

ON SOME NEW AND INTERESTING FINDINGS OF COLEOPTERA FROM PORTUGAL: I. HISTERIDAE

Israel de Faria e Silva*, Pedro Martins da Silva & Artur R. M. Serrano

Centro de Biologia Ambiental e Departamento de Biologia Animal, Faculdade de Ciências da Universidade de Lisboa, Ed. C2, 2º piso, Campo Grande 1749-016 Lisboa, Portugal. *Corresponding author: israelbug@iol.pt

Abstract: New additions to the inventory of the Histeridae in Portugal are presented, as a result of one year of continuous pitfall sampling in four Nature Reserves. Four species are recorded for the first time from this country: *Platylister (Popinus) algiricus* (Lucas, 1846), *Hister helluo* Truqui, 1852, *Sternocoelis fuscus* (Schmidt, 1888) and *Saprinus (Saprinus) immundus* (Gyllenhal, 1827). A fifth one, *Saprinus (Saprinus) calatravensis* de la Fuente, 1899, regarded as rare throughout the Iberian Peninsula and hitherto known in our country from only one locality, is also listed. General information on the biology and distribution of each species is given, as well as a state-of-the-art on the knowledge of this family in Portugal.

Key words: Coleoptera, Histeridae, faunistics, new records, Portugal.

Registos novos de besouros (Coleoptera: Elateridae, Mycetophagidae, Melandryidae e Colydiidae) de Portugal. I. Histeridae

Resumo: Apresentam-se dados novos para o inventário da família Histeridae em Portugal, como resultado de colheitas efectuadas com armadilhas de queda (*pitfalls*) em quatro Áreas Protegidas. Quatro espécies são registadas pela primeira vez para este país: *Platylister (Popinus) algiricus* (Lucas, 1846), *Hister helluo* Truqui, 1852, *Sternocoelis fuscus* (Schmidt, 1888) e *Saprinus (Saprinus) immundus* (Gyllenhal, 1827). *Saprinus (Saprinus) calatravensis* de la Fuente, 1899, espécie considerada rara na Península Ibérica e até à data conhecida de uma única localidade em Portugal, é também referida. Apresentam-se ainda alguns apontamentos sobre a biologia e distribuição de cada espécie, bem como uma breve nota acerca do estado do conhecimento desta família em Portugal.

Palavras chave: Coleoptera, Histeridae, faunística, novos registos, Portugal.

Aportaciones nuevas e interesantes sobre Coleoptera de Portugal. I. Histeridae.

Resumen: Se presentan datos nuevos para el inventario de la familia Histeridae en Portugal, como resultado de colectas efectuadas con trampas de caída (*pitfalls*) en cuatro espacios protegidos. Cuatro especies se registran del país por primera vez: *Platylister (Popinus) algiricus* (Lucas, 1846), *Hister helluo* Truqui, 1852, *Sternocoelis fuscus* (Schmidt, 1888) y *Saprinus (Saprinus) immundus* (Gyllenhal, 1827). Se ha registrado, igualmente, *Saprinus (Saprinus) calatravensis* de la Fuente, 1899, especie considerada rara en la Península Ibérica y sólo conocida previamente de una localidad portuguesa. Se presentan también algunos comentarios sobre la biología y distribución de cada especie, así como un breve resumen del estado del conocimiento sobre la familia en Portugal.

Palabras clave: Coleoptera, Histeridae, faunística, nuevos registros, Portugal.

Introduction

Family Histeridae Gyllenhal, 1808 is a rather homogeneous and widely distributed group of beetles, counting roughly 4000 species from more than 330 genera. Although existing in many habitats, its greatest diversity levels are found in the tropics, while being absent from the Arctic and Antarctic continents (Mazur, 1997). These beetles prey mostly upon beetle and fly larvae occurring in a very diverse set of ecological niches, mostly associated with decomposing organic materials, such as dung, carrion, rotten wood, seaweed, and forest litter. Some groups of hister beetles show remarkable morphoecological adaptations which enable them to live under bark, inside galleries of wood-boring insects, in caves or even in nests of vertebrates and social insects such as ants or termites.

The first studies about the portuguese Histeridae fauna date back to the first half of the 19th century, with the works of Illiger (1807) and Erichson (1834) describing various species while examining material from Portugal. Marscul (1853, 1855, 1856, 1862), among others, gave also an important contribution, listing many species for this territory. Of paramount relevance was Paulino de Oliveira (1894), author of the first general catalogue of Coleoptera, wherein 65 species were listed to our country. A few years later

Fuente (1908), in his “Sinópsis de los Histeridos de España, Pirineos y Portugal” reported 69 species. Further additions to these catalogues were issued during the first half of the 20th century mainly by Correa de Barros, Antero de Seabra and Luna de Carvalho, contributing to an updated list (Seabra, 1943) which refers to a total species number of 74. Not many advances happened for over 45 years, when Yélamos and Ferrer (1988), in an effort to update the old catalogue by Fuente (1908), reported 83 species as present in Portugal. This number was further raised to 87 on account of Salgado (1990) and later Serrano (2000) set it to 88. Soon after Yélamos (2002), in the first general work on the biology, ecology and systematics of the Iberian Histeridae, recorded 96 species to our country. More recently, however, Mazur (2004), in a Catalogue of Palaearctic Coleoptera, only lists 83. Many of the species missing in this last work, though, are known to Portugal only from some very old records, some of them dating back to the 19th century, being unclear if they are actually part of the Portuguese fauna.

