Zootaxa 3925 (4): 573–580
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3925.4.6
http://zoobank.org/urn:lsid:zoobank.org:pub:22D6E48B-C215-4388-83D5-C6158E5FE947

A new species of the enigmatic genus *Osphyoplesius* from Sicily (Coleoptera: Tenebrionoidea: Pythidae)

PAOLO MAGRINI[1] & MARCO ULIANA[2]

[1]*c/o Museo di Storia Naturale dell'Università di Firenze, Sezione di Zoologia "La Specola", Via Romana, 17 - 50125 Firenze, Italy (external collaborator). Home: Via Gianfilippo Braccini, 7 - 50141 Firenze. E-mail: duvalius@paolomagrini.it*
[2]*Museo di Storia Naturale di Venezia, S. Croce 1730 - 30135 Venezia, Italy.*
E-mail: marco.uliana.1@gmail.com; marco.uliana@fmcvenezia.it

Abstract

Osphyoplesius is an obscure Palearctic genus tentatively placed in Pythidae, comprising one species from Crimea and one from Greece, each of them collected only once. A third species is here described from Sicily, based on recently collected specimens. Despite the poor sample, statistic analysis of morphometrical data allowed to confirm the differentiation between the new species and its closest relative, and revealed the existence of sexual dimorphism in the genus.

Key words: *Osphyoplesius*, new finding, taxonomy, morphometrics, sexual dimorphism

Introduction

The obscure Palearctic genus *Osphyoplesius* is composed of small-sized and anophthalmic endogean beetles. Its systematic placement has been a matter of debate since its description: *Osphyoplesius* was first assigned to Tenebrionidae and considered related to the genus *Boros* (Winkler 1915); later it was placed in a tribe of its own (Osphyoplesiini) of the subfamily Borinae (Reitter 1917), subsequently considered as a family. Lawrence and Pollock (1994), discussing the systematics of Boridae excluded the genus from this family, and tentatively assigned it to Pythidae, where it is still placed today, although considered *incertae sedis* (Pollock and Lawrence 1995; Pollock 2008).

To date, *Osphyoplesius* comprised two species living in southern and Eastern Europe, far apart from each other: *O. anophthalmus* Winkler 1915 from the southern area of Crimean Mountains (Crimea, Ukraine) and *O. loebli* Español 1975 from Epirus (continental Greece).

Collection of *Osphyoplesius* specimens seems to be an extremely rare event. As far as we could ascertain, both known species were never recorded after the original description, each taxon being therefore represented by two specimens only.

In the present paper we describe a new *Osphyoplesius* species based on five specimens recently collected in Sicily. Morphometrical analysis of these specimens confirmed differences between the newly discovered population and the closest one and demonstrated the existence of sexual dimorphism in this genus.

Material and methods

Specimens of *Osphyoplesius* were extracted indoor from a soil sample, killed with ethyl acetate and dry preserved. Dissected parts and genitalia (including those of the *O. loebli* holotype, which were re-prepared) were mounted in Euparal on a vinyl acetate substrate. Mentioned specimens are preserved in the following collections: coll. P. Magrini, Firenze (CM); coll. M. Uliana, Codevigo (CU); coll. A. Petrioli, Asciano (CP); coll. L. Colacurcio, Zola Predosa (CC); Museo civico di Storia naturale di Milano (MSNM); Muséum d'histoire naturelle, Genève (MHNG).

Accepted by F. Shockley: 27 Jan. 2015; published: 3 Mar. 2015

Among other endogean coleopteran species collected at the same locality are *Duvalius marii* Vanni, Magrini & Pennisi and *Typhloreicheia baudii* Ragusa (Carabidae), *Bathysciola destefanii* (Ragusa) (Cholevidae), *Amaurops sulcatula confusa* Binaghi (Staphylinidae: Pselaphinae), and *Alaocyba* sp., *Raymondiellus siculus* (Rottemberg), *Torneuma ficuzzense* Stüben, and *T. deplanatum deplanatum* (Hampe) (Curculionidae).

