

NOTA / NOTE

The insects of the Gaia Biological Park (northern Portugal) (3rd note): Additions and new distribution data (Insecta: Coleoptera, Hemiptera, Hymenoptera, Mecoptera).

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Abstract: Twenty-three species belonging to the insect orders Coleoptera (10 species), Hemiptera (9), Hymenoptera (3) and Mecoptera (1) are recorded for the first time from the Gaia Biological Park (northern Portugal), raising the combined diversity of these groups to 162 species (106 Coleoptera, 52 Hemiptera, 3 Hymenoptera, and 1 Mecoptera). Additionally, new 1 km U.T.M. squares within the Park are presented for eleven species (6 Coleoptera and 5 Hemiptera). The particular interest of the records of five of the novelties is highlighted.

Key words: Coleoptera, Hemiptera, Hymenoptera, Mecoptera, Gaia Biological Park, northern Portugal, novelties, interesting records.

Resumen: Los insectos del Parque Biológico de Gaia (norte de Portugal) (3^a nota): Adiciones y nuevos datos de distribución (Insecta: Coleoptera, Hemiptera, Hymenoptera, Mecoptera). Veintitrés especies de insectos pertenecientes a los órdenes Coleoptera (10 especies), Hemiptera (9), Hymenoptera (3) y Mecoptera (1) se registran por primera vez del Parque Biológico de Gaia (norte de Portugal), elevando el catálogo combinado de estos grupos a 162 especies (106 Coleoptera, 52 Hemiptera, 3 Hymenoptera y 1 Mecoptera). Se presentan además nuevas cuadrículas U.T.M. de 1 km en el Parque para once especies (6 Coleoptera y 5 Hemiptera). Se comenta el interés especial de los registros de cinco de las novedades.

Palabras clave: Coleoptera, Hemiptera, Hymenoptera, Mecoptera, Parque Biológico de Gaia, norte de Portugal, novedades, registros interesantes.

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Introduction

The Coleoptera and Hemiptera of the Gaia Biological Park (PBG, from the Portuguese "Parque Biológico de Gaia") were recently the subject of two studies (GROSSO-SILVA & SOARES-VIEIRA, 2009a, 2009b) which globally listed 138 species (96 species of Coleoptera and 42 species of Hemiptera). An additional true bug, the North American *Leptoglossus occidentalis* Heidemann, 1910, was subsequently recorded from the Park by GROSSO-SILVA (2010). In the present contribution, which is a result of the same ongoing study of the PBG's invertebrate fauna that originated the three papers mentioned (see details in GROSSO-SILVA & SOARES-VIEIRA, 2009a), we present records of previously unrecorded species (belonging to the orders Coleoptera, Hemiptera, Hymenoptera and Mecoptera) and new distribution data for a number of species already recorded (belonging to the orders Coleoptera and Hemiptera).

Methods

The sampling techniques employed are the same as presented in GROSSO-SILVA & SOARES-VIEIRA (2009a). The species recorded for the first time from the PBG are presented in Table 1 and the new distribution data for the species already recorded are presented in Table 2. As in the previous studies, species' recorded distributions in the Park are presented in 1 km U.T.M. squares. Unless otherwise stated, the specimens studied were collected and identified by the authors and are preserved in the collection of CIBIO-UP. The abbreviation "obs." indicates specimens that were identified in the field and not collected. As in the first paper of this series, a set of photographs taken in the PBG by Jorge Gomes was analysed and a new record was obtained, as mentioned in Table 1.

Results and Discussion

The data presented in Table 1 refers to 23 species which constitute first records for the PBG, belonging to the Coleoptera (10 species), Hemiptera (9), Hymenoptera (3) and Mecoptera (1). As a result, these four orders presently add up to a total of 162 species recorded from the PBG, the Coleoptera inventory now including 106 species, and that of Hemiptera 52 species, while the orders Hymenoptera (3 species recorded) and Mecoptera (1 species) are new for the Park. Additionally, new 1 km U.T.M. squares are presented for 11 (6 Coleoptera and 5 Hemiptera) of the species listed by GROSSO-SILVA & SOARES-VIEIRA (2009a, 2009b), expanding their recorded distribution within the PBG. The records of the following species are considered of particular interest:

