

2018	Heteropterus Revista de Entomología Heteropterus Rev. Entomol.	18(1): 21-24
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ISSN: 1579-0681

First data on Leptotyphlinae (Coleoptera: Staphylinidae) from Gibraltar, with the description of *Paratyphlus tristancanoi* sp. n., and new record of *Gynotyphlus perpusillus* (Doderó, 1900)

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Abstract

We provide the first records of the subfamily Leptotyphlinae (Coleoptera: Staphylinidae) from Gibraltar. A new species is described, *Paratyphlus tristancanoi* sp. n., and *Gynotyphlus perpusillus* (Doderó, 1900) is recorded for the first time. The latter is a parthenogenetic species that was possibly imported accidentally, at the roots of plants.

Key words: Coleoptera, Staphylinidae, Leptotyphlinae, *Paratyphlus tristancanoi* sp. n., *Gynotyphlus perpusillus* (Doderó, 1900), new species, new records, Gibraltar, Iberian Peninsula.

Resumen

Primeros datos sobre Leptotyphlinae (Coleoptera: Staphylinidae) de Gibraltar, con la descripción de *Paratyphlus tristancanoi* sp. n. y un nuevo registro de *Gynotyphlus perpusillus* (Doderó, 1900)

Se aportan los primeros datos sobre la subfamilia Leptotyphlinae (Coleoptera: Staphylinidae) para Gibraltar. Se describe una especie nueva, *Paratyphlus tristancanoi* sp. n., y se cita por primera vez *Gynotyphlus perpusillus* (Doderó, 1900), una especie partenogenética, posiblemente importada accidentalmente en raíces de plantas.

Palabras clave: Coleoptera, Staphylinidae, Leptotyphlinae, *Paratyphlus tristancanoi* sp. n., *Gynotyphlus perpusillus* (Doderó, 1900), new species, new records, Gibraltar, Península Ibérica.

Laburpena

Lehenengo datuak Gibraltargo Leptotyphlinae-ri buruz (Coleoptera: Staphylinidae), *Paratyphlus tristancanoi* sp. n.-ren deskribapena eta *Gynotyphlus perpusillus* (Doderó, 1900)-ren aipu berria direla eta

Leptotyphlinae subfamiliari buruzko (Coleoptera: Staphylinidae) lehenengo datuak ematen dira Gibraltarrerako. Espezie berri bat deskribatzen da, *Paratyphlus tristancanoi* sp. n., eta lehenengo aldiz aipatzen da *Gynotyphlus perpusillus* (Doderó, 1900) espezie partenogenetikoa, zeina seguru asko landare-sustraietan inportatua izan baita.

Gako-hitzak: Coleoptera, Staphylinidae, Leptotyphlinae, *Paratyphlus tristancanoi* sp. n., *Gynotyphlus perpusillus* (Doderó, 1900), espezie berria, aipu berriak, Gibraltar, Iberiar Penintsula.

Introduction

Until now, the only records of endogean Staphylinidae from the British Overseas Territory of Gibraltar were those by Coiffait (1965), who described the Gibraltarian endemic *Lusitanopsis herculeana* (Staphylinidae: Osoriinae). Recently, two of the authors (KB & CP), both from the Gibraltar Botanic Gardens, have been sampling for endogean Coleoptera in Gibraltar. This has resulted in the first records of Gibraltar of the subfamily Leptotyphlinae, including a new species that is described here: *Paratyphlus tristancanoii* sp. n. We also provide the second Iberian record of *Gynotyphlus perpusillus* (Doderer, 1900), a widely distributed parthenogenetic species that was found in an old garden area of Gibraltar and was probably imported accidentally at the roots of ornamental plants.

Results

Paratyphlus tristancanoii sp. n.

Type locality:

Soil sample collected at Bruce's Farm firebreak, 200 m a.s.l., N 36° 08' 28.30" W 5° 20' 50.59", Upper Rock, Gibraltar Nature Reserve, Gibraltar.

