as well as the vertex conspicuously whitish pubescent, the pubescence reaches along the inner sides of lateral carinae to the anterior margins of the mentioned posterior preangular impressions. Middle part and posterior margin of pronotum covered by black squamose hairs, in the middle and at the base besides scutellum with small spots of rusty hairs. Further scarce rusty hairs bordering areas of the close white pubescence. Integument black with feeble blue or violet shine.

Elytra in the posterior third with broad broken transverse rusty, white bordered pubescent band. Apical parts of elytra behind that band covered by black recumbent squamose hairs, with small spot of rusty hairs at the apex of each elytron. Surface of elytra before the band almost bare with some small dispersed rusty spots and areas of the black hairs along suture. Nearly in the basal third of each elytron one small but conspicuous, roughly rounded white spot near suture.

Basal half of abdomen paunchy, conspicuously vaulted below as well as laterally. Surface of the last abdominal sternite separated from its rugose border by the complete groove (fig. 3). Abdominal sternites with bronze shine, laterally with areas of mixed white and rusty hairs.

This species is very distinct already with its conspicuous pubescence of the head and anterior margin of pronotum. It differs from other species of the genus in a set of characters (wider form of body, the subglobose fourth antennal segment, fairly transverse pronotum, peculiar form of the last abdominal sternite), nevertheless fits well with the definition of the genus, as interpreted above.

The variety *strandella* Obenberger, known to me in the single type-specimen, deposited in the National Museum, Prague, seems to be only colour deviation in which dark rusty hairs are replaced by the lighter yellowish ones. Possibility of an artefact cannot be eliminated as the hairs, if observed under microscope, are rather rusty at the base and seem to be decolourized accidentally.

Distribution and material examined:

South Africa: Blaauwberg, Leipzig, 17.1.1931, van Son lgt., 6 spec. (incl. Lectoholotypus — Nat. Mus. Prague); — Marieps Mts., IX. 1932, van Son lgt., 1 spec. (Type of var. *strandella* Obenb. — Nat. Mus. Prague).

2. *Planidia velutina* Kerremans, 1899

Planidia velutina Kerremans, 1899, Ann. Soc. ent. Belg. 43: 278.

Planidia gridellii Obenberger, 1940, Miss. Biol. Paese Borana Racc. zool. 2, parte 1 (1939): 20 — **syn. n.**

Holotypus not seen, probably in the British Museum (N. H.), London.

Holotypus of *P. gridellii* Obenb. in National Museum, Praha.

Body long, parallel, length 7.0-8.0 mm, width 1.9-2.2 mm.

Front convex besides median furrow, rugose, sparsely yellowish pubescent, with several spots of black hairs.

Pronotum moderately transverse, about 1.18 times wider than long, anterior margin arcuate, distinct lateral carinae along sides, two large deep impressions before posterior angles connected by shallow, widely V-shaped impression. At sides and base of pronotum sparse yellowish pubescence. Scutellum triangular, impressed in the middle, on sides finely reticulate, dull.

Elytra as well as the entire upper surface dark bronze, coarsely transversely rugose, in the basal third each elytron with small spot of light hairs at suture. The apical third with a vaguely defined broken transverse band of rusty hairs bordered by yellowish ones, at the apex of each elytron further transverse yellowish spot. Along suture and at the apex black pubescence with dispersed rusty hairs predominates.

This species is closely related to *Planidia hauseri* Obenb. Both these East African species have similar colour pattern (less distinct in *P. velutina* Kerr.) and disc of pronotum before shallow prebasal impression regularly flatly vaulted, not transversely impressed in the middle. From *P. hauseri* Obenb. differs this species by broader and a little larger body and absence of fine posthumeral edges of elytra in most specimens. Specimen from Tana River, Kenya (in the Mus. d'Hist. Nat., Paris) is the only one, in which such an edge was observed.

