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***Onthophagus fragosus* n.sp. a second endemic species of *Onthophagus* Latreille from Cuba (Coleoptera : Scarabaeidae, Scarabaeinae)**

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Abstract

Onthophagus fragosus, a new species of *Onthophagus*, is described from Cienfuegos Province on the island of Cuba. Specimens were collected in leaf litter samples at elevations of 650–935 m. It appears to be most closely related to *O. marginatus* Castelnau, the only other Cuban endemic *Onthophagus* species. Images of habitus and of male genitalia are provided.

Key words: *Onthophagus fragosus*, new species, Cuba

Introduction

Recent collecting efforts by our colleague Robert S. Anderson led to the discovery of a second endemic species of *Onthophagus* Latreille for the island of Cuba. All known specimens of the newly discovered species were extracted from leaf litter gathered from gallery and hardwood forests from two localities in the province of Cienfuegos.

Because inventories of the Antillean beetle fauna are currently in progress, we wish to make this species available by naming it. All specimens are deposited in the collection of the Canadian Museum of Nature (CMNC), Gatineau (Quebec). The internal sclerites naming scheme follows Tarasov & Solodovnikov (2011).

***Onthophagus fragosus* Génier & Howden, new species**

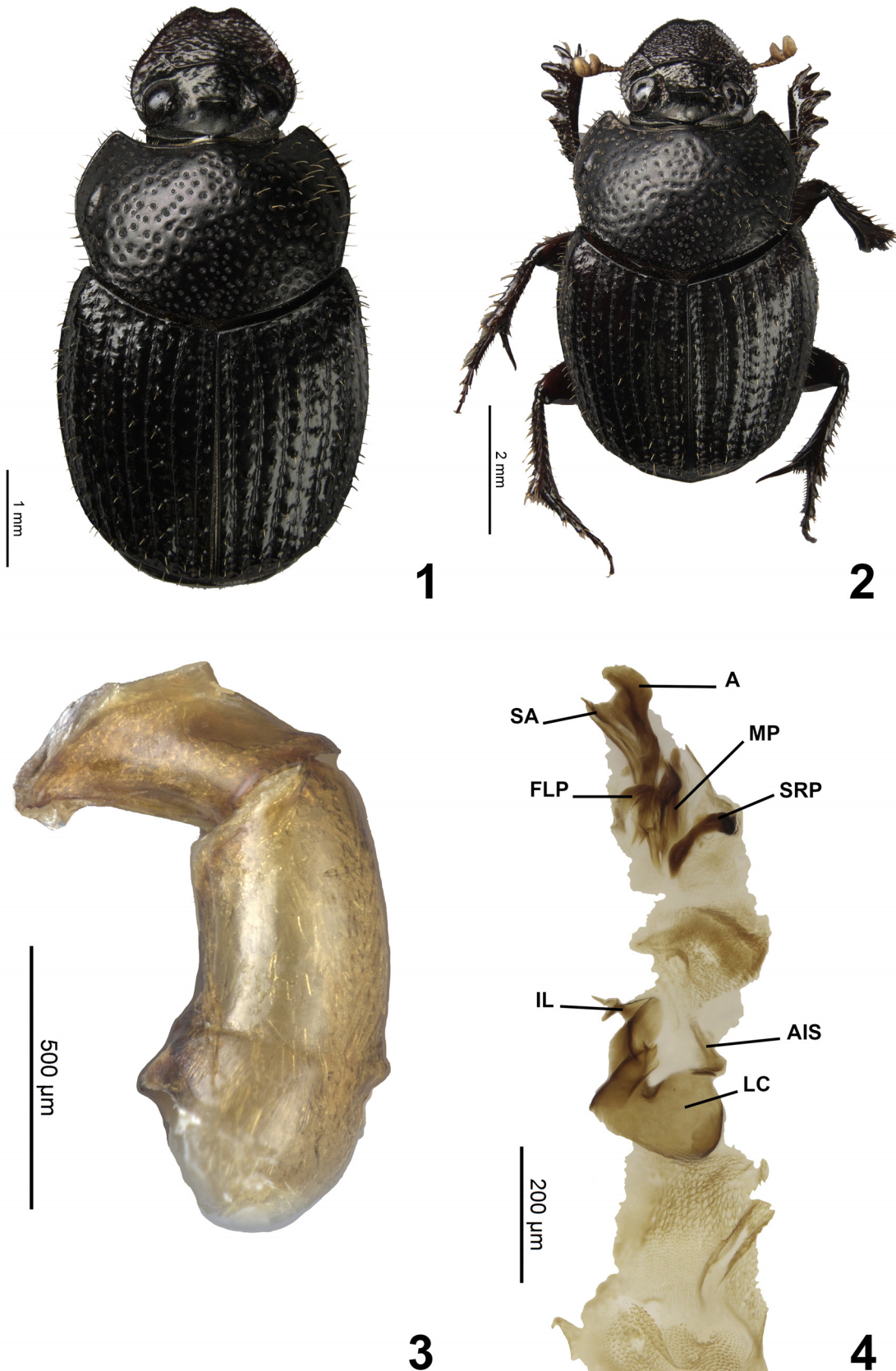
Figs. 1–4

Holotype male (CMNC): CUBA: Cienfuegos, Rio Cabagan, 21.93123 -80.08461, 651m, 20.v.2013, R. Anderson, 2013-026, gallery forest litter/ HOLOTYPE, *Onthophagus fragosus* n.sp., des. Génier & Howden, 2014. Aedeagus and internal sac extracted.