Type material:

Holotype ♂ (coll. C. Hernando, Badalona): «GIBRALTAR, 20.04.2010 // Bruce's Farm firebreak // N 36° 08' 28.30" W 5° 20' 50.59" // K. Bensusan, C. Perez leg.».

Description:

Length: 1.3 mm. Anophthalmous staphylinid, unpigmented (yellowish), slender in form. Antennae with eleven segments, short and robust, not exceeding the length of the head when stretched backwards. Body narrow and long with parallel-sided abdominal segments. Morphology of the aedeagus characteristic, with the sternal plate strongly curved at its apex with a blunt end, and with three copulatory pieces: a small one dorsally, an S-shaped piece in the middle and a third that is stylet-shaped and more or less parallel with the sternal plate.

Sternite VIII of the male with a symmetrical posterior border strongly notched in the centre and with two blunt angled projections on each side of the notch. With two very irregular lateral groups of punctures with setae that run along the posterior half, approximately (Fig. 1a). Surface between both groups of points totally concave with a polygonal, transverse reticulation that is clearly visible.

Aedeagus (Fig. 1b) very characteristic, with a robust sternal plate (stp), strongly curved downwards at its distal end, with a blunt apex and a groove along the base. Three copulatory pieces: one dorsal (dp) and small, very chitinised and joined with the rest of the aedeagus by a membranous tegument, a median, S-shaped piece (mp) that is strongly angled at its apical end and has a lateral, bilobed protuberance at its widest point, the third piece composed of a robust and long stylet (sp) that is practically straight and almost reaches the apex of the sternal plate. Parameres: both very similar, curved, short and robust, slightly widened at the apex and with four apical setae.

Female unknown. It is worth noting that two females of a *Paratyphlus* have been collected nearby (Windmill Hill Flats, Gibraltar Nature Reserve), but due to an absence of males from the same site, we have preferred not to include these specimens in the type series. The genus *Paratyphlus* is extraordinarily diverse and there are records of up to four species coexisting within a small geographical area (Hernando, 2013), so it is possible that these females may not belong to the species described here.

Differential diagnosis:

The new species is related to the geographically close *Paratyphlus mateni* Coiffait, 1955 (Benaolán, Sierra de Grazalema, Málaga), from which it can be separated easily by the following characters of the aedeagus: the apical end of the sternal plate (stp) of *P. mateni* is truncated and somewhat angled along its internal border, but has a blunt end in *P. tristancanoii* sp. n. (Fig. 1b), the copulatory piece in the form of a stylet (sp) is longer than the sternal plate in *P. mateni*, but clearly shorter in *P. tristancanoii* sp. n. (Fig. 1b), the distal part of the median copulatory piece (mp) of *P. mateni* is rounded, whereas it is strongly angled in *P. tristancanoii* sp. n. (Fig. 1b). For illustrations of *P. mateni* see: Coiffait, 1972.

Distribution and habitat notes:

So far known only from the type locality. The species

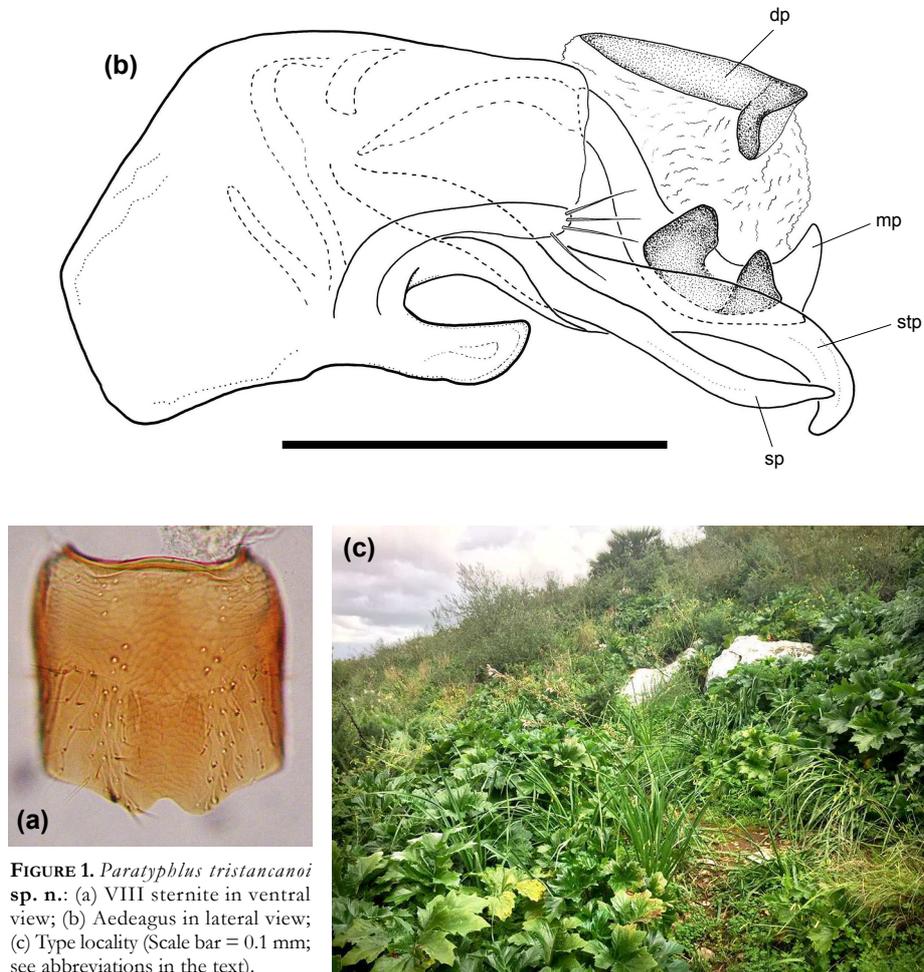


FIGURE 1. *Paratyphlus tristancanoi* sp. n.: (a) VIII sternite in ventral view; (b) Aedeagus in lateral view; (c) Type locality (Scale bar = 0.1 mm; see abbreviations in the text).

was collected by soil-washing and Berlese extraction. The soil sample was extracted up to the depth of about 50 cm from around the roots of *Asphodelus ramosus* that was growing on a rocky limestone slope in a semi-maintained firebreak consisting mainly of garigue vegetation (Fig. 1c).

Etymology:

The species is dedicated to Tristan Cano, a good friend of one of the authors (KB) who frequently accompanied him in the field, contributing companionship and excellent humour. He passed away too soon and is sorely missed.

New record of *Gynotyphlus perpusillus* (Doderò, 1900)

Material studied:

Gibraltar, The Mount, N36° 07' 28" W5° 20' 56", 1 ♀, 02-02-2010, 4 ♀♀, 04-03-2010, K. Bensusan & C. Perez leg. (coll. C. Hernando, Badalona).

Gynotyphlus perpusillus is the only known parthenogenetic species of Leptotyphlinae and also the most widely distributed one. Its natural distribution includes a large part of the Mediterranean region (southern France, peninsular Italy, Sicily, Croatia, Macedonia,



FIGURE 2. Habitat of *Gynotyphlus perpusillus* (Dodero, 1900).

Greece and Turkey), but there are also isolated records from a number of localities in central and western Europe, including the Atlantic coast (France [Bordeaux and around Paris], Switzerland, Austria, Slovakia, Hungary and Portugal) (Scheerpeltz, 1959; Bruneau de Miré, 1983; Coiffait, 1984; Rusek, 1994; Christian, 2000). These records most likely refer to accidental introductions with plant material (Coiffait, 1984; Pace, 1996). For example, Coiffait (1984) relates a curious anecdote, detailing that he found specimens of this species by washing the soil of potted sages (*Salvia* sp.) that he had purchased in Toulouse.

