

ON SOME NEW AND INTERESTING FINDINGS OF COLEOPTERA FROM PORTUGAL: II. ANTHICIDAE

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Abstract: New additions to the inventory of the family Anthicidae in Portugal are presented, as a result of one year of continuous pitfall sampling in four Nature Reserves. Three species are recorded from this country for the first time: *Anthicus cribripennis* Desbrochers, 1875, *Microhoria (Platyhoria) vespertina* (Rosenhauer, 1856) and *Pseudotomoderus compressicollis* (Motschoulski, 1839). We also list three other species whose Portuguese records are scarce or in need of confirmation. 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, Anthicidae, faunistics, new records, Portugal.

Resumo: Neste trabalho damos a conhecer dados novos para o inventário da família Anthicidae em Portugal, como resultado de colheitas efectuadas com armadilhas de queda (*pitfalls*) em quatro Áreas Protegidas. Três espécies são apresentadas pela primeira vez para o nosso país: *Anthicus cribripennis* Desbrochers, 1875, *Microhoria (Platyhoria) vespertina* (Rosenhauer, 1856) e *Pseudotomoderus compressicollis* (Motschoulski, 1839). Três outras espécies, com poucas referências no nosso país ou a necessitarem de confirmação, são também listadas. São ainda facultados alguns apontamentos sobre a biologia e distribuição de cada espécie e sobre o estado do conhecimento desta família em Portugal.

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

Aportaciones nuevas e interesantes sobre Coleoptera de Portugal: II. Anthicidae.

Resumen: Se dan a conocer datos nuevos para el inventario de los Anthicidae en Portugal, como resultado de colectas efectuadas con trampas de caída (*pitfalls*) en cuatro espacios protegidos. Tres especies se registran del país por primera vez: *Anthicus cribripennis* Desbrochers, 1875, *Microhoria (Platyhoria) vespertina* (Rosenhauer, 1856) y *Pseudotomoderus compressicollis* (Motschoulski, 1839). Se enumeran también otras tres especies que contaban con pocas citas de nuestro país o que necesitaban confirmación. Igualmente, se aportan algunos apuntes sobre la biología y distribución de cada especie y sobre el estado del conocimiento sobre esta familia en Portugal.

Palabras clave: Coleoptera, Anthicidae, faunística, nuevas citas, Portugal.

Introduction

Family Anthicidae consists of over 3000 species and 100 genera distributed worldwide. Their greatest diversity occurs in the tropical and subtropical regions, where this group is thought to have originated (Bucciarelli, 1980). This family is comprised of small heteromorous beetles spanning 1 to 6 mm in length, mainly characterized by a prognathous head abruptly constricted into a narrow neck and slender legs and antennae. These morphological characters, as well as their speed and agility, bear them some resemblance to ants. The name *Anthicus* has its origin in the Greek and means “variegated” or “flower-like”, hence the English common name Ant-like Flower Beetle. Their morphology suggests a somewhat predacious habit; however, most of the species are saprophyte and are found in greater numbers in decaying plant material and in dung. Some (*Notoxini*) are also commonly seen on flowers, particularly umbellifers, or on tree foliage (*Microhorini*). Nevertheless, *Microhoria*, *Notoxus* and *Anthicus* species present marked attraction towards dead or dying vesicant Coleoptera (e.g. Meloidae, Bucciarelli, 1980), while a few others are reported to prey upon small insect pests and their offspring, which makes them important in pest management practices (Werner & Chandler, 1995). In terms of habitat selection, many species are psammophiles, withstanding dry, exposed areas, whereas others prefer damp places (Bonadona, 1991).

