

A new eyeless species of *Howdeniola* Osella, 1980 from Ecuador (Coleoptera, Curculionidae)

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A new eyeless species of *Howdeniola* Osella, 1980 from Ecuador (Coleoptera, Curculionidae). - *Howdeniola polleti* sp. nov. is described from southern Ecuador. The fifth species of the Neotropic *Howdeniola* Osella, 1980 represents the southernmost record of the genus, and the first with no visible eye remnants. The single male specimen was caught in a pan trap in the Podocarpus National Park at 2000 m a. s. l. in a lower montane rainforest.

Keywords: Cossoninae - eyeless species - taxonomy - South America - Podocarpus National Park - Ecuador.

INTRODUCTION

The genus *Howdeniola* Osella, 1980 was originally placed into Molytinae, later Howden (1992) moved it to Cossoninae. Alonso-Zarazaga & Lyal (1999) listed *Howdeniola* in the tribe Dryotribini Le Conte, 1876 together with the supposed closely related *Micromimus* Wollaston, 1873.

Howdeniola comprises four hitherto described species, all with vestigial eyes: *H. nitidipennis* Osella, 1980 and *H. sulcipennis* Osella, 1980 – both from Colombia – and *H. margheritae* Belló & Osella, 2008 and *H. onorei* Belló & Osella, 2008 – both from northern Ecuador – (Osella 1980, Belló & Osella 2008).

Within a biodiversity sampling project in Podocarpus National Park in Ecuador a single male specimen of an eyeless weevil was caught. This specimen shows the typical characters of *Howdeniola* which are modified and summarized after Osella (1980) and Howden (1992) as follows: (I) fore margin of epistoma overhanging mouthparts, (II) impunctate head abruptly different from rostrum, (III) eyes reduced or lacking, (IV) scrobe latero-ventral, reaching to or near base of rostrum, (V) seven articulated funiculus of the antenna, (VI), conspicuously elongated tibial uncus at outer angle, (VII) scutellum dorsally not visible, (VIII) basal margin of elytra elevated, (IX) shiny integument of the body.

In the following *Howdeniola polleti* sp. nov. from southern Ecuador is described.

MATERIAL AND METHODS

The male genital structures were extracted and dry glued on the mounting card. The genital structures were photographed beneath glycerol with a 5-megapixel digital

camera (Leica DFC425) under a stereomicroscope (Leica MZ16). The same camera was used for the habitus pictures. The pictures are composites processed using the software Imagic Image Access (Version 10) and then retouched using Adobe Photoshop version 10.0.1 (Adobe Systems Incorporated). The body size was measured dorsally from the apex of the elytra to the base of the rostrum.

Label data is reported literally, labels are separated by double slash (/), and own remarks are added in rectangular brackets.

TAXONOMIC PART

Howdeniola polleti sp. nov.

Figs 1-6

HOLOTYPE: ♂; (EC) Zamora Chinchipe: San Francisco, Reserva Biológica // San Francisco, all trails, 2000m [m a.s.l.], 03°58'30"S 79°04'25"W, // 25/02/2009-3/03/2009 (PT) [pan trap], leg. Marc Pollet & Anja De // Braekeleer, sorted by Marc Pollet - sample code: EC/2009-36/MP&ADB-018 // [red label] Holotype *Howdeniola polleti* sp. nov. des. C. Germann 2012.

REMARKS: The specimen was caught in a 5% formalin (= 2% formaldehyde) fixative solution with detergent in the traps, and then stored in 70% alcohol. The specimen was treated with Pepsin solution for preparation of the genital organs. The holotype specimen is deposited in the RBINS (Royal Belgian Institute of Natural Sciences).

DESCRIPTION: *Habitus:* Figs 1-2.

Size: 1.96 mm

Body colour: auburn, glossy.

Head, rostrum and antennae: Head (Fig. 3) globose, impunctate and glabrous, abruptly different from rostrum. Eyes lacking. Rostrum about four times longer than wide, elliptical in cross-section, dorsally sparsely punctate, epistoma glabrous and impunctate, fore margin hanging over mouthparts. Scrobes latero-ventral, reaching to the base. Antennal insertion bulged in dorsal view, antennae inserted at beginning of apical third of rostrum. Antennal scape gradually enlarged, as long as funiculus. Funiculus (Fig. 4) consisting of seven segments of following ratios (L/B): 1st: 1.25; 2nd: 0.9; 3rd: 0.6; 4th to 6th: 0.5; 7th: 2.0. Club oval, circular in cross-section, densely clothed with long white setae, and sitting in the bowl-like 7th segment.

Pronotum: Index (L/B): 1.53. Longer than wide, strongly constricted after the first third, widest after the middle. Surface deeply punctate with interspaces of about the size of punctation. Short bright hairs arise from punctation.

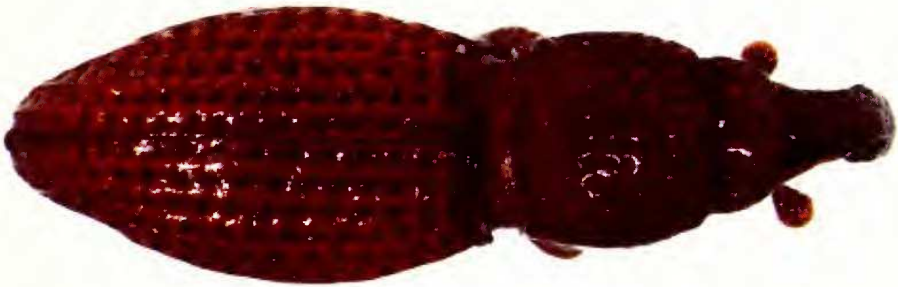
Elytra: Index (L/B): 1.76. Base narrower than pronotum, oval, lacking humeral callus (apterous), widest before the middle, tapered towards base and conical towards apex. Eight deeply punctate striae, intervals including suture narrow, elevated and costate with minute adherent hairs. Intervals (excluding suture) 3, 5, 6 and 7 are incomplete, not reaching the elytral apex. Five sternites, of which 3 and 4 are equal, sternite 5 rounded towards apex, deeply punctate with bowed hairs and slightly bulged in the middle.