Distribution and material examined:

Byssinia: without further data, coll. Raffray, 1 spec. (det. and comp. with type by Théry, Mus. Hist. Nat., Paris); — Javello, 15.-30.4.1937. Miss. E. Zavattari, 1 spec. (Type of *P. gridellii* Obenb. — Nat. Mus., Prague). Kenya: Tana River, VI.1915, G. Babault lgt., 1 spec. (Mus. Hist. Nat., Paris); — Makuyu (Théry, 1941 — not seen).

3. *Planidia hauseri* Obenberger, 1931

Planidia hauseri Obenberger, 1931, Folia zool. hydrob. 2: 199
Holotypus in the National Museum, Praha.

Similar to *P. velutina* Kerr. but smaller and distinctly narrower. Length 6.9-7.0 mm, width of humera 1.5-1.6 mm. According to Obenberger (1931), the lowest measures are 5,8 resp. 1.1 mm, based probably on specimens from Abyssinia, not seen by myself.

Front strongly convex besides the median longitudinal furrow, with yellow recumbent pubescence and several spots of blackish brown hairs.

Pronotum feebly transverse, about 1.1 times wider than long, its anterior margin arcuate, lateral longitudinal carinae fine but distinct. Large deep impressions before posterior angles, connected in the middle by shallow transverse one. Disc of pronotum before this prebasal impression flatly regularly vaulted, somewhat irregularly yellowish pubescent with two longitudinal strips of black hairs in the middle. Scutellum triangular, in the middle impressed and strongly shining, at the base and sides finely reticulate.

Elytra narrow, dark bronze, transversely rugose, recumbent black pubescent, in the basal third with pair of small spots of yellowish hairs besides suture. In the apical third wide broken transverse band of rusty hairs, bordered by yellowish ones and further transverse whitish spot closely at the apex, apart from several indistinct spots, dispersed over the upper surface of elytra. Fine longitudinal posthumeral edge beginning at the outer side of humeral bulge and joining lateral margin of elytron behind metepisternum is distinctly developed in all specimens examined (visible from side).

Very similar to the preceding species but distinct by its narrower linear form of body and brighter colour-pattern. Also the strongly shining impressed median part of scutellum seems to be distinguishing character.

Distribution and material examined:

Abyssinia: Katshinuaha, Tshertsher, 31.1.1899 (Obenberger, 1931 — not seen); — Moyale, 12.-25.5.1937, Miss. E. Zavattari, 2 spec. (Nat. Mus. Prague). Kenya: Ikutha, Hauser coll., 1 spec. (Holotypus — Nat. Mus. Prague); — Mulango — Kitwi, coll. Nègre, 2 spec. (coll. Cobos). Tanzania: Moshi, 1 spec. (Mus. Hist. Nat. Paris).

4. *Planidia freudei* sp. n.

Large subparallel species, form of body resembling that of *P. elongatula* Obenb., but the colour-pattern brighter. Length 7-10 mm, width of humera 1.8-2.5 mm.

Head convex besides the median longitudinal furrow, coarsely rugose, long pubescent. Yellowish and rusty hairs form two obscure transverse bands on background of black hairs with sparse dispersed light ones. Antennae serrate beginning from the fifth segment, the fourth one already distinctly triangular.

Pronotum rather long, only about 1.05 times wider than long, anterior margin strongly arcuate, sides parallel, posterior angles roundly obtuse. In the posterior half pair of longitudinal carinae near sides, at their inner sides before posterior angles deep large impressions connected with shallow transverse, widely V-shaped impression. In the middle of pronotal disc short transverse bare impression. Before it in the middle of the anterior part two areas

