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A NEW SPECIES OF THE GENUS *MADAHOPLIA* (COLEOPTERA, SCARABAEIDAE, MELOLONTHINAE, HOPLIINI) FROM MADAGASCAR

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A New Species of the Genus *Madahoplia* (Coleoptera, Scarabaeidae, Melolonthinae, Hopliini) from Madagascar. Vasko, B. M. — An illustrated description and diagnosis of *Madahoplia dolini* sp. n. and an updated key to the species group III of *Madahoplia* Lacroix, 1998 are provided. The new species is similar to *M. oculata* Lacroix differing by the distinctly serrated pronotum, strongly elongated anterior angles and dorsum with whitish- and dark grey scales.

Key words: *Madahoplia*, diagnoses, new species, taxonomy, morphology, Madagascar.

Introduction

Lacroix (1998) described the genus *Madahoplia* with fifteen species, which he divided into four distinct groups. Species of small size (4–6 mm), compact, with smoothly rounded elytra and usually densely covered with scales. Species of groups I and II are characterised by a uniform and relatively dense scale cover, while species of groups III and IV have an uneven scale cover. Sexual dimorphism is almost not expressed.

A previously undescribed species with main characters of the of the *Madahoplia* group III was found among unidentified material collected by Professor V. G. Dolin† on Madagascar in 2001–2002. A description of the new species is provided below.

Material and Methods

The studied samples were examined using a stereomicroscope MBS-9; measurements were carried out using a reticle integrated. Length measurement from the anterior margin of the clypeus to apex of elytra.

Photographs were taken using a Leica Z16 APO stereomicroscope equipped with a Leica DFC 450 camera and processed with LAS Core and Adobe Photoshop software (brightness and contrast only).

These labels are given verbatim for the material under study. Terminology and abbreviations follow Lacroix (1998) with minor modifications.

Madahoplia dolini sp. n. (figs 1–5)

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Material. Type. Holotype ♀: NW Madagascar, Res. Ankarofantsika, Premier Forest, 10–12.01.2002, V. Dolin & R. Andreeva leg. (ex. in the author's working collection, will later be deposited SIZK).

Diagnosis. The new species can be recognised from the strongly elongated angles anterior of the pronotum, the presence on the surface of the pronotum and the elytra of bare, more or less devoid of scales shiny areas and other characters. The new species is morphologically similar to the species of groups III and IV of the genus *Madahoplia*, which is characterised by the dense and uneven vestiture, as well as the presence of well-defined areas devoid of scales, thus belonging to the species of the III group; the pronotum with clearly serrated lateral margins and elongated angles anterior, as well as weakly developed apical calluses, indicates belonging to species of the IV group. However, the species of this group are characterised by a contrasting mottled pattern of white and black scales, and although the new species is covered with white and dark grey scales, its general appearance is more or less monochromatic. It can be recognised with the use of the key below.

Description. Female (fig. 1). Length 6 mm. Habitus oval, moderately convex, upper side reddish-brown, slightly shiny, covered with whitish-grey with a small amount of dark grey elongated oval scales that do not hide the main background. Antennae club, legs, entire ventral side, propygidium, and pygidium are red-dish. Palps maxillaries, and segments of antennae are brown-yellow.

Head (fig. 2) small. Clypeus wide with smooth rounded angles anterior and straight, slightly raised front margin, sculpturally wrinkled, with numerous round matte sunken pits, in middle of which with one thick and long seta. Clypeofrontal suture poorly defined, surface in large transverse wrinkles. Front matt and shiny, with small transverse wrinkles and pits, its surface, as well as genal margin, ocular canthus and the basal segment of antenna sparsely covered with whitish-grey elongated bristles and single dark grey scales with a sharp tip. Posterior side dull, with sunken pit-shaped round pores bearing one small seta each. Compound eye small, slightly convex. Antenna 9-segmented with small three-segmented club, segments of antenna shiny, brown-yellow; club of antenna matte, reddish, covered with numerous hairs. Last segment of maxillary palp elongated, thin, shiny, slightly curved at its apex, brown-yellow.