Legs: Coxae separated from each other as follows: procoxae by less than ½ of their diameter, mesocoxae by ½ and metacoxae by two times of their diameter. Femora unarmed, punctate, short adherent bright hairs arise. Tibiae punctate with short adher-



1

0.5 mm



2

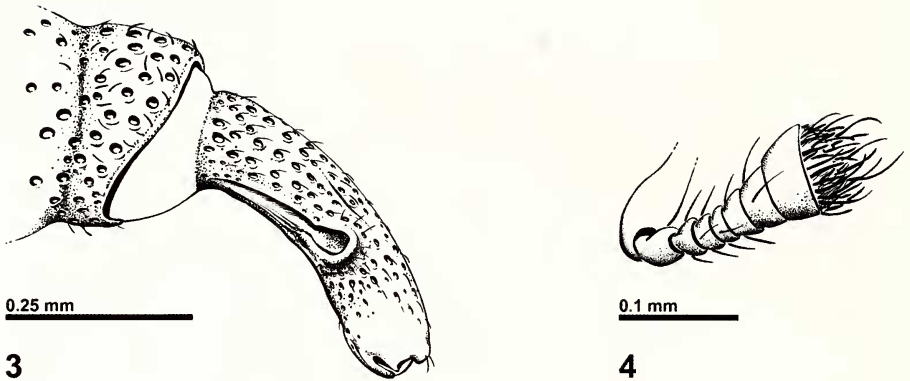
FIGS 1-2

Howdeniola polleti sp. nov. (holotype). Habitus in lateral view (1) and dorsal view (2).

ent bright hairs. Inner side of tibiae set with raised bright hairs, fore tibiae with densely standing raised bristles from the middle on. Apex of tibiae with long curved uncus at outer apical angle, and short tooth at inner angle. Tarsi with three well visible tarsal segments, fourth very short. Claw segment as long as first tarsal segment, claws minute and simple.

Aedeagus (Figs 5-6): Apex of aedeagus asymmetrically pointed, ventrally hook-like bowed. Median lobe containing a tubular sclerite diverging towards apophyses.

DIFFERENTIAL DIAGNOSIS: *Howdeniola polleti* sp. nov. differs from all other four above-mentioned members of the genus by the slender elytra with narrow and costate intervals, the strongly constricted pronotum before its fore margin, and the conspicuously pointed apex of the aedeagus.



FIGS 3-4

Howdeniola polleti sp. nov. (holotype). (3) Head and anterior portion of pronotum in lateral view. (4) Antenna. (Illustrations by C. Hochholdinger).

KEY OF THE SPECIES OF HOWDENIOLA

Modified after Belló & Osella (2008: 473)

- 1 Elytra smooth, shiny. Pronotum with small and widely space punctation. Colombia (Quindio) ***nitidipennis* Osella, 1980**
- Elytra with punctate striae not or faintly shiny. Pronotum with dense punctation **2**
- 2 Elytra globose, strongly striate. Pronotum rounded laterally. Colombia (Saladido) ***sulcipennis* Osella (1980)**
- Elytra less globose. Pronotum cylindrical **3**
- 3 Intervals on Elytra flat, smooth. Aedeagus widened with a cordiform apex. Ecuador (Pichincha, Cerro Blanco) ***onorei* Belló & Osella 2008**
- Intervals slightly cariniform. Aedeagus elongate pointed **4**
- 4 Antennae inserted at apical fifth of rostrum. Vestigial eyes. Pronotum constricted before fore margin. Elytra more oval, with long raised setae. Ecuador (Pichincha, Otonga) ***margheritae* Belló & Osella 2008**
- Antennae inserted at beginning of apical third of rostrum. Eyes lacking. Pronotum strongly constricted before fore margin. Elytra more elongate, with minute adherent hairs. Ecuador (Zamora Chinchipe, San Francisco) ***polleti* sp. nov.**

DERIVATIO NOMINIS: The new species *Howdeniola polleti* sp. nov. is named after its collector, dear colleague and renowned dipterist Dr. Marc Pollet (Brussels, Belgium).

BIONOMY: *Howdeniola polleti* sp. nov. was collected in pan traps, these were dug into the soil until their upper rim. The biome at the altitude of 2000 m a. s. l. can be considered as lower montane rainforest (written communication M. Pollet).

DISTRIBUTION: *Howdeniola polleti* sp. nov. represents the southernmost find of the genus. Furthermore an undescribed *Howdeniola* was recorded from Costa Rica



FIGS 5-6

Howdeniola polleti sp. nov. (holotype). Aedeagus in lateral view (5) and ventral view (6).

(Rancho Quemado, Osa, Puntarenas, leg. F.A. Quesada, det. R. Anderson; record from IABIN (Red Interamericana de Información sobre Biodiversidad)). These further records obviously indicate that many more species of this genus will be discovered in this large area.

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