Despite all this background, the inventory of the Histeridae should not be over, as we believe other species are yet to be discovered from this territory. This lack of knowledge arises as a consequence of the ecological diversity of

this family and the habitat specificity that many species present. Therefore, we believe that an increase of sampling effort specially directed to those groups with more cryptic habits (*e.g.* endogenous, pholeophilous, inquilines, xylophilous, xylodeitricolous and psammophilous) and/or to less studied habitats would yield interesting advances.

This work is the first of a series of forthcoming papers intended to present some faunistic novelties and interesting records of beetles to our country, obtained during the course of a PhD project concerning the use of Coleoptera in biodiversity assessment studies and reserve selection. In this paper we present new data on rare and previously unrecorded species of Histeridae beetles from Portugal. Some insights over their distribution and biology are provided as well.

Material and Methods

Field work carried out in 2001, 2002 and 2003, in the north, centre and southern Portugal, respectively, in four protected areas: Parque Natural do Douro Internacional (PNDI), Parque Natural das Serras d'Aire e Candeeiros (PNSAC), Reserva Natural do Paúl do Boquilobo (RNPB) and Parque Natural do Vale do Guadiana (PNVG) (Fig. 1). For each reserve various sites were chosen (4 to 16, depending on the reserve), representative of the most common habitats. Unbaited pitfall traps with ethylene glycol were used, laid out in a row of eight on every site, except for the cork-oak forest in RNPB, in which eight rows of four traps were used. Sampling took place continuously, from the beginning of February to early December, and traps were emptied every fortnight. Species names follow Ohara (1994). New records to the country are marked with an asterisk (*).

Results

Subfamily HISTERINAE Gyllenhal, 1808

Genus *Platylister* Lewis, 1892

Subgenus *Popinus* Mazur, 1999

**Platylister (Popinus) algiricus* (Lucas, 1846)

MATERIAL EXAMINED: PNVG, Mértola, Guadiana River at "Corredoura" (29SPB17-30m ASL), 06-18-2003, 1♀; 08-13-2003, 1♀; 08-27-2003, 1♀.

DISTRIBUTION: Western-Mediterranean. Algeria, Tunisia, Morocco, Italy (Sardinia and Sicily) and Spain (Vienna, 1980; Yélamos, 2002; Mazur, 2004 in Löbl & Smetana, 2004).

New species record for Portugal. Previous data from the Iberian Peninsula is very scarce. This species was first recorded in Spain from Chiclana de la Frontera (Cádiz) (Yélamos, 1989) and only later from Hoyos (Cáceres) (Yélamos, 2002). It lives under the bark of non-resinous trees, both adult and immature stages feeding on xylophagous insect larvae (Vienna, 1980; Yélamos, 2002). In our study we have found *P. algiricus* on a sandy bank of the Guadiana River with *Juniperus turbinata*, *Quercus ilex* and Mediterranean shrubland cover.

Genus *Hister* Linnaeus, 1758

**Hister helluo* Truqui, 1852

MATERIAL EXAMINED: PNDI, Mogadouro, Algosinho stream (29TQF07-620m ASL), 06-27-2001, 2♀♀.

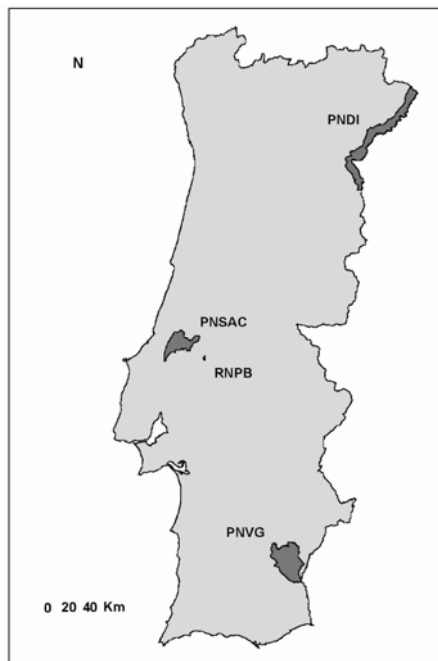


Fig. 1. Location of the four Nature Reserves studied.

DISTRIBUTION: Europe and Caucasus. Austria, Belgium, Belarus, Russia (west of the Urals), Czech Republic, Denmark, Estonia, Finland, France, Germany, Georgia, Greece, Hungary, Italy, Latvia, Lithuania, The Netherlands, Poland, Slovakia, Spain, Ukraine and Turkey (Vienna, 1980; Yélamos, 2002; Mazur, 2004 in Löbl & Smetana, 2004).