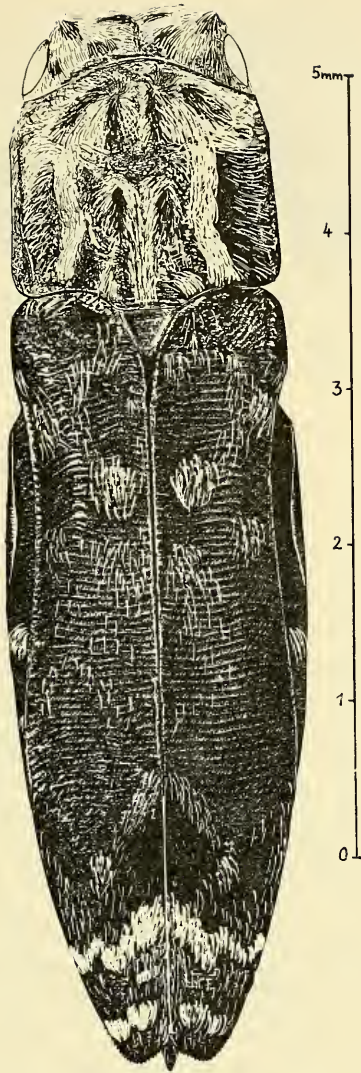
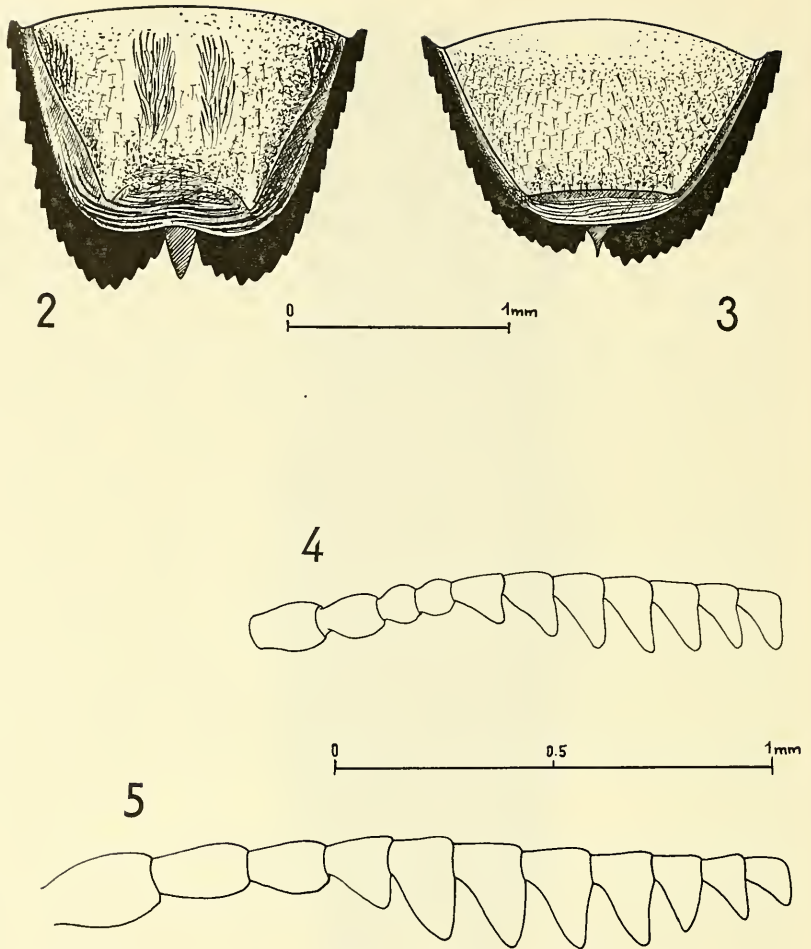


Fig. 1: *Planidia freudei* sp. n.-general appearance

of long, very close yellowish hairs, mixed with some rusty ones. They extend on each side of pronotum into two longitudinal strips, reaching to both outer and inner sides of deep impressions before posterior angles. Behind the bare transverse median impression two clusters of black hairs, separated by rusty ones, extending backwards till the base. At the base besides scutellum two small rusty spots. Scutellum triangular, feebly prolonged backwards, dull, reticulate.