The species is subdivided into eleven subspecies (Smetana, 2015), which we think are of doubtful validity, as they are based on very subtle differences in external morphology and genitalia (Coiffait, 1959). Some of these subspecies (Bruneau de Miré, 1983) were created to define populations that could be of recent origin, as they likely refer to accidental introductions.

The only known Iberian record is from the Jardim do Palace Hotel do Buçaco (Portugal). This population is doubtless introduced, as the park holds a very diverse exotic flora (Coiffait, 1984).

The specimens from Gibraltar constitute the second record for the Iberian Peninsula and expand the species known distribution considerably. All specimens were collected by soil-washing and Berlese extraction, in association with other beetles and ants characterised by adaptations to endogean life (*Langelandia reitteri* Belon, 1882 (Zopheridae), *Torneuma* (*Torneuma*) *baeticum* Stüben, 2007 (Curculionidae) and *Strumigenys tenuipilis* (Emery, 1915) (Formicidae)). The soil sample was extracted up to the depth of about 50 cm from around the roots of *Ficus carica* in an old garden (Fig. 2) that is currently semi-abandoned, creating a shaded woodland

habitat that combines native vegetation with ornamental elements. There can be little doubt that this population too must have been introduced in the roots of plants that were used in the landscaping of this historic garden.

References

- BRUNEAU DE MIRÉ PH. 1983. Un domaine encore presque inexploré: la faune hypogée du bassin de la Seine. *L'Entomologiste* **39**(5): 245-248.
- CHRISTIAN E. 2000. Blindkäfer-Funde in Wiener Parkanlagen (Coleoptera: Bothrideridae, Colydiidae, Staphylinidae). *Beiträge zur Entomofaunistik* **1**: 73-77.
- COIFFAIT H. 1959. Monographie des Leptotyphlites. *Revue Française d'Entomologie* **26**: 237-437.
- COIFFAIT H. 1965. Nouveaux Osoriini endogés de la région méditerranéenne (Col. Staphylinidae) 5^o note. *Revue d'Écologie et de Biologie du Sol* **2**: 285-290.
- COIFFAIT H. 1972. Coleoptera Staphylinidae de la région paléartique occidentale. I Généralités. Sous-familles: Xantholininae et Leptotyphlinae. *Nouvelle Revue d'Entomologie* **2**(2)(Suppl.): 1-651 + 5 pl.
- COIFFAIT H. 1984. À propos de la répartition de *Gynotyphlus perpusillus* Dodero (Col. Staphylinidae). *L'Entomologiste* **40**(3): 117-118.
- HERNANDO C. 2013. Descripción de cinco especies nuevas del género *Paratyphlus* Blackwelder, 1952 de Catalunya (noreste de la Península Ibérica) (Coleoptera: Staphylinidae: Leptotyphlinae). *Heteropterus Revista de Entomología* **13**(1): 1-12.
- PACE R. 1996. *Coleoptera, Staphylinidae, Leptotyphlinae* (Fauna d'Italia 34). Ed. Calderini. Bologna.
- RUSEK J. 1994. První nález drabčička podčeledi Leptotyphlinae na Slovensku. *Ziva* **42**: 25-26.
- SCHEERPELTZ O. 1959. Die Entdeckung einer neuen terrikolen Staphyliniden-Gattung und einer neuen blinden Art dieser Gattung in der nächsten Umgebung Wiens (Col.). *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* **98/99**: 4-12.
- SMETANA A. 2015. Leptotyphlinae (pp.: 901-916). In: Löbl I, Löbl D (Eds.). *Catalogue of Palaearctic Coleoptera. Revised and Updated Edition. Vol.2/2. Hydrophiloidea–Staphyliniidea*. Brill. Leiden-Boston.

Received / Recibido / Hartua: 30/04/2018

Accepted / Aceptado / Onartua: 11/05/2018

Published / Publicado / Argitaratua: 30/06/2018