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BDELYRUS GEIJSKESI, A NEW SCARAB (COLEOPTERA: SCARABAEIDAE) FROM SURINAME ASSOCIATED WITH BROMELIACEAE

by

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Huijbregts, J.: *Bdelyrus geijskesi*, a new scarab (Coleoptera: Scarabaeidae) from Suriname associated with Bromeliaceae.

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Key words: Coleoptera; Scarabaeidae; Neotropical; new species; key.

Bdelyrus geijskesi, a new bromeliadicolous species from Suriname is described and figured. Polymorphism and sexual dimorphism in the dentation of the hind tibia within the genus *Bdelyrus* are reported. Lectotypes are designated for *B. lagopus* Harold and *B. seminudus* (Bates).

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INTRODUCTION

In the collection of the Leiden museum I found seven scarabs collected by Dr. D. C. Geijskes at the Nassau Mountains in Suriname. The beetles were extracted from ten plants belonging to *Vriesea splendens* (Brongniart). These terrestrial Bromeliaceae were found in a mountain savanna forest on the ferrite cap of the plateau (altitude ca 500 m). From the same plants 44 specimens of *Enochrus collarti* Mouchamps (Hydrophilidae) were taken, which were identified as such by Dr. F. N. Young. Fig. 7 shows the type-locality with flowering *Vriesea splendens*.

The scarabs appeared to belong to an undescribed species of the genus *Bdelyrus* Harold, to which hitherto two species are assigned. As far as I know this is the first time that *Bdelyrus* specimens are reported from terrestrial Bromeliaceae. Although *Bdelyrus* species were frequently collected in epiphytic Bromeliaceae (Ohaus, 1909; Halffter & Matthews, 1966; Howden & Young, 1981) they are probably not exclusively bromeliadicolous. Other plants from which *Bdelyrus* were collected are *Heliconia* (Howden & Young, 1981) and

Astrocaryum (Vulcano & Pereira, 1967). According to Howden & Young (1981) *Bdelyrus seminudus* (Bates) comes to traps baited with human faeces. Because many specimens were collected at the leafbases of various plants it seems likely that at least some *Bdelyrus* species are saprophagous and feeds on the debris accumulating there.

This is consistent with the long pubescence on the legs, which is unusual in dung-associated species. According to Howden & Young (1981) several undescribed *Bdelyrus* species occur in the Amazonian region; the genus is apparently in need of revision. The present paper, however, must be seen in the context of a survey of the Guyanese scarabs only.

Bdelyrus Harold

Bdelyrus Harold, 1869: 97 (diagnosis); Pereira, Vulcano & Martinez, 1969: 156 (comparison); Howden, 1971: 1464 (comparison); Howden & Young, 1981: 46 (diagnosis).

