

**Short scientific note**Submitted: May 9<sup>th</sup>, 2020 - Accepted: June 10<sup>th</sup>, 2020 - Published: November 15<sup>th</sup>, 2020**First records of *Brachycrotaphus tryxalicerus* (Fischer, 1854) in the Italian Peninsula (Orthoptera: Acrididae)**Valerio VIGLIOGLIA<sup>1</sup>, Giuseppe Maria CARPANETO<sup>2,\*</sup>, Bruno MASSA<sup>3</sup><sup>1</sup> Via Flavio Stilicone 208, I-00175 Roma, Italy - acherontyus@yahoo.it<sup>2</sup> Department of Science, Roma Tre University - Viale G. Marconi 446, I-00146 Roma, Italy - giuseppe.carpaneto@uniroma3.it<sup>3</sup> Department of Agriculture, Food and Forest Sciences - Viale delle Scienze 13, I-90128 Palermo, Italy - bruno.massa@unipa.it

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**Abstract**

The authors report the first data of an Afrotropical and Mediterranean grasshopper, *Brachycrotaphus tryxalicerus*, for the Italian peninsula. In the Mediterranean area this species had been previously found only in Spain, Sicily and Egypt. A basic habitat description with details on the dominant vegetation is given for each locality of the Italian peninsula. Both these sites are subject to hot dry summers and rainy winters. Further investigations should be carried out in other Italian regions and in the Maghreb to search this species where it was never observed.

**Key words:** extra-Palaeartic fauna, Afromediterranean chorotype, grasshoppers, relict geographic range.

*Brachycrotaphus tryxalicerus* is a medium-sized, light brown colored and very slender grasshopper, with long wings and a conical head. It can be distinguished from representatives of the similar genus *Ochrilidia* by the longer vertex and the presence of a small tubercle between the base of each fore leg and the widened costal area of the male. In addition, the male of *B. tryxalicerus* has a short ridge of teeth in the inner side of hind tibia. It lives in dry grasslands, mostly in the coastal zone. The adults can be found in summer and autumn (Massa et al. 2012; Iorio et al. 2019). In Italy, *B. tryxalicerus* is known only from the eastern tip of north-eastern Sicily and the Aeolian islands; in the Mediterranean area it is also known for Egypt and Spain.

The present note reports the occurrence of this species in two new Italian localities, namely in Calabria and Latium, showing that this species has so far escaped the investigations of entomologists in the regions of peninsular Italy, of course not well explored from the orthopterological point of view.

**Known distribution.** The distribution of *B. tryxalicerus* covers mainly Africa south of Sahara, but it was described by Fischer (1853) from one female collected at Messina (Sicily) by Zeller in August 1844. Subsequent authors quoted this species for other localities from the provinces of Messina and Catania: Lipari (Aeolian Islands) and Taormina (Riggio & Pajno 1886-87; Riggio 1891; Baccet-

ti 1959); Torrente Gammare/Catarratti (Messina) (Ramme 1927; Massa 2011); other Aeolian Islands i.e. Vulcano, Salina, Filicudi, Stromboli, Panarea (Failla et al. 1973; Fontana et al. 2005); Castoreale (Messina), Adrano (Catania) (Fontana et al. 2005; Massa 2011). Riggio (1891) listed it also from the locality “Bosco” between Partinico and Alcamo (Palermo) in the western Sicily, but the presence in this locality has not been confirmed. According to Failla et al. (1973), in Sicily, this species lives along the coast from Messina to Siracusa, but most specimens examined in the Italian collections by Fontana et al. (2005) had been collected from Messina province (only one record, Adrano, is from the northern part of Catania province, almost 30 km from the sea coast). *B. tryxalicerus* was found also in Spain, where it was described as *Ochrilidia boscae* Cazzurro & Ruiz, 1886 (type locality: Jativa, Valencia) and synonymized by Uvarov (1932) with *B. tryxalicerus*. Uvarov (1932) reported it also from Sta Coloma de Gramanet, Barcelona; Herrera (1982) quoted it of Barcelona, Tarragona, Castellón, Valencia, Alicante, Huelva. Many localities of Catalonia were subsequently added by Olmo-Vidal (2006). On the whole, in Spain the species is known from Catalonia along all the Mediterranean coast to the district of Huelva in the Atlantic coast. Finally, the species has also been recorded from Cairo, Egypt (Massa 2010). The presence in Palestine reported by Failla et al. (1973) is probably due to a misunderstanding, because among the synonyms of *Ochrilidia tibialis* (Fieber, 1853)