Pronotum (fig. 3) transverse, about one-quarter wider than the length; widest in its middle, lateral margins jagged, converging more strongly to anterior angles, in front of which they slightly notched. Surface cellular-wrinkled, moderately shiny, unevenly covered with whitish-grey scales, with few dark grey elongated oval scales, located near the anterior margins and along central part of pronotum. Irregularly shaped areas devoid of scales near lateral margins and posterior angles. Anterior margin without a border, except for its central part covered with small and thin ciliated setae. Anterior angles strongly elongated with rounded tops, covered with sparsely spaced long and thick black-grey setae and

whitish-grey scales. Lateral margins from middle to posterior angles moderately notched, with fairly dense arrangement of whitish-grey elongated oval scales. Posterior margin with very thin, barely noticeable membrane-like border, without cilia and scales.

Scutellum narrow, triangular, with rough microsculpture of the surface, at a distance from the lateral margins, symmetrically along its central line on both sides densely covered with white elongated scales with sharp tips, hiding cuticle.

Elytron slightly elongated, moderately convex, smoothly rounded to its apex, in apical part of which with small tooth, slightly expanded in its middle, without clearly defined longitudinal ribs, humeral and apical calluses; seam without border. Shoulder clearly defined, moderately convex. Between tubercles of humerus and scutellum closer to the base of elytra with well-defined depressions. Surface (fig. 4) unevenly punctate: denser near shoulder, base and lateral margin, in other areas only in depressed parts, unevenly covered with whitish-grey and black-grey elongated oval scales, and clearly visible rounded areas devoid of scales. Margins of epipleura narrow, gradually decreasing to the apex of the elytra.

Ventral side. Meso- and metasternum, femora of all legs and abdominal sternites with small wrinkles and scattered punctuation, unevenly covered with whitish-grey elongated oval scales. Surface of visible parts of tergites, abdomen and propygidium cellular-wrinkled, unevenly covered with whitish-grey elongated oval scales: on tergites, these scales concentrated at junctions with sternites and along margins and centre of lower margin of propygidium.

Pygidium (fig. 5). Moderately convex, almost equal in length and width. Its surface strongly wrinkled, moderately shiny, unevenly covered with whitish-grey elongated oval scales. Broad arc at base, centre, and lateral parts of pygidium without scales. Lateral margins covered with one row of long whitish-grey bristle-like scales pointed at apices. Apex of pygidium with thickening of border by about a third of its length, matt, along its margin covered with long yellowish bristles.

Legs. Protibia relatively short, strong; bidentate, apical tooth long and curved. Pro-tarsus with short segments, all claws split apically. Mesotibia short, strong, its lateral part covered almost half of its length with light whitish-grey, elongated and apically pointed scales. Mesotarsus with short segments, all claws split apically. Metatibia thickened with noticeable transverse keel, almost half of its length covered with whitish-grey elongated and apically pointed scales. Apical spur relatively short, not exceeding length of first metatarsal joint. Metatarsus with strong, slightly elongated clavicles. Apical segment with one simply apically pointed long claw without traces of cleavage. Left metatibia and metatarsus missing.

