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***Plagiogonus hielkema* nov.sp., a new Afrotropical *Plagiogonus* MULSANT, 1842 (Coleoptera, Scarabaeidae, Aphodiinae)**

Axel BELLMANN

A b s t r a c t : *Plagiogonus hielkema* nov.sp. from Namibia is described and illustrated. A key to the species of *Plagiogonus* MULSANT, 1842 from the Afrotropical region is given.

K e y w o r d s : Coleoptera, Scarabaeidae, Aphodiinae, *Plagiogonus*, Afrotropical region, Namibia, taxonomy, new species. Identification key.

Introduction

The genus *Plagiogonus* MULSANT, 1842 previously included six species from the Afrotropical Region. The most recent new species of this genus was just described by P. BORDAT (2019) from South Africa. A study of Aphodiinae material from Meindert Hielkema (Gauda, Netherlands) yielded a seventh species from the region.

Materials and methods

The specimens were examined with a Nikon SMZ 1270 stereomicroscope. The habitus photographs were taken with a Canon MP-E 65mm on a Canon EOS 7D Mark II and Zerene photo Stacker software. Photograph of the epipharynx was taken with a Touptek Toupcam CMOS C-Mountcamera 16 MP on a Müller microscope.

Morphological terms for descriptions were adopted from DELLACASA et al. (2001). Exact label data are cited for the examined material. Each label is separated with /. Type material is deposited in the author's collection (CAB).

***Plagiogonus hielkema* nov.sp. (Figs 1-4)**

M a t e r i a l e x a m i n e d : Holotype ♀: Namibia/Karas, 4 km E of Bethanie 26°29'S 17°12'E, 21-2-2017 1010 m M.A. Hielkema / In/under horse-dung / *Plagiogonus hielkema* sp.n. HOLOTYPE A. Bellmann det. 2023 (CAB).

E t y m o l o g y : The new species is dedicated to my dear friend and colleague M.A. Hielkema († Gauda, Netherlands), specialized in the Scarabaeoidea and collector of the Holotype.

D e s c r i p t i o n : 4.4 mm. Body elongate, convex. Dorsal surface with microreticulation, moderately shiny. Elytra completely with very fine and short setae. Head and pronotum smooth and shinier than elytra. Colour of body brown to light brown,

pronotum with lateral and basal pale areas. Elytra yellow with suture darkend; first interval, lateral and apical margins of elytra weakly darkened. Femora yellow, tibiae darkened to nearly piceous, tarsi yellow.

F e m a l e : (Figs 1-4) Head large, without tubercles; clypeal margin widely rounded at sides and weakly sinuate in the middle; Clypeal border feebly upturned and rather long and densely bristled with hairs as long as first protarsomere. Genae weakly angulate and long ciliate with about 10 closely hairs as long as last protarsomere, eyes feebly protruding. Frontal suture finely impressed. Epistoma nearly flat with punctuation simple and fine, with regularly distributed punctures, interstices 4-6 times as wide as diameter of punctures. Punctuation on front courser and denser with irregularly distributed punctures, interstices 2-4 times as wide as diameter of punctures.

Pronotum transverse, anterior angles rounded and feebly protruding. Sides nearly straight in the middle, widest before posterior angles, latter truncate and feebly sinuate. Basal margin protruding posteriorly, weakly sinuate on either side. Lateral margins thickly bordered, basal margin thin to the fifth elytral striae, without border across the middle. Anterior margin not bordered. Lateral margins very long ciliate with hairs as long as width of first interval. Punctuation double with regularly distributed small punctures and scattered bigger punctures on sides, interstices 2-4 times as wide as diameter of punctures; on disc more scattered without bigger punctures, interstices 4-6 times as wide as diameter of punctures.

Scutellum narrow triangular, without punctures.

Elytron suboval, widest at middle. Humerus without denticle. Striae narrow, weakly impressed and crenulate. Punctuation of intervals only near striae and slightly finer than of head and pronotum; intervals feebly convex, nearly punctures entirely with very short setae, latter as long as diameter of punctures on first stria. Epipleuron entirely long ciliate with hairs as long as scutellum.

