

## A new dung-beetle species of the genus *Aphodius* Illiger from East Africa (Coleoptera: Aphodiidae)

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**ABSTRACT.** — *Aphodius* (*Aganocrossus*) *mara* sp. nov. from Kenya is described and illustrated. It shows a unique combination of unusual features: the shape of the male fore tibia, the fused abdominal sternites and the setose elytra.

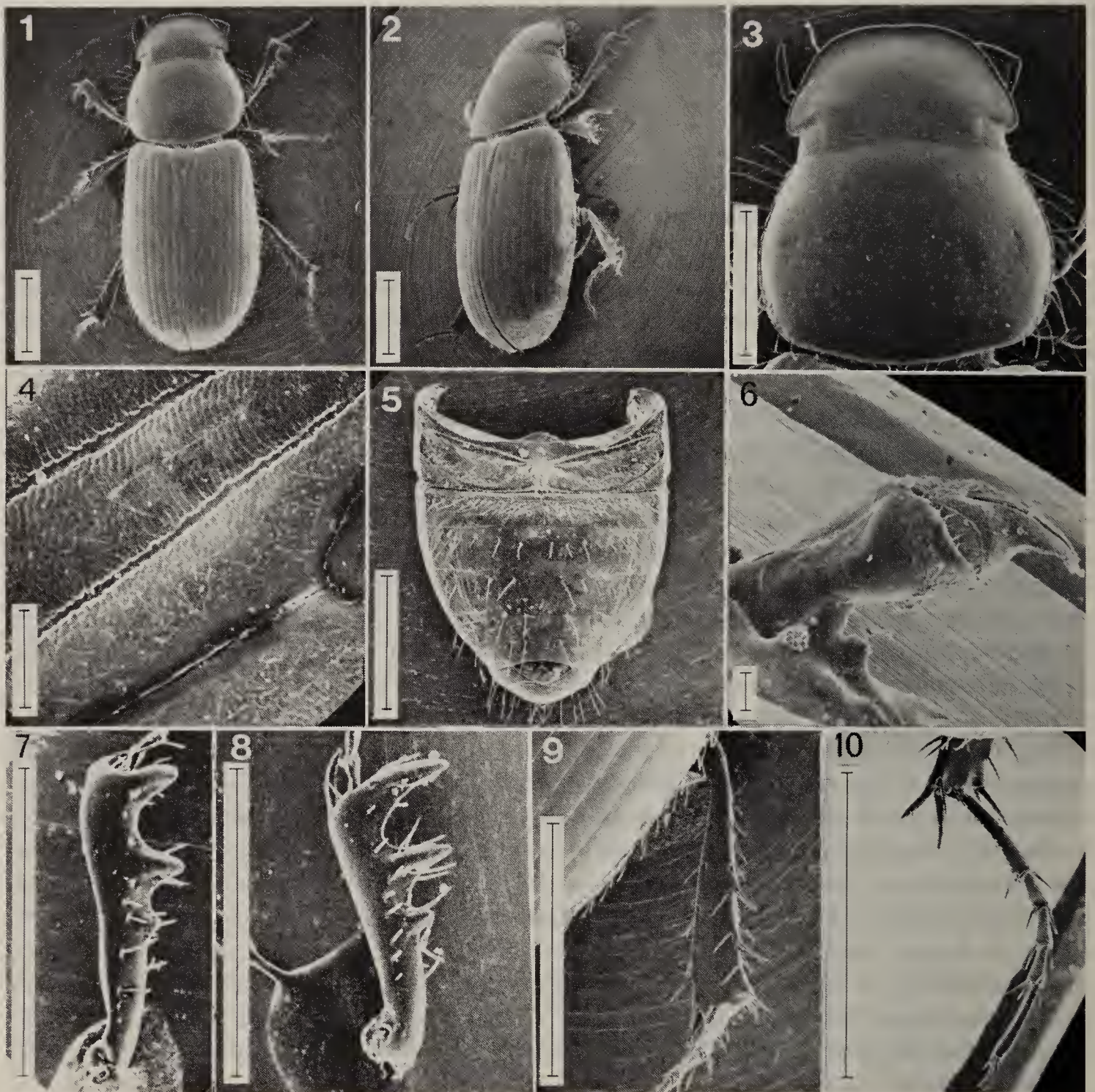
In current classifications (Balthasar, 1964; Endrödi, 1960, 1964; Endrödi & Rakovic, 1981; Paulian, 1942; Schmidt, 1922) most of the species of *Aphodius* Illiger with setose elytra are placed together in a limited number of subgenera, including *Trichaphodius* A. Schmidt, *Trichonotulus* Bedel and *Aganocrossus* Reitter. On sorting Afrotropical material in the Leiden museum we found an interesting, apparently undescribed setose species collected in the Serengeti-Mara area in East Africa that could not easily be accommodated in any of the genera and subgenera of the Aphodiini proposed so far. It shows a unique combination of characters, each reminiscent of particular genus-group taxa, such as aberrant male fore tibiae (cf. also *Coptochirus* Péringuey, *Coptochiroides* Balthasar, *Paracoptochirus* Balthasar), fused abdominal sternites (cf. also *Didactylia* d'Orbigny), and the aforesaid setose elytra. Instead of further proliferating the genus with new, more or less artificial subgenera we thought it better to leave this species in one of the conventional genus-group taxa, while at the same time emphasising its unusual features. Obviously, in this case an arbitrary choice has to be made as to the position of this novelty, awaiting a critical reappraisal of the supraspecific classification of the Aphodiini, and we now choose for *Aganocrossus*, one of the above-mentioned "setose subgenera". A series of 43 specimens was sifted from elephant dung in the Masai Mara Game Reserve, a savanna region directly north of the Kenya-Tanzania border. It is only one of the numerous scarab species subsisting in elephant dung in East African wilderness areas, which the senior author has sampled during five successive trips. The junior author studied the material belonging to the *Aphodius* subgenera with setose elytra, and we are preparing a review of Afrotropical *Trichaphodius*.