Elytra coarsely transversely rugose, at the entire surface dark bronze, humeral bulges well developed, between them and scu-



Figs. 2—5: Ventral view of pygidia of *P. freudei* sp. n. (2) and *P. vansoni* Obenb. (3); antennae of *P. vansoni* Obenb. (4) and *P. freudei* sp. n. (5).

tellum deep impressions. Anterior half of elytra covered by small dispersed spots of rusty hairs an background of inconspicuous recumbent black pubescence. General appearance of that part of elytra reddish brown. In the basal third pair of small white spots near suture. In the posterior half of elytra dominates recumbent squamose black pubescence, with narrow transverse "zigzag" rusty band. Before apex two bright broken transverse bands of yellowish hairs, rather broad space between them covered by mixed black and rusty hairs. Light yellowish pubescence of pronotum and elytra is formed by very close and long, more projecting hairs, so that it is also plastically prominent. Also abdominal sternites, especially three apical ones, light pubescent on sides. Pygidium with strong acute point at the apex.

With its size, general form of the body, form of antennae, two times transversely impressed pronotum and other characters the new species is closely related to another South African species, *P. elongatula* Obenb. Apart from the brighter colour-pattern of *P. freudei*, the both species may be easily distinguished after the form of pygidium, which is, like in other species of *Planidia*, strongly acutely pointed at the apex in *P. freudei*, but peculiarly rounded and longitudinally carinate in *P. elongatula* Obenb.

Type material: Holotypus, 1 ♂, Southwest Africa, Otjiwarongo Distr., I.1950. Deposited in the National Museum, Prague.

Allotypus: 1 ♀, the same data. In the National Museum, Prague.

Paratypes: 11 specimens, the same data; 1 spec. Southwest Africa, Otjiwarongo Distr., Abachaus, II.1953, G. H o b o h m lgt. Paratypes deposited in the National Museum, Prague, Zoologische Staatssammlung, Munich, Museum d'Histoire Naturelle, Paris and Instituto de Aclimatación, Almería.

5. *Planidia elongatula* Obenberger, 1922

Planidia elongatula Obenberger, 1922, Arch. Naturg. 88 A, Heft 12: 129.

H o l o t y p u s in the National Museum, Praha.

Body comparatively large, parallel. Length 8.1-8.8 mm, width 1.9-2.1 mm.

Head yellowish pubescent with interposed irregular spots of inconspicuous black hairs. Antennae strongly serrate.

Pronotum as wide as long, anterior margin strongly arcuate. Disc of pronotum deeply excavate before posterior angles, the large cavities connected by shallow transverse, widely V-shaped impression at the base and their outer sides bordered by inconspicuous, lightly marked lateral longitudinal carinae. In the midlength of pronotum further short transverse impression, dividing the disc of pronotum into separately vaulted anterior and median parts. Surface dark, blackish with dark bronze shine, sparsely pubescent. Rusty hairs arranged in the middle of pronotum into three rather obscure longitudinal strips, separated by inconspicuous black pubescence. Light yellowish hairs are dominant in lateral parts of pronotum.

Light, yellowish and rusty pubescence of elytra forms small, sparse and obscure spots, concentrated especially along suture and in impressions between humeral bulges and scutellum. Only apical part of elytra covered by closer but irregularly dispersed yellowish pubescence. Also sides of abdominal sternites yellowish and rusty pubescent. Pygidium prolonged at the apex into rounded lobe, longitudinally carinate in the middle.

This large species with inconspicuous colour-pattern is closely related to the new species *P. freudei*, described above. The both South African species are characterized by the disc of pronotum divided by two transverse impressions into three parts: moderately vaulted anterior third, separately bulged median area and basal margin. Peculiar character of *P. elongatula* Obenb. is the rounded apex of pygidium.

