



First record of *Otibazo* (Coleoptera: Curculionidae: Molytinae) outside of Japan, with description of a new species from Vietnam

VASILY V. GREBENNIKOV¹ & HONG THAI PHAM²

¹Canadian Food Inspection Agency, K.W. Neatby Bldg., 960 Carling Ave., Ottawa, ON K1A 0Y9, Canada.

E-mail: vasily.grebennikov@inspection.gc.ca

²Vietnam National Museum of Nature, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet St, Cau Giay, Hanoi, Vietnam. E-mail: phamthai@vnmn.vast.vn

Abstract

A new species of wingless leaf litter weevil, *Otibazo polyphemus* sp. n., is described from Tam Dao, northern Vietnam. This is the fourth named species in the genus, with its three other species known only from Japan. Habitus and genitalia of the male holotype are illustrated and DNA barcoding data are provided.

Introduction

The genus *Otibazo* Morimoto, 1961 was established for a wingless edaphic species *O. nagasakiensis* Morimoto, 1961 from Nagasaki City, Japan. Two other species from Japan added later were *O. morimotoi* Nakane, 1963 and *O. oshimaensis* Morimoto & Miyakawa, 1985 (Alonso-Zarazaga 2013, Kojima 2014). *Otibazo* are small flightless weevils (1.6–2.6 mm in body length, excluding rostrum) with the following characteristic features: (a) dorsum dark brown and weakly punctate (Fig. 1A); (b) compound eyes each with about 20 ommatidia located ventro-laterally (Fig. 1C); (c) flagella, femora, tibiae and body ventrally with fields of dense short pubescence forming characteristic whitish tufts (Fig. 1D; called “exudate” by Meregalli & Osella 2007); (d.) long and robust hind femora extending posteriorly to the level of abdominal apex (Fig. 1A); (e.) strongly sclerotized aedeagus and male sternite 9 extending for nearly half body length (Fig. 1); and (f.) aedeagus in lateral view with a longitudinal membranous line (Fig. 1G; Grebennikov 2010, fig. 16D). Adult specimens have been found exclusively by sifting leaf litter in wet deciduous primary forests (Karasawa *et al.* 2008), while the immature stages and detailed biological preferences remain unknown. In the area of their known distribution, the southern part of the Eastern Palaearctic Region, *Otibazo* adults could be confused with similarly small and brown wingless species of a new genus of Molytina most closely related to the genus *Leiosoma* Stephens (Grebennikov, unpublished). This unnamed genus, however, has not been recorded from Japan or Vietnam. Moreover, adults possess no tufted pubescence characteristic of *Otibazo*. The genus *Otibazo* is assigned to the tribe Anchonini (Alonso-Zarazaga & Lyal 1999, Lyal 2014) and is thought to be the sister-group of *Anonyxmolytes* Meregalli & Osella accommodating a single soil-dwelling and minute (<1 mm in body length) eyeless species from Vietnam (Meregalli & Osella 2007). The genus *Otibazo* is more diverse than presently known, because Morimoto (1961, 1982) suggested the existence of numerous additional species in southern Japan and Meregalli & Osella (2007) mentioned unnamed species from the Oriental Region. A fossil weevil from Pleistocene deposits in the Yukon Territory of Canada attributed to this genus by Matthews & Telka (1997) was later suggested to be a species of an unrelated *Alaocybites* Gilbert (Grebennikov 2010).

In May 2012, when sampling phytophagous beetles in the Tam Dao Mountain Range in northern Vietnam, we collected a series of an unnamed *Otibazo* species. Herein we provide its formal description, illustrate the holotype and supply the partial CO1 mtDNA barcoding sequences. This short note was primarily triggered by the necessity to provide a name for the first continental member of the genus and make its DNA data publicly available. This report constitutes the second outcome of our joint project on the Vietnamese phytophagous beetles and follows the earlier report on *Coomaniella* Bourgoing jewel beetles by Jendek & Pham (2013).