- ***Anaesthetis testacea* (Fabricius, 1781) (Col., Cerambycidae)**
Second Portuguese record and the first in over a century in the country. Previously only known from Coimbra (OLIVEIRA, 1891), a record subsequently repeated by the same author and by a number of further authors, without the addition of new information (OLIVEIRA, 1893; BARROS, 1914; LADEIRO, 1947; CAMELO, 1949; VIVES, 1984; GONZÁLEZ PEÑA *et al.*, 2007).
- ***Adalia (Adalia) bipunctata* (Linnaeus, 1758) ssp. *revelierei* Mulsant, 1866 (Col., Coccinellidae)**
Second Portuguese record and a considerable range expansion for this subspecies, whose single Portuguese record was from Aldeia Nova de S. Bento (Serpa), in the south-eastern part of the country (RAIMUNDO & ALVES, 1986).
- ***Scaphidium quadrimaculatum* Olivier, 1790 (Col., Staphylinidae)**
Previously known from only two areas in Portugal: Buçaco and the Peneda-Gerês National Park (north-west of the country), in the latter case from a few localities (HEYDEN, 1870; OLIVEIRA, 1883, 1893; GROSSO-SILVA, 1999; SOARES-VIEIRA & GROSSO-SILVA, 2003).
- ***Eurydema (Rubrodorsalium) ventralis* Kolenati, 1846 (Hem., Pentatomidae)**
The only Portuguese record found in the literature was presented by STICHEL (1962), who mentioned its presence in the country without further detail.
- ***Podops (Petalodera) dilatata* Puton, 1873 (Hem., Pentatomidae)**
Second Portuguese locality. OLIVEIRA (1895) mentioned having a single specimen from the country, without further detail, while SEABRA (1924), who also provided no distributional details, stated that according to Correia de Barros it was not uncommon in the north of Portugal. Therefore, the only Portuguese locality hitherto known was provided by GROSSO-SILVA (2005), who studied a specimen from Outeiro da Vinha (Seia).

Finally, we would like to correct a comment presented in a previous paper. This refers to the first record of *Penthimia nigra* (Goeze, 1778) (Hem., Cicadellidae) from the PBG, which was considered by GROSSO-SILVA & SOARES-VIEIRA (2009b) as a confirmation of the species' presence in Portugal and the first precise locality known in the country. In fact, this leafhopper's occurrence in Portugal had been confirmed by LINDBERG (1960), which makes our previous record the third and our locality the second Portuguese one.

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Table 1. - Additions to the species list with known distributions in the Gaia Biological Park.

Order /Family	Species	Distribution
Coleoptera		
Buprestidae	<i>Chalcophora mariana</i> (Linnaeus, 1758) ssp.	29TNF3749: 17-05-2010 (1)
	<i>massiliensis</i> (Villers, 1789)	
Cantharidae	<i>Rhagonycha (Rhagonycha) galiciana</i> Gougelet & H. Brisout, 1860	29TNF3749: 07-06-2010 (1♂)
Carabidae	<i>Drypta (Drypta) dentata</i> (Rossi, 1790)	29TNF3749: 03-05-2010 (1)
Cerambycidae	<i>Anaesthetis testacea</i> (Fabricius, 1781)	29TNF3749: 06-05-2010 (1)
Chrysomelidae	<i>Hispa atra</i> Linnaeus, 1767	29TNF3749: 17-10-2009 (1 obs.), 17-09-2010 (1 obs.)
	<i>Prasocuris vicina</i> Lucas, 1849	29TNF3749: 03-05-2010 (2)
Cleridae	<i>Necrobia violacea</i> (Linnaeus, 1758)	29TNF3649: 09-06-2009 (1, on a dead Magpie, <i>Pica pica</i>)
Coccinellidae	<i>Adalia (Adalia) bipunctata</i> (Linnaeus, 1758) ssp.	29TNF3749: 17-10-2009 (1)
	<i>revelierei</i> Mulsant, 1866	
Rhynchitidae	<i>Tatianaerhynchites aequatus</i> (Linnaeus, 1767)	29TNF3649: 19-04-2010 (1)
Staphylinidae	<i>Scaphidium quadrimaculatum</i> Olivier, 1790	29TNF3650: 11-04-2010 (1)

