

First record of *Perillus bioculatus* (Fabricius, 1775) (Hemiptera: Heteroptera: Pentatomidae: Asopinae) in Italy

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Abstract. *Perillus bioculatus* (Fabricius, 1775) (Hemiptera: Heteroptera: Pentatomidae: Asopinae) is reported for the first time in Italy. Several specimens were attracted by the abundance of *Ophraella communa* LeSage, 1986 (larvae) (Coleoptera: Chrysomelidae: Galerucinae) on *Ambrosia artemisiifolia*. The distribution of the species in Europe is summarised.

Key words: true bugs, Pentatomoidea, Asopinae, distribution, new record, Europe, Mediterranean Region, Italy.

Introduction

Perillus bioculatus (Fabricius, 1775) (Hemiptera: Heteroptera: Pentatomidae: Asopinae) is a predaceous Nearctic bug species which was introduced to various European countries as a biological pest control in attempts to control the invasive Colorado Potato Beetle *Leptinotarsa decemlineata* Say, 1824 (Coleoptera: Chrysomelidae) (Kóbor & Brhane 2024).

Perillus bioculatus has established self-sustaining populations in various European countries. So far, the presence of the species has been reported for Bosnia and Herzegovina, Bulgaria, Greece, Hungary, Kosovo, Moldova, Romania, Russia, Serbia, Türkiye and Ukraine (Protić et al. 2022; Aukema 2024; Bašić et al. 2024; Kóbor & Brhane 2024).

In the present paper we report the first record of *P. bioculatus* from Italy: on 26.09.2024, adult specimens (Figs. 1 and 2) were observed south of the village of Staranzano, located in northeast Italy (Gorizia province) near the border with Slovenia. This record is the westernmost site of the species in Europe reported so far and the first one west of the Dinaric Alps.

Furthermore, interesting photographic records of observations of *P. bioculatus* from Austria, Croatia and North Macedonia were uploaded to the online database iNaturalist (2024).

Listed records

After the first photographic report on iNaturalist, by one of the authors (L. Morin), numerous specimens were collected and/or photographed in several localities of eastern Friuli-Venezia Giulia (Fig. 3). The list of discovery stations with geographical coordinates is provided below. The sampling period dates back to September 2024.



Fig. 1. Specimen of *Perillus bioculatus* (Fabricius, 1775), near Staranzano, Italy (photo: Lucio Morin).



Fig. 2. Specimen of *Perillus bioculatus* (Fabricius, 1775), near Staranzano, Italy (photo: Lucio Morin).



Fig. 3. Prepared specimens of *Perillus bioculatus* (Fabricius, 1775) (photo: Lucio Morin).

Material

ITALY: Friuli-Venezia Giulia: **Gorizia province:** Staranzano, loc. Bistrigna, 45.795432, 13.509203, 26.09.-08.10.2024, plurimi (more than 50 spec.), Lucio Morin legit and Andrea Porcile observed, former cultivated field, now uncultivated, on *Ambrosia artemisiifolia*; San Canzian d'Isonzo, 45.793292, 13.463323, 30.09.2024, Gianni Zuttion observed 1 spec., on house wall; Ronchi dei Legionari, 45.824007, 13.824007, 30.09.2024, Lucio Morin legit, 1 spec., on house wall; Monfalcone, 45.807505, 13.510403, 08.10.2024, Lucio Morin legit, 1 spec., uncultivated meadow; San Pier d'Isonzo, surroundings of the Isonzo river, 45.852530, 13.460398, 08.10.2024, Lucio Morin legit, 1 spec., former cultivated field, now plowed but uncultivated, on *Ambrosia artemisiifolia*. **Pordenone province:** Sequals, 46.142044, 12.857793, 16.10.2024, Gianluca Governatori legit, 1 spec.



Fig. 4. Collecting site near Staranzano, Italy (photo: Lucio Morin).

Discussion

Staranzano (Gorizia) (Fig. 4) is the site with the most observations of *P. bioculatus*: around 50 specimens, of which 10 are light-coloured, and the rest are red. All specimens were collected or seen on or near *Ambrosia artemisiifolia* (Asteraceae) (Staranzano and San Pier d'Isonzo sites), probably attracted by the abundance of *Ophraella communa* LeSage, 1986 (larvae) (Coleoptera: Chrysomelidae: Galerucinae). In Europe, this species was recorded for the first time in Italy (Boriani et al. 2013). *O. communa* originates from the Nearctic region and is reported in China, Japan, Korea and Taiwan.

It is an oligophagous insect reported to feed on some members of the family Asteraceae, tribe Heliantheae (Boriani et al. 2013).

The host plant, *A. artemisiifolia* (EPPO (2013): List of Invasive Alien Plants), has a strong negative impact on some crops such as sunflower. It also presents a high criticality for human health, as pollen is highly allergenic. In Italy, over a large area including Bergamo, Como, Cremona, Lecco, Lodi, Milan, Novara, Vercelli, Pavia and Varese, massive attacks by *O. communa* with strong defoliation and visible damage to *A. artemisiifolia* were observed. As a potential biological control agent against *A. artemisiifolia* it was also introduced to Australia and used successfully in China and other European countries (EPPO, 2013). For this reason, *O. communa* is a species considered "useful" as an active defoliant of *A. artemisiifolia* and, consequently, in the present circumstance, according to the criteria of human economy, *P. bioculatus* becomes an "intra guild" predator. This stink bug initially used as an auxiliary in the specific control of *L. decemlineata*, is now becoming a basic predator on several species of Coleoptera of the family Chrysomelidae (including *Chrysomela populi* Linnaeus, 1758 (Fig. 5)) and could create cases of negative impact on the ecosystem.

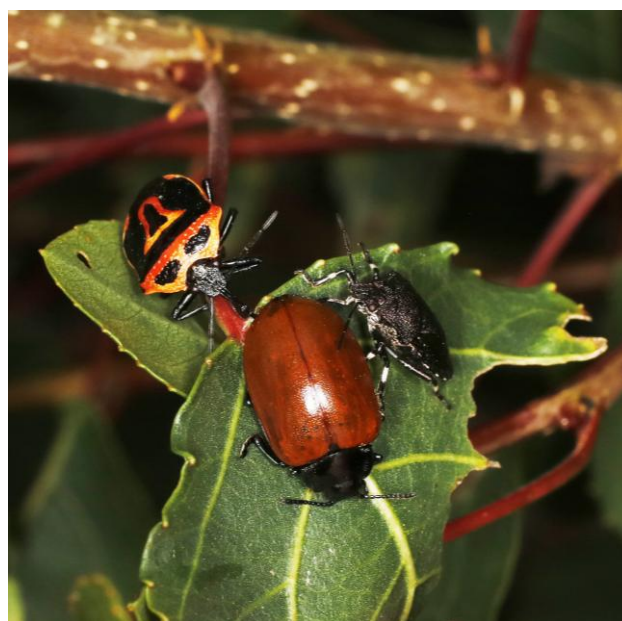


Fig. 5. Specimen of *Perillus bioculatus* (Fabricius, 1775) (left) and specimen of *Rhacognathus punctatus* (Linnaeus, 1758) (right) feeding on specimen of *Chrysomela populi* Linnaeus, 1758, near Staranzano, Italy (photo: Andrea Porcile).

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