The study of the Portuguese Anthicid beetles began in the middle of the 19th century, especially by Heyden, van Volxem and later Marseul (1879). They were the main contributors to the compilation of the first catalogue of Portuguese Anthicidae (Oliveira, 1894), wherein 35 species were listed. Further additions to the inventory of the portuguese fauna were provided by Barros (1907, 1913), which resulted in an updated list by Seabra (1943) with 44 species reported. In 1984 Bonadona described a new species from Portugal, which nevertheless remained unaccounted for by Uhmman (1992), in his key to the Anthicidae species of the Iberian Peninsula. Both contributions improved Seabra's list, raising the number to a total of 51 species. Uhmman's paper made it also possible to identify the high number of Iberian, Portuguese and Spanish endemic species, not present in the literature available at that time for southern Europe (Bucciarelli, 1980; Bonadona, 1991). A few years later Serrano & Aguiar (1995) further improved the knowledge of this group in Portugal, setting the number of species to 56. Nevertheless, we believe there is still a gap to fill, owing to the fact that this interesting family has been overlooked by most contemporary coleopterists in Spain and Portugal. Additional faunistic studies throughout the country, as well as a thorough revision of all the material deposited in public and private collections could yield some interesting results.

The data presented herein was 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 information on some species of Anthicidae beetles previously unrecorded in Portugal, plus several others hitherto known from few localities or in need of confirmation. 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 several 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 Bonadona (1991). New records to the country are marked with an asterisk (*).

Results

Subfamily **ANTHICINAE** Latreille, 1819

Tribe **Anthicini** Latreille, 1819

Genus *Anthicus* Paykull, 1798

**Anthicus cribripennis* Desbrochers, 1875

MATERIAL EXAMINED: RNPB, Golegã, Azinhaga (29SN D36-20m ASL), 05-22-2002, 1♀; 06-05-2002, 1♂.

DISTRIBUTION: Spain, Algeria, Tunisia and central Italy (Bucciarelli, 1980; Uhmman, 1992; Nardi, 2005).

New species record for Portugal. One of the specimens was collected on a black poplar plantation (*Populus nigra*), while the other was captured on an elevated grassy path between water canals. Both sites are located within the Boquilobo Wetland Reserve and go through periodic flooding every year.

Anthicus laeviceps Baudi, 1877

MATERIAL EXAMINED: PNSAC, Porto de Mós, Mira d'Aire (29SND27-190m ASL), 06-18-2002, 1♀; 07-02-2002, 1♀.

DISTRIBUTION: Spain (including the Balearic Islands), Portugal, France (including Corsica), Italy (including Sicily and Sardinia), Malta, Croatia, Bosnia and Herzegovina, Greece, North Africa and Near East (Bucciarelli, 1980; Bonadona, 1991; Uhmman, 1992; Nardi, 2005).

Although Serrano & Aguiar reported it for the first time to our country in 1995, it had already been listed by Uhmman (1992). *A. laeviceps* has preference for clay soils, where it lives under litter or close to the vegetation (Bucciarelli, 1980; Bonadona, 1991). It is often found along the coast in marshy habitats with reed vegetation (Bucciarelli, 1977; Bucciarelli, 1980; Contarini, 1992).

This species was collected on the Minde Polje, a large flat depression typical of karst environments which is flooded for some time of the year.

Genus *Omonadus* Mulsant & Rey, 1866

Omonadus bifasciatus (Rossi, 1792)

MATERIAL EXAMINED: PNVG, Serpa, Santa Maria, Ribeira de Limas (29SPB28-50m ASL), 07-30-2003, 1♂.

DISTRIBUTION: Austria, Bosnia and Herzegovina, Great Britain, Bulgaria, France (including Corsica), Croatia, Greece, Germany, Czech Republic, Denmark, Hungary, Italy (including Sardinia and Sicily), Malta, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Caucasus, Near East, North Africa (Bucciarelli, 1980; Bonadona, 1991; Uhmman, 1992; Nardi, 2005).

There have been some misunderstandings regarding the occurrence of this species in the Iberian Peninsula. Recently Cárdenas & Hidalgo (2003) reported *Anthicus bifasciatus* from Doñana National Park, a new record to the Iberian Peninsula, so they state. The authors claim it was not listed in Uhmman's work (1992); however, we believe the specific name must have been overlooked, because it does appear indeed, though under genus *Omonadus*, where this species should actually be placed (Uhmman, 1985; Bonadona, 1991; Serrano & Aguiar, 1995; Chandler *et al.*, 2004). Furthermore, it had already been cited from Spain a long time ago by La Ferté (1848) and La Fuente (1932) listed it from the East Pyrenees, Catalunya, Badajoz, Ciudad Real and the Balearic Islands. This last author also reported it from Portugal, just like Oliveira (1894) and Seabra (1943). Posterior findings by Serrano & Aguiar (1995) confirmed Portugal as part of this species distribution range. With all these available data, we do not understand how this mistake happened.