there was also *Ochrilidia tryxalicera* Stål, 1873 (a valid species from Sudan). No records of *B. tryxalicerus* are known from the Middle East and from Palestine in particular (Fishelson 1985).

**New data from Italy:** Latium: Sperlonga (Latina province), Punta Cetarola 41,254905° N - 13,465419° E, 200 m a.s.l., 23-25.IX.2008, V. Viglioglia leg. (2♂♂ Coll. B. Massa, Palermo; 1♀ Coll. V. Viglioglia, Roma) (Habitat: Fig. 1; Habitus: Fig. 3); Calabria: 2 km north of Melito di Portosalvo (Reggio Calabria province) 37,936881° N - 15,785872° E, 120 m a.s.l., 4.IX.2017, V. Viglioglia leg. (1♀, Coll. V.

Viglioglia, Roma) (Habitat: Fig. 2; Habitus: Fig. 4-5); Sicily: Punta Milazzo (Messina province), 1-2.V.2000, B. Massa leg. (1♂, 3♀, Coll. B. Massa, Palermo).

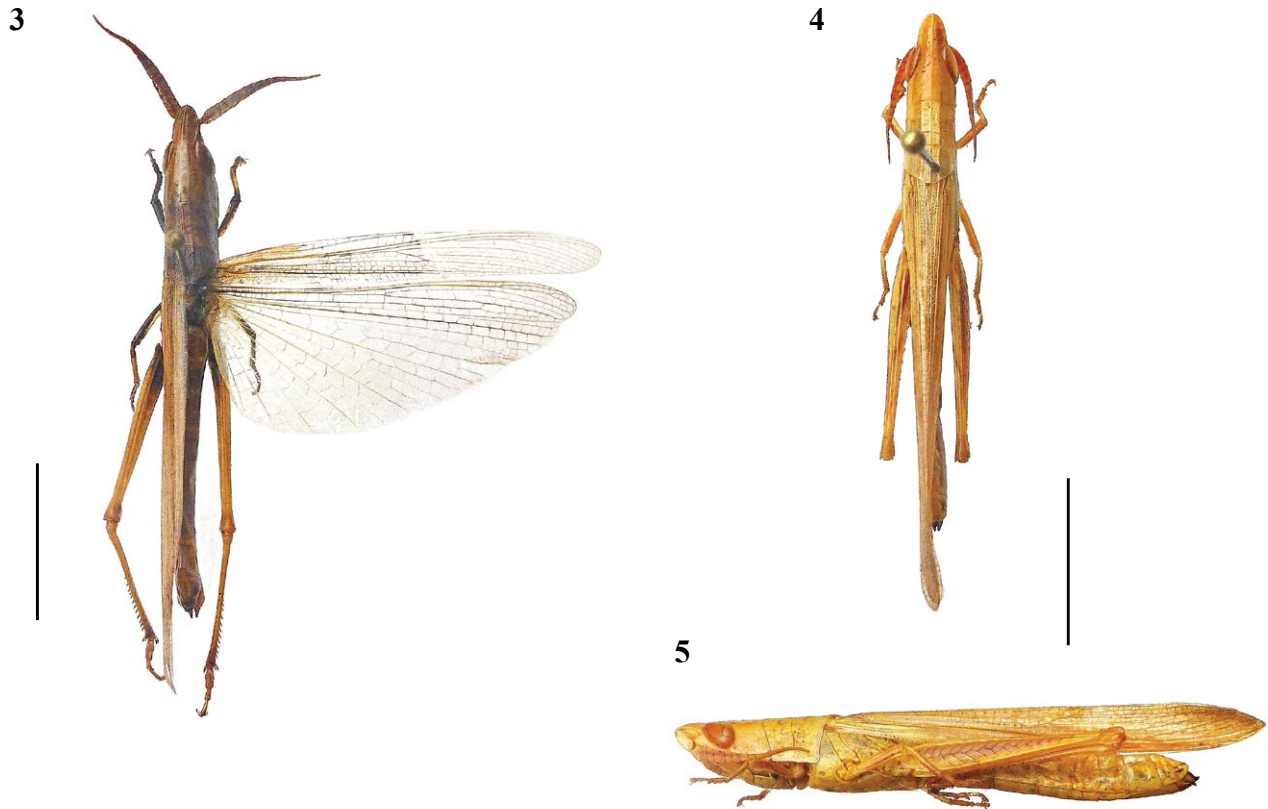
The environmental features of the Latial and Calabrian localities reflect the ecology of the species, being hot grass-dominated places albeit with different characteristics. The Punta Cetarola site (Fig. 1) is located within the massif of the Aurunci mountains, in a mediterranean garrigue on limestone rocky hills, with high winter rainfall and hot dry summer (Di Pietro et al. 2016). The spot where the species was collected is located on the southern slope of a hill dominated by *Ampelodesmos mauritanicus* stands, fa-