Distribution and material examined:

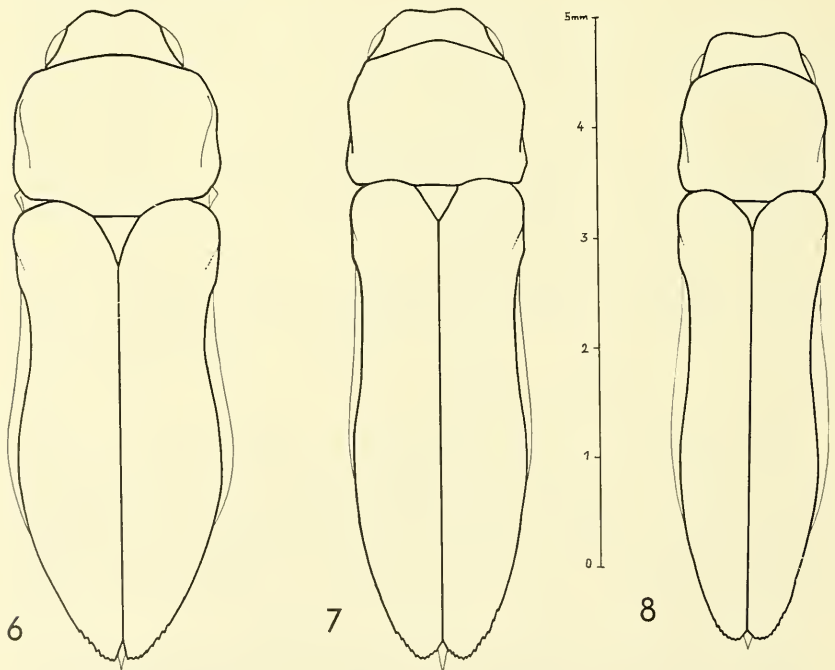
South Africa: Orange, 1 spec. (Holotypus-Nat. Mus. Prague); — Natal: Inchanga, 1 spec. (Nat. Mus. Prague); — Basutoland: Mamathe, 27.12.1949, C. J a c o t G u i l l a r m o d lgt., 1 spec. (Mus. Hist. Nat. Paris).

6. *Planidia vansoniana* Théry, 1955*Planidia vansoniana* Théry, 1955, Ann. Transvaal Mus. 22: 395.

This species have been described after single specimen from Birchenough Bridge, South Rhodesia and deposited, according to the description, in the Transvaal Museum, Pretoria. As I was told by Dr. L. S c h u l z e of that museum, the type-specimen is lacking there and no information concerning its present existence could be provided so far.

As I have not been able to study this species and to obtain all necessary data from the original description, the species is not keyed above. I doubt that it could be identical with any species of *Planidia* Kerr. given in this paper.

After all, some data in the original description (pronotum widest at the base and narrowed forwards, base of pronotum emarginate with broad prominent median lobe) may cause certain doubts, whether this species is really a true *Planidia*. Similar form of pronotum, strongly narrowed forwards is developed in the genus *Parademostis* Obenberger, closely related to *Planidia* Kerr. But the single known species of that genus, *Parademostis leprosa* Obenberger, differs from *Planidia vansoniana* Théry very distinctly (apart from some other details) in the form of the second antennal segment, which is subcylindrical, fairly two times as long as wide in *Parademostis leprosa* Obenb., in no case subglobose, as it is given by Théry (1955) for *Planidia vansoniana*. So, this species remains questionable so far.



Figs. 6—8: Form of body in different species of *Planidia*: *P. vansoni* Obenb. (6), *P. velutina* Kerr. (7) and *P. hauseri* Obenb. (8).

Conclusions

The present paper is the first revision of the Ethiopian Buprestid genus *Planidia* Kerremans. The genus comprises six species. One of them, *Planidia freudei*, is described here as new to science. Another species, *Planidia vansoniana* Théry, could not be examined and remains questionable so far. Two species described originally as *Planidia* have been transferred to another genera: *P. alluaudi* Kerr. to *Discoderoides* Théry and *P. limpopoënsis* Obenb. to *Phlocteis* Kerr. *Planidia gridellii* Obenb. is explained as synonym of *P. velutina* Kerr.

The five examined species, keyed above, may be divided into three groups: the first group represent the species of East Africa (*P. velutina* Kerr. and *P. hauseri* Obenb.) with simply vaulted disc of pronotum, the second group is represented by pair of South African species, *P. freudei* sp. n. and *P. elongatula* Obenb. The third group would comprise the sole *P. vansonii* Obenb. which has rather distinct position within the genus.

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