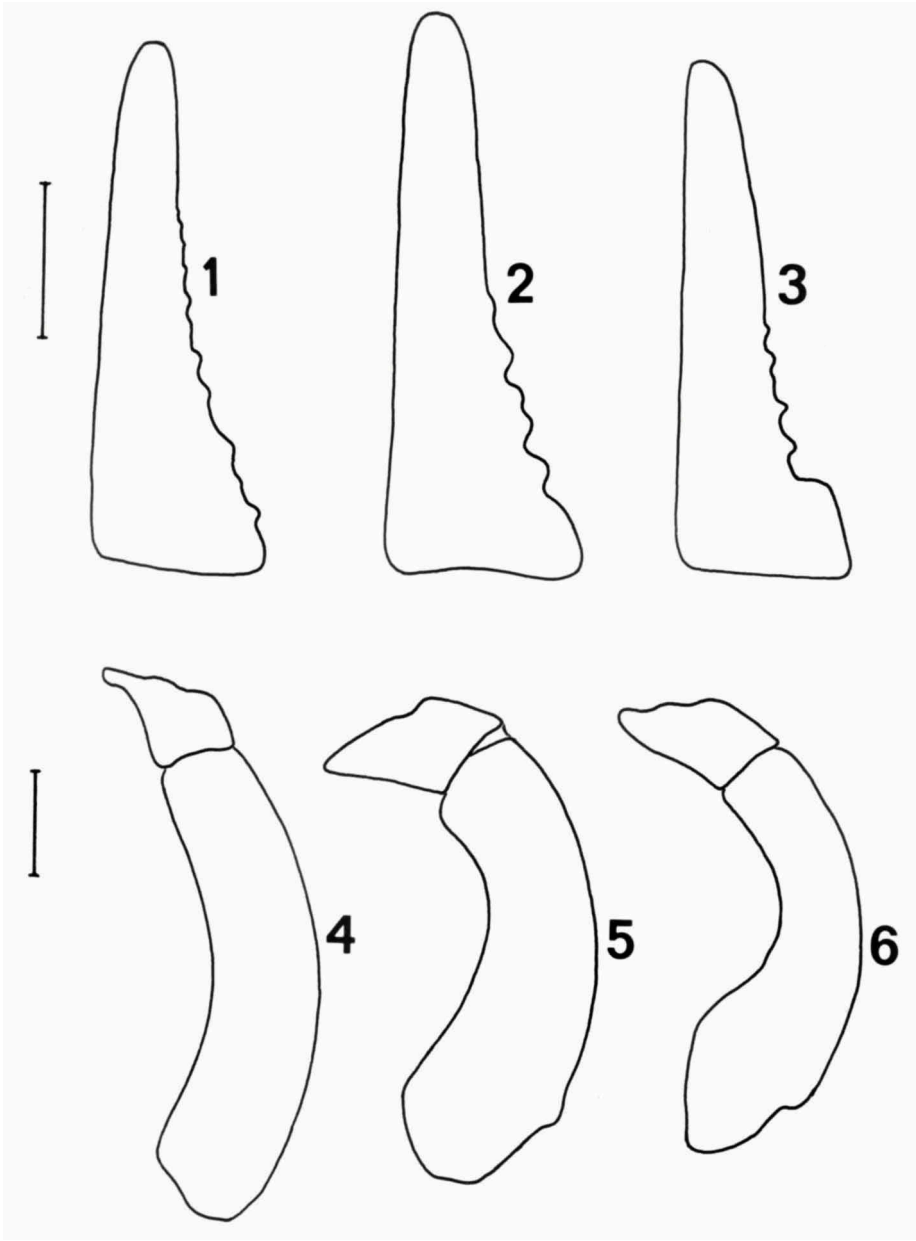
A diagnosis is given by Howden & Young (1981: 46). Although males of *B. lagopus* Harold as well as *B. seminudus* have a very characteristic dentation on the internal side of the hind tibia (figs. 1, 2), this was never published. This dentation is possibly confined to larger specimens. Of both *B. lagopus* and *geijskesi* spec. nov. smaller males were examined in which this modification was completely absent. Sexual dimorphism in the dentation of the hind tibia occurs also in other Scarabaeidae, for instance in *Deltochilum* Eschscholtz and *Sisyphus* Latreille species.

According to Howden & Young (1981) obvious sexual modification is lacking. Sexes can however easily be ascertained by means of the different punctation on the anal sternite; females have medially a shining area without punctures, while males are evenly punctured.

1. **Bdelyrus lagopus** Harold
(figs. 2, 5)

Bdelyrus lagopus Harold, 1869: 97 (diagnosis); Pessoa & Lane, 1941: 439, figs. 19 & 51 (misidentification ?); Pereira, Vulcano & Martinez, 1960: 157, figs. 3-18 (misidentification ?); Vulcano & Pereira, 1967: 577.

Notes. — From the variation in length (6-8 mm) given in the original publication can be concluded that Harold based his diagnosis on at least two specimens.



Figs. 1-3. Right hind tibia (ventral view). 1, *Bdelyrus seminudus*, lectotype; 2, *B. lagopus*, lectotype; 3, *B. geijskesi*, holotype. Figs. 4-6. Phallus (side view). 4, *B. seminudus*, lectotype; 5, *B. lagopus*, lectotype; 6, *B. geijskesi*, holotype. Scale lines are 0.5 mm.

In the Oberthür collection (Museum Paris) three male *Bdelyrus* specimens originating from the Harold collection were found, two of them labelled Bahia, one without locality label. The specimen with Harold's own type-label is selected here as lectotype. The left hind leg of this specimen is missing. The lectotype is labelled as follows: small triangular piece of green paper, „Bahia" (black ink, Harold's hand), „lagopus/typ. Harold" (black ink, Harold's hand), „Ex Musaeo E. Harold" (black print), „Museum Paris/ex coll./R. Oberthür" (green label, black print), lectotype label added. The remaining specimen from Bahia is labelled paralectotype. It is smaller than the lectotype and has no dentation on the internal side of the hind tibia.

2. **Bdelyrus seminudus** (Bates)
(figs. 1, 4)

Aphengium semi-nudum Bates, 1887: 42, pl. 2 fig. 21 (diagnosis).
Bdelyrus seminudus (Bates); Pereira, Vulcano & Martinez, 1960: 156 (in key and comparison); Howden & Young, 1981: 46, figs. 64 & 65 (diagnosis).

