

First record of *Neoscona byzanthina* (Pavesi, 1876) (Arachnida Araneae) from Italy

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ABSTRACT

Neoscona byzanthina (Pavesi, 1876) (Arachnida Araneae Araneidae) is reported for the first time in Italy. Following the original description from Turkey and one report for Greece, the species has long been considered a synonym of *Neoscona adianta* (Walckenaer, 1802). Recently, it was re-established as a valid name and documented for France and Spain.

KEY WORDS

Araneidae; citizen science; distribution; Italian spiders.

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INTRODUCTION

Neoscona byzanthina (Pavesi, 1876) (Araneidae) is a poorly investigated orb-weaver spider which has been recently recognized as a valid species by Ledoux (2008). The species was independently described by Pavesi (1876, as *Epeira byzanthina*) and Simon (1879, as *Epeira turcica*) on specimens collected in Istanbul (Turkey). Simon (1884) then recognized the priority of *E. byzanthina* when reporting the species for the first time from Greece (Euboea Island). Later, the two names were both put by Simon (1929) as synonyms of *Neoscona adianta* (Walckenaer, 1802), a widespread species in Europe. Only recently, Ledoux (2008) reestablished *Neoscona byzanthina* as distinct from the similar *N. adianta* by a series of morphological characters, including genitalia. The same author reported the species from France and later a single female was collected in Spain (Estremadura) by Mora-Rubio (2019), who completed the description of the female epigyne. Regarding Italy, a single photo of a female from

Tuscany (Subbiano) has been included in the web catalog by Nentwig et al. (2016) as a record requiring confirmation. For this reason, the species has been deliberately omitted in the recent checklist by Pantini & Isaia (2019).

DISCUSSION AND CONCLUSIONS

On September 25, 2019, some specimens (4 females, 1 male) were collected in a dry grassland located in Piana degli Albanesi (Palermo, 37°58'44.3"N 13°14'43.5"E, 760 m). All the specimens examined clearly correspond to the species diagnosis of Ledoux (2008): length of female tibia IV > 2.63 mm (3.7–4.8 mm in our specimens); distinctive dorsal habitus; apical region of femurs darkly annulated; epigyne elongated and rounded at the distal end. The epigyne posterior view is almost identical to that presented by Mora-Rubio (2019). We thus confirm the usefulness of this character for a complete diagnosis of *N. byzanthina*.

In the last decade, several photographic records of *N. byzanthina* occurred on the web uploaded by citizens. We thus revised these photos on web platforms like www.inaturalist.org (iNaturalist), www.naturamediterraneo.com (FNM), www.entomologiitaliani.net (FEI) and <https://forum.aracnofilia.org/> (FA). We considered only good quality pictures that clearly represent at least two diagnostic characters, like dorsal habitus and the apical region of femurs darkly annulated (Ledoux, 2008). New first occurrence records were found for many Italian regions. Piemonte: Alessandria, Fraconalto, loc. Piano dei Grilli, Jun 2008, 1 female (FNM). Liguria: Genova, Caprieto, loc. Vobbia, 30 Aug 2015, 1 female (FEI); Genova, Mount Fasce, Sep 2013, 1 female. Emilia-Romagna: Modena, Sestola, loc. confluence of Scoltenna and Panaro rivers (www.entomodena.com); Forli-Cesena, Sogliano al Rubicone, 12 Oct 2018, 1 female (www.inaturalist.org/observations/17430182); Reggio Emilia, Toano, loc. Cisana, 15 Aug 2010, 1 female (FNM); Bologna, Bologna hills, 19 Sep 2009, 1 female (FNM); Bologna, Imola, Sep 2014, 1 female (FNM). Toscana: Firenze, Sesto

Fiorentino, loc. Parco della Piana, 08 Aug 2018 (FNM); Arezzo, Subbiano, 29 Aug 2010, 1 female (www.araneae.nmbe.ch); Pisa, 06 Aug 2013, 1 female (FNM). Umbria: Perugia, Gubbio, loc. Mengara, 01 Aug 2019, 1 female (FNM). Marche: Macerata, Mount San Vicino, 24 Aug 2013, 1 female (FNM). Lazio: Roma, Mentana loc. Macchia di Gattaceca, 07 Sep 2010, 1 female (FNM); Roma, Guidonia Montecelio, 428m, 17 Aug 2016, 1 female (www.inaturalist.org/observations/3938945); Roma, loc. Appia Antica, 01 Jul 2010, 1 female (FNM). Abruzzo: L'Aquila, Massa d'Albe, loc. Alba Fucens, 27 Oct 2009, 1 female (FEI). Puglia: Brindisi, Latiano, uncultivated meadow among dry shrubs, 09 Sep 2019, 1 female (FA); Foggia, Mount Calvo, 850 m, 09 Sep 2014, 1 female (FNM); Foggia, Manfredonia, 550 m, Oct 2014, 1 female (FNM); Altopiano delle Murge, Sep 2009, 1 female (FNM). Sicilia: Enna, Troina, 1050 m, 03 Sep 2011, 1 female (FNM). Sardegna: Sassari, Usini, 02 Aug 2010, 1 female (FNM); Sassari, Osilo, 01 Oct 2010, 1 female (FNM). These data suggest a wide distribution of the species, which probably remained overlooked due to the synonymy with



Figure 1. *Neoscona byzanthina* female from Sicily, predated a grasshopper. Photo by I. Gurreri.

Neoscona adianta. Ledoux (2008) claimed that the two species are sympatric, observing that *N. byzanthina* prefers more humid conditions in proximity to the coasts or near rivers in France. Mora-Rubio (2019), in contrast, reported the species for an open holm-oak dehesa in Spain, that reflects the dry grasslands where we collected our specimen in Piana degli Albanesi. Further research is thus necessary to understand the ecology of this species in relation with *N. adianta*.

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