Paratypes. 1 male, 2 females (CMNC). **CUBA:** Cienfuegos: P.N. Pico San Juan, road, 21.98495 -80.15188, 934m, 19.v.2013. R. Anderson, 2013-21, hardwood forest litter (1 female paratype); same data except: Rio Cabagan, 21.93123 -80.08461, 651m, 20.v.2013, R. Anderson, 2013-026, gallery forest litter. (1 male and 1 female paratype).

Diagnosis. Readily separated from all other New World *Onthophagus* species by the following combination of characters: pronotal and pygidial surface covered with large and coarse umbilicate punctures; elytral striae each with a single row of coarse setiferous punctures, each puncture preceded by a small coarse tubercle.

Description. Holotype male (Fig. 1). **Size.** Length 5.5 mm, maximum width 3.0 mm. **Color.** Black, with legs, elytral apex, lateral portion of visible abdominal sternites and pygidium brown; surface finely microsculptured, appearing more or less sericeous. **Head.** Clypeal anterior edge bidentate, clypeal surface coarsely transversally rugose; clypeogenal junction slightly but distinctly emarginate; vertex with a short transverse carina occupying one-third width between eyes and with small tubercle adjacent to eye in line with carina; dorsal portion of eyes large, interocular ratio 2.7; antennal club yellowish, segments 1–6 slightly darker. **Pronotum.** Simply convex, lacking tubercle or carina; surface covered with large and coarse umbilicate punctures varying in size, largest punctures three times as large as smallest, each puncture with moderately long erect yellowish seta; surface between punctures more coarsely microsculptured than elytra.



FIGURES 1–4. *Onthophagus fragosus* n. sp. 1, habitus dorsal, holotype male; 2, habitus dorsal, allotype female; 3, aedeagus, lateral view; 4, sclerites of the internal sac (A: axial sclerite; AIS: additional inferior sclerite; FLP: fronto-lateral peripheral sclerite; IL: inferior left lobe of lamella copulatrix; LC: lamella copulatrix; MP: medial peripheral sclerite; SA: subaxial sclerite; SRP: Superior right peripheral sclerite).

Elytra. Interstriae uneven, interstriae 1-7 with single more or less regular row of coarse setiferous punctures, each puncture preceded by small coarse tubercle, interstriae 8 with 2 more or less regular rows of coarse setiferous punctures on basal half; striae moderately wide, with row of well-defined punctures, lateral edge of striae bordered by fine sharp carina interrupted at each puncture, punctures deeper on apical declivity. **Legs.** Protibia unmodified, rather robust, lacking apical setal brush, apical tooth obliquely oriented, less developed than penultimate; median and posterior legs unmodified. **Thoracic sterna.** Median lobe of metasternum with coarse setiferous punctures along mesocoxal edges; lateral lobes surface coarsely microsculptured, with coarse setiferous umbilicate punctures separated by approximately one diameter. **Abdominal sternites.** Segments 4-8 each with single row of large and very deep punctures basally; pygidium wider than long (ratio 1.4), surface covered with moderate to large setiferous umbilicate punctures separated by less than one diameter. **Aedeagus.** Parameres (Fig. 3) tapering to apex in lateral view, slightly divergent and simply rounded apically in frontal view; sclerites of internal sac as in Fig. 4.

Variation. Size. 5.0-7.0 mm. Females (Fig. 2) only slightly differ from males, in having more robust anterior tibiae and the carina of the vertex is slightly wider and more produced laterally, in addition to the ocular tubercle being slightly more developed. However, as usual they can easily be separated by the shape of abdominal segment 8, which is not reduced medially. The male paratype differs in having the elytral apex much lighter in color.

Etymology. *Fragosus* (broken, rough, uneven) a Latin adjective in apposition pertaining to the aspect of the tegument of this peculiar species.

Remarks. Based on their very small size compared to the females, the two known male specimens are most likely underdeveloped individuals. The large dorsal ocular surface suggests that the species is nocturnal. Because all specimens were collected by sifting leaf litter there is no indication of food preference. The only other native *Onthophagus* on Cuba, *O. marginatus* Castelnau, is widely distributed on the island. The new species has been collected from an isolated patch of Cuban moist forest at an elevation of 650-935 m. This ecoregion (ecocode NT0120, see <http://worldwildlife.org/science/wildfinder/>) is present in several areas of Cuba. The possibility that the new species could be found in other disjointed patches must be investigated. The presence of similar distinct umbilicate pygidial punctures combined with the presence of coarse granules on elytral intervals, a unique derived character for the New World *Onthophagus*, suggest that *O. fragosus* is most closely related to the other Cuban endemic *O. marginatus*; however, the two males of *O. fragosus* studied are lacking the distinctive protibial setal brush, but this might be the result of underdevelopment. Sclerites of the internal sac are very similar to those of *O. marginatus*. The parameres are of the same type but differ in being less projected ventrally in *O. fragosus*.

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