New species record for Portugal. Only a few records are known from the Iberian Peninsula. Spain: Vielha (Valle de Arán, Lérida), Llívia (Gerona), Santa Fe del Montseny, Sant Bernat del Montseny and La Floresta (Barcelona), Sierra de Aralar (Guipúzcoa), Potes (Cantabria), Ceneya (Asturias) and Tarifa (Cádiz) (Yélamos & Ferrer, 1988; Yélamos, 2002).

This species is usually found on European alder trees (*Alnus glutinosa*), where it preys upon *Agelastica alni* (Coleoptera: Chrysomelidae) larvae, but is known to feed on carrion and dung as well (Vienna, 1980; Yélamos, 2002). The specimens here reported were captured on a river bank forest composed mainly of narrow-leaved ash (*Fraxinus angustifolia*) and willows (*Salix salviifolius*).

Subfamily HAETERIINAE Marseul, 1857

Genus *Sternocoelis* Lewis, 1888

**Sternocoelis fuscus* (Schmidt, 1888)

MATERIAL EXAMINED: PNVG, Mértola (29SPB16-60m ASL), 07-02-2003, 1♀.

DISTRIBUTION: Spain and Morocco (Yélamos, 2002; Mazur, 2004 in Löbl & Smetana, 2004).

New species record for Portugal. This species has a very restrict distribution range. Once thought to be endemic to Spain (Yélamos and Ferrer, 1988), it was later proven to occur in Morocco (Yélamos, 1995), and more recently Lackner and Yélamos (2001) managed to extend its known distribution for the latter country. Nevertheless there are only a few reported occurrences from Spain, all from the southern half (Yélamos, 2002): Segovia (Hontanares), Málaga (Torremolinos), Cádiz (Algeciras), Gibraltar and Murcia (Sierra de Espuña) (Fuente, 1908). Similarly to

other members of this genus, *S. fuscus* individuals are mirmecophilous, living chiefly inside *Aphaenogaster* ant nests where they feed on their eggs and larvae (Vienna, 1980; Yélamos, 2002). Our only specimen was caught on a hill slope with stone pine (*Pinus pinea*) plantations.

Subfamily SAPRININAE Blanchard, 1845

Genus *Saprinus* Erichson, 1834

Subgenus *Saprinus* Erichson, 1834

Saprinus (Saprinus) calatravensis de la Fuente, 1899

MATERIAL EXAMINED: PNVG, Mértola, Algodór (29SP B07-180m ASL), 07-02-2003, 1♂, 1♀; 07-30-2003, 5♂, 4♀; 08-13-2003, 1♂.

DISTRIBUTION: Northern Mediterranean, Caucasus, Western and Central Asia. Azerbaijan, Armenia, Bulgaria, Czech Republic, Italy, Portugal, Spain, Yugoslavia (Serbia and Montenegro), Afghanistan, Iran, Israel, Kazakhstan, Oman, Saudi Arabia, Turkmenistan, Turkey (Vienna, 1980; Yélamos, 2002; Mazur, 2004 in Löbl & Smetana, 2004).

Second record for Portugal. Although the typical locality for this species (Pozuelo de Calatrava, Ciudad Real) lies within our geographic area it is considered very rare in the Peninsula (Cárdenas *et al.*, 2002), where only sporadic reports are accounted. **Spain:** Lérida, Madrid, Toledo, Granada, Málaga (Casabermeja; Benalmádena), Cádiz (S. Roque), Sevilla, Huelva. **Portugal:** Lagos (Algarve) (Yélamos and Ferrer, 1988; Yélamos, 2002). *S. calatravensis* is essentially necrophilous, as most other species in this genus (Vienna, 1980; Yélamos and Ferrer, 1988; Yélamos, 2002). In our study it was found in a holm oak forest (*Quercus ilex*) with *Cistus ladanifer* understory cover.

**Saprinus (Saprinus) immundus* (Gyllenhal, 1827)

MATERIAL EXAMINED: RNPB, Golegã, Azinhaga (29SN D36-20m ASL), 07-16-2002, 1♂.

DISTRIBUTION: Palaearctic. Austria, Belgium, Bosnia Herzegovina, Belarus, Russia (west of the Urals), Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Hungary, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Slovakia, Spain, Sweden, Switzerland, Ukraine, Algeria, Tunisia, China, Mongolia, Kazakhstan, Turkey (Vienna, 1980; Yélamos, 2002; Mazur, 2004 in Löbl & Smetana, 2004).

New species record for Portugal. Despite its wide range this species is rare in the Iberian Peninsula (Yélamos & Ferrer, 1988), with some reports known only from Spain: Gerona, Barcelona, Lérida, Tarragona, Pontevedra, Guadalajara, Segovia, Ciudad Real, Albacete, Málaga, León (Campo Las Danzas, Montes Aquilianos), Lugo (Segundera mountains), Zamora (Villafáfila; Villarín de Campos), Orense (Queixa mountains), Salamanca (Candelario), and Madrid (Cercedilla). *S. immundus* can be found both in montane or coastal environments, being known to feed mostly on carrion and dung, just like many other *Saprinus* species (Vienna, 1980; Yélamos, 2002). With respect to our study, this specimen was found in a rather intensively sampled (4x8 pitfall traps) cork oak forest within the limits of the Boquilobo Wetland Reserve.

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