Notes. — Bates based his diagnosis on material from Volcan de Chiriqui (Panama) and Chontales (Nicaragua), without designating a holotype. Syntypes are in Paris and London. In the collection of the Paris Museum 9 specimens were found: 4 ♂ + 4 ♀ from Volcan de Chiriqui and 1 ♀ from Chontales. The original series in the British Museum consists of 5 ♂ + 6 ♀ from Volcan de Chiriqui (1 ♀ labelled: sp. figured) and 2 ♂ from Chontales. One specimen is composed of a female prothorax and a male meso/metathorax. A male (Museum Paris) is selected here as lectotype; labels as follows: „V. de Chiriqui/25-4000 ft./Champion" (black print), „Museum Paris/Coll. H. W. Bates/1952" (green label, black print), „Museum Paris/ex Coll./R. Oberthür" (green label, black print), lectotype label added.

3. **Bdelyrus geijskesi** spec. nov.
(figs. 3, 6)

Description (holotype, male). — Approximate length 8.0, width 4.2, height 2.3 mm. Colour black, opaque; pilosity pale, locally more or less brownish.

Clypeus anteromedially with short truncate lobe, general surface feebly concave. Clypeogenal transition uninterrupted. Clypeogenal suture distinct. Gena with border subangulate halfway its length. Frons and vertex evenly slightly convex. Entire cephalic surface evenly densely punctate; punctures

isodiametric, well defined, virtually all with microsetae (magnification × 50). Eye with ca 12 facet rows across wides point.

Pronotum with evenly moderately convex general surface, without midline impression; anterolateral angle ca. 100°, posterolateral angle ca. 135°, lateral borders subparallel. Pronotal disc abundantly, finely punctate, punctural diameters ca. 0.02 mm, strongly increasing laterad to ca. 0.04 mm; punctures well defined, virtually all with microsetae.

Elytra slightly elongate, with evenly convex general surface: seven striae between suture and pseudepipleural crest. Striae consisting of superficially impressed narrow longitudinal zones with shallowly impressed punctures, and with slightly vague interstrial edge; strial punctures separated by 1-2 times their diameter. Interstriae virtually flat, abundantly, finely distinctly punctate, punctures evenly distributed, virtually all with microsetae, punctural diameters increasing on lateral interstriae.

Pseudepipleuron and epipleuron densely punctate-setose. Pectus largely annulate punctate, most punctures with indistinct microsetae; metasternal disc simply abundantly finely punctate, most punctures separated by more than their diameter. Anterior margin of visible abdominal sternites 1-4 with fine, densely set, ocellate punctures, remaining lateral surface of sternites 1-4 with (stridulatory?) files; sternites 5-6 with more or less scattered subocellate punctures. General surface of pygidium strongly convex, pygidial derm densely finely punctate, microsetose. Base of the pygidium with 2 paramedian depressions.

Fore tibia with three external denticles, their tips bent downward, apical one short; arc between the proximal denticles microserrate (magnification × 50), proximal external border ditto. Fore-tibial apex with fringe of long setae; fore tarsi short; anterior side of fore coxa with slight angle approximately halfway its length. Mid tibia elongate triangular, strongly complanate; distal and external surface densely setose, tarsi equally setose. Middle and hind coxae unmodified, underside abundantly finely punctate, microsetose.

Hind tibia and tarsi densely setose, hind tibial shape strongly complanate; internal side of hind of tibia modified, in distal half multidentate (fig. 3). External edge of last tarsal segment of middle and hind legs elongated.

Variation. — Apart from a minor male (6.8 mm), in which the dentation of the hind tibia is lacking, the males of the type series are very uniform.

Sexual dimorphism. — The female differs as follows: smaller (7.3 mm), clypeal lobe longer, denticles on fore tibia stronger, especially apical one, fore-tibial apex without long setae, hind tibia not modified. Pygidium only slightly convex, base with single median depression; apical abdominal segment medially with a shining triangular area without punctures.

Material examined. — Suriname: Marowijne: Nassau Mountains, transect km 11.5, 19 III 1949, D. C. Geijskes, altitude ca. 500 m (♂ holotype, 5 ♂ paratype, 1 ♀ paratype, RMNH).

Fig. 7. General view of habitat of *Bdelyrus geijskesi* spec. nov. with flowering *Vriesea splendens* on the forest floor, Nassau Mountains, Suriname. Photograph J. C. Lindeman.

KEY TO *BDELYRUS* SPECIES (MALES)

1. Phallus slightly curved (side view, fig. 4). Base of pygidium with a single median depression ..... *seminudus* (Bates)
— Phallus strongly curved (side view, figs. 5, 6). Base of pygidium with paired paramedian depressions 2

2. Paramedian depressions distinctly separated. Pygidium strongly convex ..... *geijskesi* spec. nov.
— Paramedian depressions connected by a shallow groove. Pygidium more flat ..... *lagopus* Harold

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