Bosco della Ficuzza is comprised in the natural reserve "Riserva naturale orientata Bosco della Ficuzza, Rocca Busambra, Bosco del Cappelliere e Gorgo del Drago" and is an area of remarkable naturalistic interest, intensively explored by entomologists for the last 150 years. The discovery of this noteworthy species only in the present time seems to confirm the rarity of the *Osphyoplesius* species or, at least, the difficulty in collecting them with ordinary sampling methods, which is obviously stressed by the lack of ecological information.

An attempt was done to investigate the gut content of the specimens. Dry specimens were relaxed and dissected in order to extract the gut, which appeared partly filled with a black-brownish content. Undissected guts were attached with water soluble glue on cardboard and delivered to a specialized laboratory in order to perform a DNA barcode search for putative fungal content. Unfortunately it was not possible to amplify any fungal sequence from the content, possibly for the treatment of the material having been inappropriate for the DNA preservation.

Little is known about ecology of the other species and even precise collecting localities are not well defined. Specimens of *O. anophthalmus* were sifted from moist clay soil collected under dead wood, near "Baidar" a toponym probably to be referred to the present-day Orlinoye, also called Baydary and Baidari, or to the surrounding Baydar Valley. *Osphyoplesius loebli* was collected sifting litter collected under a vegetation with Rosaceae and oaks, in a locality of the Epirus "north of Kestrion" (original labels in Fig. 16), a toponym which is apparently impossible to find and that may be referred either to Kastrion (Evrymenes), in Ioannina regional unit, or to Kastrion in Thesprotia regional unit.

Acknowlegements

Our gratitude goes to our friend Loris Colacurcio, who kindly entrusted us the study of the specimens he collected, and to Augusto Degiovanni, Andrea Petrioli and Alessandro Paladini who shared with him and with one of the authors (PM) the entomological expedition to Sicily which led to the discovery of this new taxon. The loan of *O. loebli* holotype is due to the kind assistance of Dr. G. Cuccodoro (Muséum d'histoire naturelle, Genève), while photographic documentation of the allotype is due to the courtesy of Glòria Masó Ros and Amador Viñolas (Museu de Ciències Naturals de Barcelona).

Matteo Garbelotto (Forest Pathology and Mycology Laboratory, University of California, Berkeley) kindly tried fungal DNA amplification on the gut contents.

Literature

Español, F. (1975) Sobre un nuevo representante europeo del género *Osphyoplesius* Winkler (Col. Boridae). *Eos*, 49, 105–111.

Lawrence, J.F. & Pollock, D.A. (1994) Relationships of the Australian genus *Synercticus* Newman (Coleoptera: Boridae). *Journal of the Australian Entomological Society*, 33, 35–42. http://dx.doi.org/10.1111/j.1440-6055.1994.tb00914.x

Pollock, D.A. & Lawrence, J.F. (1995) Review of *Anaplopus* Blackburn (Coleoptera: Pythidae), with comments on constituents and systematics of Pythidae. *In*: Pakaluk, J. & Ślipiński, S.A. (Eds.), *Biology, phylogeny, and classification of Coleoptera: papers celebrating the 80th birthday of Roy A. Crowson. Vol. 1.* Muzeum i Instytut Zoologii PAN, Warsaw, pp. 449–472.

Pollock, D.A. (2008) Pythidae. *In*: Löbl, I. & Smetana, A. (Eds.), *Catalogue of Palaearctic Coleoptera. Vol. 5*. Apollo Books, Stenstrup, pp. 413–414.

Reitter, E. (1917) Bestimmungs–Schlüssel für die Unterfamilien und Tribus der paläarktischen Tenebrionidae. *Wiener Entomologische Zeitung*, 36, 51–66.

Winkler, A. (1915) Ein neuer blinder Tenebrionide aus der Krim. *Wiener Entomologische Zeitung*, 34, 331–335.