

New records of exotic arthropods for Azores

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Abstract

Distribution data is added for 27 species in which 14 species are new records for the Azores Archipelago: *Oligonychus perseae* Tuttle, Baker & Abbatiello, 1976, *Tetranychus pinicola* Simon, 1875, *Pholcomma gibbum* (Westring, 1851), *Schistocerca gregaria* (Forsskål, 1775), *Phoracantha recurva* Newman, 1840, *Diachus auratus* Fabricius, 1801 *Phyllotreta procera* (Redtenbacher, 1849), *Phyllotreta striolata* (Illiger, 1803), *Dibolia occultans* (Koch, 1803), *Pseudolynchia canariensis* (Macquart, 1839), *Hermetia illucens* (Linnaeus, 1758), *Dryocosmus kuriphilus* Yasumatsu, 1951, *Ectemnius cephalotes* (Olivier, 1792) and *Cryptoblabes gnidiella* (Millière, 1867).

Keywords: Occurrence, Specimen

Project details

Project title: New findings of terrestrial arthropods from the Azorean islands

Personnel: Paulo A. V. Borges, Mário Boieiro, Zsófia Varga-Szilay, Ricardo Costa, Luís Crespo, Abrão Leite, Raúl Oliveira, Gabor Pozsgai, Carla Rego, Hugo Renato Calado, Mário Brum Teixeira, David H. Lopes, António O. Soares

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Study area descriptions/descriptor: This project was carried out in the Azores archipelago. The Azores are a group of nine volcanic islands located in the North Atlantic Ocean, roughly 1,500 km (930 miles) west of mainland Portugal. The archipelago is divided into three groups: the Eastern Group (São Miguel and Santa Maria), the Central Group (Terceira, Graciosa, São Jorge, Pico, and Faial), and the Western Group (Flores and Corvo).

The islands are characterized by rugged terrain, with steep cliffs, lush greenery, and numerous volcanic craters, some of which have formed lakes. The highest point in the Azores is Pico, a stratovolcano on Pico Island, standing at 2,351 meters above sea level. The climate is temperate and oceanic, with mild temperatures year-round and high humidity, influenced by the surrounding Atlantic Ocean. The islands are known for their diverse landscapes, including native forests.

The geography is largely shaped by human activity, with the landscape dominated by human-transformed habitats, primarily seminatural and intensive pastures used for agriculture, as well as forest plantations. These plantations consist mainly of non-native species such as *Pittosporum undulatum*, *Eucalyptus* species, *Cryptomeria japonica*, *Acacia melanoxylon*, and *Pinus pinaster*. Only about 5% of the archipelago's total area remains covered by native forests, which are now restricted to small patches on steep slopes and less accessible areas.

Design description: The discovery of new species records stems from both ongoing inventory and monitoring efforts aimed at enhancing our understanding of Azorean terrestrial arthropod biodiversity, as well as from incidental sampling. The application of standardized sampling techniques has been crucial in this process, including methods to monitor ground-dwelling and canopy arthropods (the BALA protocol, developed under the Biodiversity of Arthropods of Laurisilva of Azores project), airborne arthropods (the SLAM protocol, from the Sea, Land, Aerial Malaise project), and insect pollinators (the SPRING protocol, established by the Strengthening Pollinator Recovery through INDicators and monitorinG project). These standardized approaches have led to the identification of new species at both the island and archipelago level.

Data published through GBIF: http://ipt.gbif.pt/ipt/resource?r=new_records

Taxonomic coverage

General taxonomic coverage description: The following groups were studied: Arachnida - Acarina (Tetranychidae); Araneae (Agenelidae, Linyphiidae, Salticidae, Theridiidae,

Zoropsidae).

Insecta - Orthoptera (Acrididae, Trigonidiidae); Hemiptera (Nabidae); Coleoptera (Cerambycidae, Chrysomelidae, Curculionidae); Diptera (Calliphoridae, Hippoboscidae, Stratiomyidae, Syrphidae); Lepidoptera (Pyralidae); Hymenoptera (Chrysididae, Crabronidae, Cynipidae, Halictidae, Megachilidae, Vespidae)

Taxonomic ranks

Kingdom: Arthropoda

Class: Arachnida, Insecta

Common names: Arthropods, Arachnids, Insects

Spatial coverage

General spatial coverage: Azores Archipelago

Coordinates: 36°52'48"N and 39°37'22.8"N Latitude; 31°19'58.8"W and 24°48'25.2"W
Longitude

Temporal coverage: August 11, 2015 - August 29, 2024

Natural collections description

Collection name: Entomoteca Dalberto Teixeira Pombo (DTP)

Collection identifier: DTP

Specimen preservation method: Alcohol

Methods

Method step description: Nomenclature follows the accepted last taxonomic literature for each taxon

Study extent description: The studies were carried out in the Azores archipelago, which is located in the North Atlantic. The archipelago has nine islands distributed among three island groups. Data is available for Flores (Occidental Group), Faial, Pico, São Jorge and Terceira (Central Group) and São Miguel and Santa Maria (Oriental Group)

Sampling description: The new species records result both from ongoing inventory/monitoring efforts to improve the knowledge on the Azorean terrestrial arthropod biodiversity, but also from occasional sampling. The use of standardized sampling techniques to monitor epigeal and canopy arthropods [BALA protocol, following Biodiversity of Arthropods of Laurisilva of Azores (BALA) project], airborne arthropods [Sea Land Aerial Malaise protocol, following Sea, Land, Aerial Malaise (SLAM) project], and insect pollinators [SPRING protocol, following Strengthening Pollinator Recovery through INDicators and monitorinG (SPRING) project] led to the collection of new species findings at island or archipelago level

Quality control description: The specimens were identified to species level in the laboratory using a Leica S9i stereomicroscope and diverse taxonomic literature. All collected specimens

were stored in vials with ethanol (70%) and deposited in the Dalberto Pombo entomological collection (DTP) at the University of the Azores (Angra do Heroísmo, Portugal).

Datasets

Dataset description

Object name: Darwin Core Archive New records of exotic arthropods for Azores

Character encoding: UTF-8

Format name: Darwin Core Archive format

Format version: 1.0

Distribution: http://ipt.gbif.pt/ipt/archive.do?r=new_records

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Hierarchy level: Dataset