O. bifasciatus shows some preference for sandy soils and is active at dusk and night, being attracted to light traps. They are mainly coprophilous, feeding on bovine and ovine dung, but according to Hidalgo & Cárdenas (2003) can also exhibit some necrophily. Our only specimen was collected on a sandy river bank in Southern Portugal with *Nerium oleander* and *Phragmites communis* vegetation.

Tribe **Microhorini** Bonadona, 1974

Genus *Microhoria* Chevrolat, 1877

Subgenus *Platyhoria* Bonadona, 1954

**Microhoria (Platyhoria) vespertina* (Rosenhauer, 1856)

MATERIAL EXAMINED: PNSAC, Torres Novas, Vale Garcia (29SND37-270m ASL), 07-30-2002, 1♀; 08-13-2002, 1♂, 1♀.

DISTRIBUTION: Previously known only from Spain and European Turkey (Uhmman, 1992; Nardi, 2005).

New species record for Portugal. Our specimens were collected on a thin-soiled southeastern slope of Serra d'Aire (part of the Estremadura limestone massif), with *Quercus coccifera* and *Cistus ladanifer* shrubland.

Subgenus *Immichoria* Pic, 1894

Microhoria (Immichoria) plumbea (Laferté, 1842)

MATERIAL EXAMINED: PNSAC, Torres Novas, Vale Garcia (29SND37-270m ASL), 02-26-2002, 2♂; 04-09-2002, 1♂; 04-23-2002, 1♂; 05-07-2002, 3♀; 05-21-2002, 1♀; 06-18-2002, 1♀. PNSAC, Porto de Mós, Serra de São Mamede (29SND18-420m ASL), 06-04-2002, 1♀; 06-18-2002, 2♂, 1♀; 07-02-2002, 10♀; 07-16-2002, 3♀; 07-30-2002, 1♀.

DISTRIBUTION: Spain, Northern Italy, France (Bucciarelli, 1980; Bonadona, 1991; Uhmman, 1992; Nardi, 2005) and

Portugal (Serrano & Aguiar, 1995). For a long time known only from the first three countries, it was later found by the last authors to occur in Portugal.

Third record to Portugal. *M. plumbea* can exist in relatively dry habitats, where it lives under stones, at the base of trees or among litter, occasionally exhibiting dense aggregations of thousands of individuals (Bucciarelli, 1980; Bonadona, 1991). Our specimens were trapped on a southeastern slope of Serra d'Aire mainly covered by *Quercus coccifera* and *Cistus ladanifer* and on a higher altitude plateau with, if any, very low shrubland. Both sites are situated in the same Natural Park (PNSAC), located in the Estremadura limestone system, which is characterized by thin, poor soils.

Subfamily **TOMODERINAE** Bonadona, 1961

Genus *Pseudotomoderus* (Pic, 1892)

****Pseudotomoderus compressicollis*** (Motschoulski, 1839)

MATERIAL EXAMINED: RNPB, Golegã, Azinhaga (29SN D35-20m ASL), 02-12-2002, 1♂.

DISTRIBUTION: Austria, Bosnia and Herzegovina, Bulgaria, France (including Corsica), Croatia, Greece, Italy (including Sardinia and Sicily), Romania, South European Russia, Spain, tropical Africa, Madagascar, Near East and North Africa (Bucciarelli, 1980; Bonadona, 1991; Nardi, 2005).

New species record for Portugal. Rather sporadic and localized, it was recently regarded as new to Spain by Hidalgo & Cárdenas (2003), although *P. compressicollis* was already known from this territory a long time ago. It was cited from the Pyrenees, Barcelona and Murcia, being listed in La Fuente's catalogue (1932). Our specimen was found in a wetland with dense willow forest (RNPB), which complies with Bonadona (1991). This author reports *P. compressicollis* to live under vegetable debris, near the borders of salt or brackish waters.

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