Order / Family	Species	Distribution
Hemiptera		
Cicadellidae	<i>Ledra aurita</i> (Linnaeus, 1758)	29TNF3749: 17-06-2010 (1)
Coreidae	<i>Bothrostethus annulipes</i> (Costa, 1843)	29TNF3749: 13-06-2010 (1)
	<i>Centrocoris spiniger</i> (Fabricius, 1803)	29TNF3749: 21-10-2010 (1, Rui Andrade leg.)
Lygaeidae	<i>Melanocoryphus albomaculatus</i> (Goeze, 1778)	29TNF3649: 21-10-2010 (1 obs.); 29TNF3650: 20-11-2009 (1 obs.), 09-03-2010 (3 obs.)
Margarodidae	<i>Icerya purchasi</i> Maskell, 1878	29TNF3749: 30-04-2010 (5 + 15 obs.)
Pentatomidae	<i>Eurydema (Rubrodorsalium) ventralis</i> Kolenati, 1846	29TNF3749: 06-05-2010 (1)
	<i>Podops (Petalodera) dilatata</i> Puton, 1873	29TNF3749: 03-05-2010 (2)
Reduviidae	<i>Rhinocoris cuspidatus</i> Ribaut, 1921	29TNF3749: 13-06-2010 (1)
Scutelleridae	<i>Psacasta (Psacasta) exanthematica</i> (Scopoli, 1763)	29TNF3749: 17-05-2010 (1)
Hymenoptera		
Vespidae	<i>Vespa crabro</i> Linnaeus, 1758	29TNF3649: 27-05-2009 (1 obs.); 29TNF3749: 09-06-2006 (1, photographed by Jorge Gomes), 21-10-2010 (1 obs.); 29TNF3650: 09-06-2008 (3 obs.), 27-05-2009 (1 obs.)
	<i>Vespula germanica</i> (Fabricius, 1793)	29TNF3749: 21-11-2008 (2 obs.)
	<i>Vespula vulgaris</i> (Linnaeus, 1758)	29TNF3749: 21-10-2010 (2)
Mecoptera		
Panorpidae	<i>Panorpa meridionalis</i> Rambur, 1842	29TNF3749: 03-04-2008 (1, Sónia Ferreira leg.), 19-05-2008 (5 obs.), 07-07-2008 (1 obs.), 09-06-2009 (1 obs.); 29TNF3650: 09-06-2008 (1 obs.)

Table 2. - New distribution data for species already recorded from the Gaia Biological Park.

Order / Family	Species	Data from new 1 km U.T.M. squares
Coleoptera		
Cantharidae	<i>Rhagonycha (Rhagonycha) fulva</i> (Scopoli, 1763)	29TNF3650: 25-06-2010 (2 obs.)
Coccinellidae	<i>Adalia (Adalia) decempunctata</i> (Linnaeus, 1758)	29TNF3650: 04-07-2010 (1)
Geotrupidae	<i>Typhaeus (Typhaeus) typhoeus</i> (Linnaeus, 1758)	29TNF3649: 20-10-2009 (1♀ obs.)
Nitidulidae	<i>Cychramus luteus</i> (Fabricius, 1787)	29TNF3650: 06-05-2010 (1)
Meloidae	<i>Lytta (Lytta) vesicatoria</i> (Linnaeus, 1758)	29TNF3749: 17-05-2010 (1 obs.)
Tenebrionidae	<i>Diaperis boleti</i> (Linnaeus, 1758)	29TNF3749: 04-07-2010 (1, found dead)
Hemiptera		
Lygaeidae	<i>Lygaeus equestris</i> (Linnaeus, 1758)	29TNF3650: 21-10-2010 (1 obs.)
Membracidae	<i>Stictocephala alta</i> (Walker, 1851)	29TNF3649: 20-10-2009 (1 obs.)
Pentatomidae	<i>Dolycoris baccarum</i> (Linnaeus, 1758)	29TNF3649: 15-08-2010 (2 obs.)
	<i>Piezodorus lituratus</i> (Fabricius, 1794)	29TNF3650: 19-04-2010 (1 obs.)
Tingidae	<i>Corythucha ciliata</i> (Say, 1832)	29TNF3749: 28-08-2009 (2 obs.)