Protibiae of normal shape, externally with three triangular teeth and 4-5 small denticles, apical spur robust and rounded at tip, slightly curved downwards, as long as first tarsomere. First metatarsomere as long as the following three combined, as long as apical superior spur.

Metasternal plate feebly concave, very finely microreticulate, shiny, with some irregular punctures, marginal punctures with erect setae, disc with distinctly impressed midline.

M a l e : unknown.

D i a g n o s i s : *Plagiogonus hielkema* nov.sp. is most similar to *P. separatus* (PETROVITZ, 1962) and *P. tertius* (BORDAT, 1992). It differs from both in having setose elytra, head and pronotum paler in colour and the shape of the head more widely rounded.

C o l l e c t i n g c i r c u m s t a n c e s : In/under horse dung on a unpaved road together with *Pharaphodius rubricosus* (BOHEMAN, 1857) (M.A. Hielkema in lit.).

D i s c u s s i o n : The distinct differences between this and the other Afrotropical species of the genus *Plagiogonus* allows a description of this species based on a single female.

**Key to the species of *Plagiogonus* MULS. from Afrotropical Region
(based on the key of BORDAT, 2005)**

- 1 Clypeus anteriorly widely rounded beside middle situation.2
- Clypeus anteriorly angulate or denticulate beside middle situation.4
- 2 Apical swelling of intervals 7 and 9 weak. Elytral intervals plan apically, 3.4-4.2 mm; South Africa. *P. separatus* (PETROVITZ, 1962)
- Apical swelling of interval 7 and 9 strong elevated. Elytral intervals distinct convex apically.3
- 3 Elytra with short pubescence, 4.4 mm; Namibia. *P. hielkemai* nov.sp.
- Elytra glabrous, 2.9-3.2 mm; Kenya, Tanzania. *P. tertius* (BORDAT, 1992)
- 4 Anterior part of clypeus strongly granulated and with long setae. Lateral margins of pronotum and elytra ciliate, 2.8-3.4 mm; Namibia, Botswana, South Africa.
..... *P. hirticeps* (PÉRINGUEY, 1901)
- Anterior part of clypeus at most weakly granulated and with short setae. Lateral margins of pronotum and elytra not ciliate.5
- 5 Elytral striae very wide, their punctures strongly impressed apically, elytral intervals carinate apically, 3.3-3.7 mm; Malawi, Kenya. *P. critchlowi* BORDAT, 2005
- Elytral striae very fine on disc and with barely visible punctures apically, elytral intervals convex apically.6
- 6 Elytra light reddish brown; fine clypeal punctuation, raspy and setigerous in front of the epistome; punctuation double on sides of disc, 2.9-3.3 mm; Somalia.
..... *P. clypeodentatus* (BORDAT, 1990)
- Elytra dark reddish brown; clypeal punctuation fine, simple, not setigerous; pronotal punctuation simple even on sides of disc, 2.6-3.0 mm; South Africa.
..... *P. sextus* BORDAT, 2019

Acknowledgements

My thanks are due to Meindert Hielkema († Gauda, Netherlands) for making *P. hielkemai* nov.sp. available to me and for the generous gift of the holotype, to Patrice Bordat (Saint-Cirq, France) for helpful comments and to Paul Lago (Mississippi, USA) for linguistic improvements.