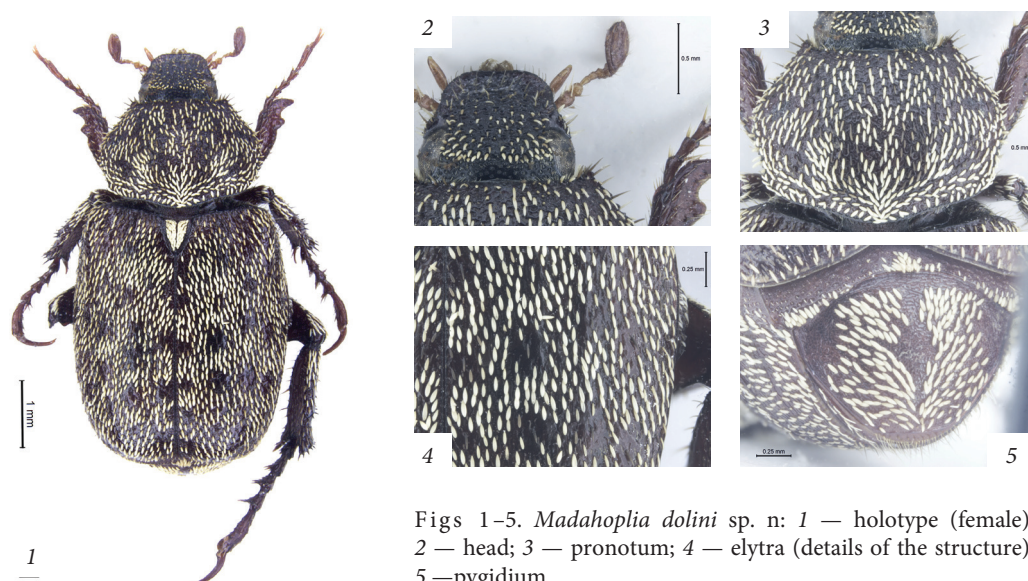
Male unknown.

Distribution. The species is known only from the territory of the Ankarafantsika National Park, which is located in the Boeny region, in the northwest of Madagascar.

Etymology. The species is named in honour of its collector, Professor Vladimir G. Dolin (1932–2004).

Notes. In the meantime, in my opinion, it is more appropriate to consider the new species as a member of the group III species. *Madahoplia oculata* Lacroix, 1998 is the only described species within this group and the genus *Madahoplia* in general that also has areas devoid of scales on the pronotum and elytra.

The new species is similar to *M. oculata* in many characters, but there are significant differences that make it easily recognisable (table 1).



Figs 1–5. *Madahoplia dolini* sp. n.: 1 — holotype (female); 2 — head; 3 — pronotum; 4 — elytra (details of the structure); 5 — pygidium.

Table 1. The main differences for the species *M. oculata* and *M. dolini* sp. n.

Characters	<i>M. oculata</i>	<i>M. dolini</i> sp. n.
Clypeus	Clypeofrontal suture is present	Clypeofrontal suture is poorly defined
Pronotum	Lateral margins are not serrated, smoothly rounded, without long setae; angles anterior not elongated	Lateral margins distinctly serrated, with notches near anterior and posterior angles and with long setae; angles anterior strongly elongated
Elytra	Apical calluses developed	Apical calluses weakly developed
Scales	Uniformly yellow	Whitish- and dark-grey

Key to species of group III of the genus *Madahoplia* (modified from Lacroix, 1998)

1. Dorsal side with areas devoid of scales; protibia thick. 2
- Dorsal side without areas devoid of scales; protibia narrow. 3
2. Pronotum rounded, angles anterior not elongated; dorsal side only with yellow scales. *M. oculata* Lacroix
- Pronotum distinctly serrated, angles anterior strongly elongated; dorsal with whitish- and dark-grey scales. *M. dolini* sp. n.
3. Pronotum elongated, slightly transverse; metatibia thin and narrow *M. nodipennis* (Burmeister)
- Pronotum well transverse, metatibia thickened 4
4. Lateral margins of clypeus straight, convergent; dorsal with oval scales; lateral margins of pronotum rounded; apical tooth of protibia long. *M. bicallosa* (Blanchard)
- Lateral margins of clypeus rounded; dorsal with round scales; lateral margins of pronotum convergent in their anterior part; apical tooth of protibia short. 5
5. Dorsal side with yellow scales; apical tooth of protibia curved. *M. circumscutata* (Fairmaire)
- Dorsal side with white scales; apical tooth of protibia the right, very short. *M. circumscutata* (Fairmaire)

References

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