**Fig. 1** – Habitat view of *Brachycrotaphus tryxalicerus*: Punta Cetarola (Latium: Sperlonga) (photo by P. Mazzei).



**Fig. 2** – Habitat view of *Brachycrotaphus tryxalicerus*: Melito di Portosalvo (Reggio Calabria) (photo by V. Viglioglia).



**Figs 3-5** – Habitus of *Brachycrotaphus tryxalicerus* (bar: 1 cm): **3**, a female specimen in dorsal view with right wing open, from Punta Cetarola (Latium: Sperlonga); **4**, a female specimen in dorsal view from Melito di Portosalvo (Reggio Calabria); **5**, a female specimen in lateral view from Melito di Portosalvo (Reggio Calabria); (photo by V. Viglioglia).

vored by frequent fires set to allow goat grazing. Among the shrubs, the most abundant were *Pistacia lentiscus*, *Salvia rosmarinus*, *Myrtus communis*, *Spartium junceum* and *Quercus suber* which remained at this level for the continuous effect of grazing and fire. The Melito di Portosalvo site (Fig. 2), at the southernmost tip of Calabria, is situated on metamorphic rocks with clay soil in a warm semi-arid climate belt where rainfall is concentrated in winter (Critelli et al. 2017). The area where the specimen was collected is characterized by degraded meadows with citrus crops, on terraced and South facing slopes. The spot was a thick grassy flat area surrounded by giant canes (*Arundo donax*). Other dominant plants were the sticky fleabane (*Dittrichia viscosa*) and castor oil plant (*Ricinus communis*). The pictures in Figs 1-2 show as the species is able to live in different stages of Mediterranean habitat degradation.

**Remarks.** The current presence of *Brachycrotaphus tryxalicerus* in the Italian Peninsula let us suggest that the distribution of this species is poorly known, probably because of its hard detectability and elusive behavior but also due to the scarcity of orthopterological research. The presence of *B. tryxalicerus* in the Aeolian Islands is surely due to passive dispersal because they are of volcanic origin and never had land connections with Sicily or It-

aly. Moreover, its presence in peninsular Italy and Sicily should be considered as the trace of an ancient distribution range all over the southern Mediterranean region, presently reduced to scattered areas of Iberian and Italian Peninsulas, Sicily and Egypt. The absence of this species from the Italian lists of Orthoptera is certainly due to scarcity of grasshopper research, mainly along the coasts. Probably, also the absence from North Africa is due to the lack of aimed orthopterological investigations in suitable habitats for this species.

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