Zusammenfassung

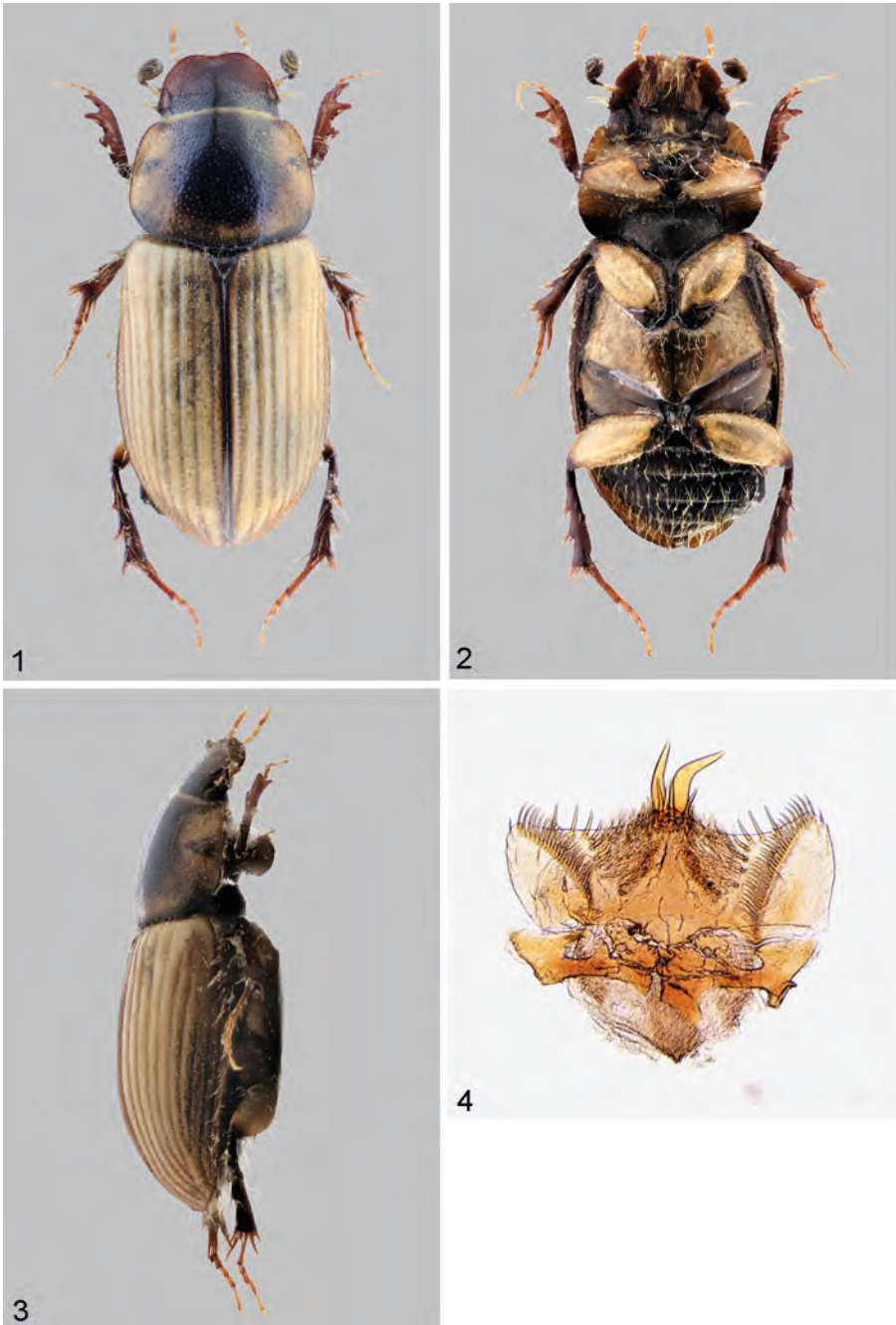
Plagiogonus hielkemai nov.sp. aus Namibia wird beschrieben und abgebildet. Ein Bestimmungsschlüssel für die Arten der Gattung *Plagiogonus* aus der Afrotropischen Region wird gegeben.

Reference

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Author's address:

Axel BELLMANN
Kirchlintelner Str. 7a
D-28325 Bremen, Germany
E-mail: axelbellmann@t-online.de



Figs 1-4: *Plagiogonus hielkemai* nov.sp. (1-4), (1) facies (female, dorsal); (2) facies (female, ventral); (3) facies (female, lateral); (4) epipharynx.

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Autor(en)/Author(s): Bellmann Axel

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