

New record of *Tentyria* Latreille, 1802 (Coleoptera, Tenebrionidae) as host of *Poecilotiphia rousseii* (Guérin, 1838) (Hymenoptera, Tiphidae)

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ABSTRACT An attack of *Poecilotiphia rousseii* (Guérin, 1838) (Hymenoptera Tiphidae Myzininae Meriini) on a larva of *Tentyria* Latreille, 1802 (Coleoptera Tenebrionidae) is reported from sand dunes of Porto Ferro (Sassari, NW-Sardinia, Italy). Only one previous record of Meriini hosts is known and it also regarded a larva of *Tentyria*.

KEY WORDS Myzininae, Meriini, Aculeata, Foraging, Prey.

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On September 7th 1997, during a field survey of ant-lion larvae in the sand dunes of Porto Ferro (Sassari, Sardinia, Italy; 40°40'55"N 8°12'20"E), one of the Authors (RAP) observed a larva of Coleoptera (around 2 cm long) tumbling and shaking on the ground. On prompt examination, he could see a tiny adult Hymenoptera that was attacking the larva. Both were immediately collected.

The adult Hymenoptera (Fig. 1) was identified as a female of *Poecilotiphia rousseii* (Guérin, 1838), a Tiphidae of Myzininae subfamily and Meriini tribe.

The larva of Coleoptera (Fig. 2) is a Tenebrionidae. Following the papers of Böving & Craighead (1931), Marcuzzi & Rampazzo (1960) and Sanchez et al. (1985), it was recognized as a *Tentyria* Latreille, 1802. In the area of the sand dunes of Porto Ferro there are three species of *Tentyria* particularly *T. grossa sardiniensis* Ardoin, 1973, *T. ligurica confusa* Ardoin, 1973, *T. rugosa floresii* Gené, 1836 (P. Leo, in litteris).

Regarding the four tribes of the subfamily Myzininae (Hymenoptera Tiphidae) (Boni Bartalucci, 2004) we know well, by repeated and exhaustive observations, that the larval hosts of



Figure 1. Female of *Poecilotiphia rousseii* (Hymenoptera Tiphidae) attacking a larva of *Tentyria* (Coleoptera Tenebrionidae) in Porto Ferro 7th September, 1997 (R. A. Pantaleoni legit). Photo by Marcello Romano (scale 1 mm).



Figure 2. Larva of *Tentyria* (Coleoptera Tenebrionidae) attacked by a female of *Poecilotiphia roussellii* (Hymenoptera Tiphidae Myzininae Meriini) in Porto Ferro 7th September, 1997 (R. A. Pantaleoni legit). Photos by Carlo Cesaroni (scale 1 mm).

the tribe Myzinini (with Nearctic and Neotropic distribution) attack the larvae of soil-dwelling scarab beetles (Krombein, 1938). In the tribe Mesini we found a further well-known case, the genus *Hylomesa* Krombein, 1968 (with Afrotropical and Oriental distribution) adapted to attacking wood-boring cerambycid larvae (Krombein, 1968). Only hypotheses are possible in the cases of the other genus of Mesini, *Mesa* Saussure, 1892, and of the tribe, with Australian distribution, Austromyzini. It would not be surprising if both attacked scarab beetle larvae too. Records about cicindelid larvae as hosts refer to *Pterombrus* (e. g. Goulet & Huber, 1993; O'Neill, 2001) which actually should be removed from Myzininae and probably connected to Methochinae.

Regarding the last tribe Meriini, the most abundant in the Euro-Mediterranean region, only one previous record on the hosts is known. Actually Ferton (1911), on the "naked sable" (dune ?) in La Calle (today El Kala, El Tarf, Algeria), observed the attack of a female on a larva of *Tentyria* sp. The female was described as the new species *Myzine andrei* Ferton, 1911, junior synonym of *Poecilotiphia roussellii* (Guérin, 1838) (Boni Bartalucci, 1994).

Our record reflects Ferton's old observation. Consequently it is confirmed that *Poecilotiphia*

roussellii (Guérin, 1838) attacks larvae of *Tentyria* in order to supply food for their offspring. Whereas all the Meriini live in xerothermic habitats, if not in deserts, where the species of Tenebrionidae are particularly abundant, the hypothesis that the foraging activity of the members of the tribe Meriini are focused on the larvae of Tenebrionidae appears very plausible.

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REFERENCES

- Boni Bartalucci M., 1994. Taxonomy of the mediterranean Myzininae (Hymenoptera: Tiphidae). *Opuscula Zoologica Fluminensia*, 121: 1-23.
- Boni Bartalucci M., 2004. Tribe groups of the Myzininae with special regard to the palaeartic taxa of the tribe Meriini (Hymenoptera Tiphidae). *Linzer Biologische Beiträge*, 36: 1205-1308.
- Böving A.G. & Craighead F.C., 1931. An illustrated synopsis of the principal larval forms of the order Coleoptera. The Brooklyn Entomological Society, Brooklyn, New York, VIII + 351 pp.
- Ferton C., 1911. Notes détachées sur l'instinct des hyménoptères mellifères et ravisseurs (7ème serie) avec la description de quatre espèces nouvelles. *Annales de la Société entomologique de France*, 80: 351-412.
- Goulet H. & Huber J. T., 1993. Hymenoptera of the world: an identification guide to families. Research Branch Agriculture Canada, Ottawa, 668 pp.
- Krombein K.V., 1938. Studies in the Tiphidae II. A revision of the Nearctic Myzininae. *Transactions of the American Entomological Society*, 64: 227-292.
- Krombein K.V., 1968. Studies in the Tiphidae. X. *Hylomesa*, a new genus of Myzininae wasp parasitic on larvae of longicorn beetles (Hymenoptera). *Proceedings of the United States National Museum*, 124: 1-22.
- López Sánchez S., de los Santos A. & Montes C., 1985. Estudio morfológico de la forma larvaria de *Tentyria platiceps* Stev. 1829 (Col. Tenebrionidae). *EOS*, 41: 173-182.
- Marcuzzi G. & Rampazzo L., 1960. Contributo alla conoscenza delle forme larvali dei Tenebrionidi (Col. Heter.). *EOS*, 36: 63-117.
- O'Neill K.M., 2001. Solitary Wasps: Natural History and Behavior. Cornell University Press, Ithaca, New York, XIII + 406 pp.