### *Aphodius* (*Aganocrossus*) *mara* sp. nov. (figs. 1-8)

Holotype (male). — Approximate length 4.7, width 1.8, height 1.3 mm. Brown and yellow, moderately shiny. Pilosity yellow-brown.

Clypeus with nearly straight anterior border, laterally widely rounded, nearly straight. Clypeal margin narrowly slightly reflexed. Clypeogenal border continuous; clypeogenal suture vague, clypeofrontal suture effaced. Clypeal punctation simple, punctures fine, abundant. Gena rounded; apex situated posteriorly, shortly rounded, distinctly projecting outside eye line (full-face view). Frons with narrow transverse zone of punctures which are less fine than on clypeus. Head virtually entirely dark-brown. Pronotal general surface evenly convex, anterolateral angle ca. 90 degrees, lateral border widely rounded to more or less truncate posterolateral section; these borders finely marginate, with ca. 15 long setae; base very finely marginate, without setae; pronotal apex immarginate, with broad transparent velum. Pronotal punctation simple ( $\times 50$ ); punctures distinct, their size variant, halfway lateral declivity abundant, very fine behind apical border, elsewhere sparse. Pronotal disc dark-brown, sides yellow. Scutellum subtriangular with shortly rounded apex, derm impunctate. Elytron elongate, more or less parallel-sides with evenly convex general surface; no humeral denticle; apicosutural angle ca. 100 degrees. Elytral striae numbering 10, strial impressions 8 and 9 anteriorly ending at same level (lateral view). All striae with free caudal end effaced on apical declivity. Strial punctations





Figs. 1-10. *Aphodius mara* sp. nov., scanning electron micrographs. 1, habitus, dorsal and 2, dorsolateral view; 3, head and pronotum, enlarged; 4, details of elytra, note seutellum at right; 5, abdomen, ventral view; 6, phallus, left side view; 7, right fore tibia ♂, and 8, ♀; 9, right hind tibia ♂; 10, right hind tarsus ♂. Scale lines with figs. 4, 6 are 0.1 mm, others are 1 mm.

dense but vague ( $\times 50$ ), not distinctly crenulating interstriae. Interstriae feebly convex, without distinct punctation ( $\times 50$ ), except for two rows of seta-bearing punctures on interstria 10 adjacent to stria 9, plus a number of seta-bearing punctures on apical declivity. Epipleuron also with row of seta-bearing punctures, visible from above; setae long, semierect. Entire elytral derm distinctly microreticulate ( $\times 50$ ), more opaque than pronotal and cephalic derm; elytral base yellowish, subapical area largely yellowish, enclosing infuscated patch, remainder of elytron largely brown.

Metasternum brown, almost impunctate, glabrous; microreticulation vague ( $\times 50$ ); disc nearly flat with impressed midline. Visible abdominal sternites 3-5 medially fused, suture slightly effaced, sternites 3-6 with irregular transverse row of seta-bearing punctures, setae long, subappressed, colour of sternites brown. Pygidium exposed, surface evenly convex, setose, yellow. Legs yellowish. Fore tibia with two well developed distal external denticles, proximal denticle distinct but small; internal line sinuous; terminal spur short, acuminate, curved downwards, reaching tarsal segment 3. Middle and hind tibiae slightly complanate, fossorial



crest small, apical spines of variant length, terminal spurs elongate-acuminate, tarsi long, ca. 1.5 times tibial length. Length proportions of superior tibial spur to tarsal segments 1-5: 4/5/2/2/4. Parameres simple, small, fig. 5.

Some measurements in mm. Maximum cephalic width 1.4, pronotal medium length 1.3, maximum width 1.6, sutural length of elytra (apex scutellum to apex elytron) 2.5, maximum width combined 1.8.

Variation and sexual dimorphism. — The total length of the specimens collected ranges between 3.8 and 5.5 mm. The specimens also exhibit variation in the degree of darkening, with a less distinct elytral infuscated patch in the lighter specimens. Female fore tibiae lack the bisinuate internal line and their external denticles are less different in length. Male fore tibiae vary slightly in width. The pronotal punctures of females are larger and more closely set compared to the males.

Material examined. — 31 males, 12 females (note this proportion). Holotype and paratypes all from Kenya: Masai Mara Game Reserve: Mara New Bridge, 15-XII-1978, J. Krikken, no. 273; deciduous low orthophyll savanna, sifted from elephant dung. Some paratypes to be distributed to other collections.

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