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Attalus minimus (Insecta, Melyridae) recently rediscovered in South Tyrol after 109 years

Abstract

Attalus minimus is here reported with three independent findings for South Tyrol after the last record in 1911. This rediscovery was possible thanks to sightings reported by three different observers on the social media and citizen science platform iNaturalist.org.

Keywords: iNaturalist, *Attalus minimus*, Melyridae, Coleoptera

Introduction

Attalus minimus (Rossi, 1790) is a Melyrid species considered to have a Western-Mediterranean distribution (Mayor 2007). In Italy, the species is reported to occur from north to south including the islands of Sicily and Sardinia (Pasqual 2010).
Imagos can be found from the end of March to mid-July (Pasqual 2007) on flowers and herbs and, as common in Melyridae Malachiinae, they are pollen feeders and partially zoophagous. Larvae are zoophagous and develop at the expense of xylophagous arthropods under the bark of trees and in the stems of bushes: Papi & Franzini (2018) report hatching of an adult from decaying *Vitis vinifera*.
The historical records in the autonomous province of South Tyrol start with Vinzenz Maria Gredler, who recorded the species in 1873 in Appiano / Eppan (Kahlen 2018). The last confirmed sighting dates to 1911, reported by Josef Ratter in Laives / Leifers (Kahlen 2018). Evers (1979) cited the species for South Tyrol without further details. Finally, in his recent monography on the Coleoptera of South Tyrol, Kahlen (2018) describes the species as "lost" for the province.
Here we report three independent findings that denote the presence of the species in the province, discussing if it was rather overlooked in the past or if the present records are the result of a recent recolonization.

Methods

The attention toward this species aroused after the finding by the first author and the identification and confirmation by the second author. Other records were then searched in the social media platform iNaturalist.org (https://www.inaturalist.org/), which is locally increasingly used (Guariento et al. 2019). All records of the superfamily Cleroidea were filtered and visually controlled by the first author, all records resembling *Attalus* were then revised by the second author. In this way, two more records were discovered in the area of Bolzano / Bozen. No targeted search for the species has been carried out to date.

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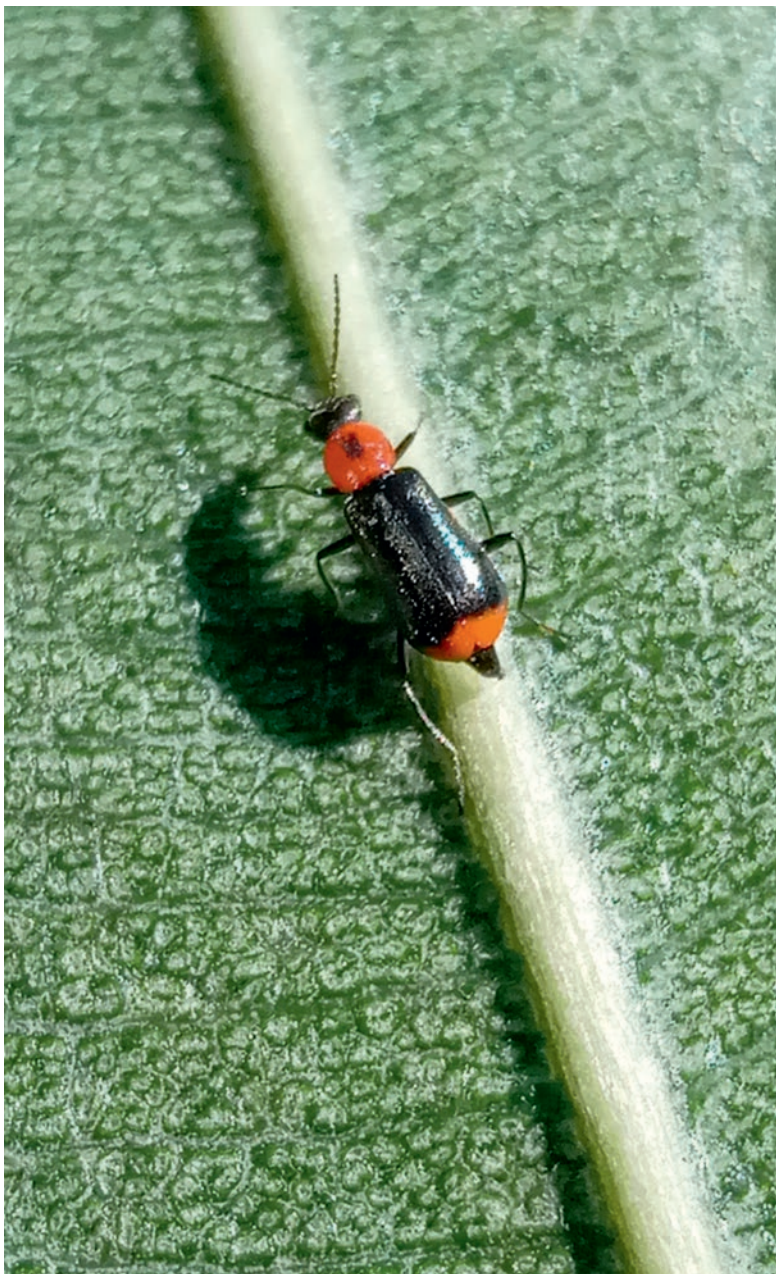

Fig. 1: *Attalus minimus* spotted in Merano / Meran (Photo by Elia Guariento; 19.03.2021)

Results

The chronological first observation was made by Benno Baumgarten on April 14, 2020 in the vicinity of Bolzano / Bozen at the entrance of the Sarentino / Sarntal valley (WGS84: 46.52430 N, 11.36374 E; 370 m a.s.l.; link to the first record: https://www.inaturalist.org/observations/43130224).
The second observation was made by the first author on March 19, 2021 in an internal courtyard in Merano / Meran (WGS84: 46.67387 N, 11.15223 N; 360 m a.s.l.; link to the second record: https://www.inaturalist.org/observations/71547851). A single individual was spotted on an oleander, a few pictures were taken (Fig. 1) and uploaded to iNaturalist, first without recognizing it as *Attalus minimus*.
The third observation was made by Karim Fallaha on May 3, 2021 at the street intersection of Via Leonardo da Vinci and Via Cassa di Risparmio in the center of Bolzano / Bozen (WGS84: 46.49904 N, 11.34919 E; 270 m a.s.l.; link to the third record: https://www.inaturalist.org/observations/76874696).

Discussion

It is conceivable that *Attalus minimus* was overlooked in the area since it is a rather small and inconspicuous beetle and its phenology is relatively short. Further, *A. minimus* resembles closely a wider distributed and relatively abundant species, *Attalus analis,* so that it is possible that collectors and observers have overlooked individuals of *A. minimus* over the last century (M. Kahlen, personal communication).
An alternative interpretation is that the species went indeed locally extinct and has recolonized the area only in recent years, favored by recent climate change (Zebisch et al. 2018). Other termophilous insect species that have recently established in the area actually appear to be favored by climate change and movement of people and goods, especially in lower elevation and urbanized areas (e.g. Ballini & Wilhalm 2014; Guariento & Demetz 2019).
Because the species was independently recorded at three locations in two different years it can be assumed to be permanent in the area.

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