Material and methods

Concepts of the Curculionoidea family-group names and assignment of weevil genera to tribes follows Bouchard *et al.* (2011) and Alonso-Zarazaga & Lyal (1999), with the recent substantial modifications of Lyal (2014). The type specimens of the new species are deposited in the Canadian National Collection of Insects, Arachnids and Nematodes (CNC, Ottawa, curator P. Bouchard), in the Canadian Museum of Nature (CMN, Ottawa, curators R. Anderson and F. Genier), and in the Senckenberg Naturhistorische Sammlungen (MTD, Dresden, curator K.-D. Klass). Body length was measured in dorsal view from elytral apex to anterior pronotal margin. Five specimens of the new species have been sequenced with their GenBank accession numbers KJ841729–33. The habitus images, primers, original chromatograms and other relevant data for the five sequenced specimens can be found online in the publicly accessible dataset “*Otibazo polyphemus*” on the Barcode of Life Database portal (doi: dx.doi.org/10.5883/DS-OTIBAZO). For comparative purposes, eight specimens of *Otibazo* from Japan were studied (CMN), of them seven not identified to species, and one female of *O. nagasakiensis* collected on April 9, 1983 in Suwa Shrine, Nagasaki City by Shuhei Nomura and identified by Katsura Morimoto.

Otibazo polyphemus sp. nov.

Fig. 1A–H

Diagnosis. Apart from being the first named *Otibazo* from outside of Japan, the new species can be immediately differentiated from its three named congeners by the pronotum outline in dorsal view (Fig. 1A). Unlike the previously known species with their pronota parallel-sided or slightly bisinuate in the basal two thirds, those of *O. polyphemus* sp. n. have their sides nearly straight along the entire length and evenly tapering anterad. Consequently, the ratio of pronotal width at base to that at middle, being about 1.0–1.1 in the named species from Japan, is 1.2–1.3 in *O. polyphemus* sp. n. Additionally, the new species from Vietnam is distinguishable by relatively long hairs on pronotum and elytra, length of which clearly exceeds the distance to the nearest puncture. Similarly with *O. oshimaensis* and *O. morimoto*, the new species from Vietnam does not display the sexual dimorphism in having enlarged male protarsi, as in the type species (Morimoto 1961; figs. 2C, D). Proportions of body and those of male genitalia (as depicted in the original descriptions of the two illustrated species from Japan: *O. nagasakiensis* and *O. oshimaensis*) suggest further morphological differences.

Description. Holotype, male (Fig. 1A–H). GenBank accession: KJ841733. Length: 1.85 mm. Pronotal sides nearly straight and evenly tapering anteriorly; male protarsi not wider than those in females; dorsal punctures on pronotum and elytra minute and barely visible; hairs on pronotum and elytra exceed distance to the nearest puncture; apex of aedeagus lays in the same plane with its apical half. **Intraspecific variation.** Length: 1.82–1.94 mm.

Material examined. Holotype (Fig. 1A–H) male (CNC): “VIETNAM, Tam Dao, N21°27'54" E105°38'44", 12.v.2012, 1218m, sift02, V.Grebennikov” and “CNCCOLVG00004312”.

Paratypes: 3 exx (CNC), same geographical label as holotype, of them 2 exx without additional number label and 1 ex with “CNCCOLVG00004313”; 3 exx (CNC) “VIETNAM, Tam Dao, N21°29'27" E105°37'49", 13.v.2012, 1128m, sift03, V.Grebennikov” and each with individual label “CNCCOLVG00004355”, “CNCCOLVG00004356” and “CNCCOLVG00004357”, respectively; 2 exx (MTD) “VIETNAM, Tam Dao, N21°27'48" E105°38'46", 16.v.2012, 1229m, sift06, V.Grebennikov”; 2 exx (CMN) “VIETNAM, Tam Dao, N21°27'44" E105°38'55", 17.v.2012, 1185m, sift07, V.Grebennikov”.

Etymology. The species epithet is the Latinized Greek mythical name of Polyphemus, the gigantic one-eyed Cyclops, son of Poseidon, who accidentally met, and was deliberately blinded by, the crew of the Odyssey on their return from the Trojan war; noun in apposition.

Criteria defining *O. polyphemus* sp. n. The type specimens of *O. polyphemus* sp. n. have not been directly compared with those of the three other named *Otibazo* species. No representatives of the other named *Otibazo* species have been sequenced for their DNA barcode. The known biological preferences of all named species seem identical and, therefore, uninformative. The assertion of the species-level status for the newly reported specimens from Vietnam was done, therefore, by emphasising their uniqueness in the two available lines of evidence: (a.) morphological differences between *O. polyphemus* sp. n. and its named congeners and (b.) the wide geographical gap separating the type locality of *O. polyphemus* sp. n. in northern Vietnam from those of the other named species in Japan.



FIGURE 1. *Otibazo polyphemus* sp.n. from Vietnam, holotype, male. A–D: habitus; E–F: aedeagus and tegmen, dorsal (E), ventral (F) and lateral (G); H: sternite 9.

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