

Notas / Notes

First record of *Neoscona byzanthina* (Pavesi, 1876) (Araneae, Araneidae) from the Iberian Peninsula

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ABSTRACT

Neoscona byzanthina (Pavesi, 1876) (Araneae, Araneidae) is reported for the first time in the Iberian Peninsula. The specimen was captured on October 2018 in a holm-oak dehesa (Extremadura, Spain).

Key words: *Neoscona byzanthina*; Araneae; Araneidae; distribution; Iberian Peninsula.

RESUMEN

Primera cita de *Neoscona byzanthina* (Pavesi, 1876) (Araneae, Araneidae) en la Península Ibérica

Se hace referencia a la primera observación de *Neoscona byzanthina* (Pavesi, 1876) (Araneae, Araneidae) de la Península Ibérica. El ejemplar fue capturado en octubre de 2018 en un encinar adhesado (Extremadura, España).

Palabras clave: *Neoscona byzanthina*; Araneae; Araneidae; distribución; Península Ibérica.

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The genus *Neoscona* Simon, 1864 is included in the family Araneidae Clerck, 1757. Currently, the genus includes 116 species with worldwide distribution (World Spider Catalog, 2019). In Europe, the genus *Neoscona* is represented by four species: *Neoscona adianta* (Walckenaer, 1872), *Neoscona byzanthina* (Pavesi, 1876), *Neoscona subfusca* (C.L. Koch, 1837) and *Neoscona tedgenica* (Bakhvalov, 1978). While *N. adianta* is abundant in all Europe and *N. subfusca* is present in the southern region of Europe, the distribution of *N. byzanthina* and *N. tedgenica* is restricted to France and Turkey, and southern European Russia,

respectively. However, this last record has not been confirmed. Thus, of these species only *N. adianta* and *N. subfusca* have been reported to occur in the Iberian Peninsula (Nentwig *et al.*, 2019).

According to Levi (1993) and Levy (1998), females of *Neoscona* differ from those in other genera by a curved, spatula-shaped epigynum with fused sclerites. The color pattern and shape of the opisthosoma, while reliable in one species, show great variation in another. In the case of the species occurring in the Iberian Peninsula, they can be easily distinguished: *N. adianta* has an oval opisthosoma, while *N. subfusca*

shows an angular opisthosoma. Nevertheless, there has been a lot of controversy about the differentiation of *N. byzanthina* since it was described independently for the first time from Constantinople by Pavesi (1876) and Simon (1879). Simon (1884) put both descriptions in synonymy and later (Simon, 1929), pointed out that *N. byzanthina* might be only a local variety of *N. adianta*. The species was accepted in Bonnet's catalogue (Bonnet, 1955), whereas Roewer (1955) considered that *N. byzanthina* is synonymous with *N. adianta*. Since then, *N. byzanthina* was not cited until Ledoux (2008) differentiated it from *N. adianta*. According to this author, *N. byzanthina* individuals are larger than *N. adianta* and the genitals size follows that difference in size between the two species. Opisthosoma design is more variable in *N. byzanthina* than in *N. adianta*. However, the first elongations of the bands are a little bit larger in *N. adianta*. In addition, the apical ends of the femurs are usually darker in *N. byzanthina* (Simon, 1929), and the hook of the epigynum has a triangular form in *N. adianta*, whereas in *N. byzanthina* it is more elongated and rounded. Also, the phenology of both species is different, since adults of *N. adianta* are frequent on June and July and adults of *N. byzanthina* are frequent on August and September.

The observations took place in late September and early October 2018, about 2.5 kilometers southeast from Olivenza (Badajoz, SW Iberian Peninsula). We found 10 female individuals which presented a dorsal abdominal pattern with discontinuous black bands. In some specimens the pattern was transformed into pairs of black and parallel points, each doubled by lighter points that characterize the species *N. byzanthina* (Fig. 1). In addition, a specimen was collected and analyzed in order to confirm the identity of the species. The result of the more detailed study of the female collected confirmed its assignment to *N. byzanthina*, following the criteria of Ledoux (2008). Also, we discovered that the observation of the epigynum structure in posterior view (Fig. 2) helps and completes the diagnosis of the species. The lateral pieces present in *N. byzanthina* are broader and longer than in *N. adianta*, in which the pieces are shorter and narrower, exposing the central area of the epigynum (Levy, 1998).

MATERIAL EXAMINED

1 ♀. Olivenza, Badajoz. 05/10/2018. UTM X: 667821,77. UTM Y: 4282339,45. Alt. 272 m. Open holm-oak dehesa. Carlos Mora-Rubio. 2018.

Thus, we provide the first data about the presence of *N. byzanthina* in the Iberian Peninsula. The habitat corresponds to an open holm-oak dehesa (a typical Mediterranean agro-forestry-pastoral ecosystem) of *Quercus rotundifolia* Lam., with a low load of bovine



Fig. 1.—*Neoscona byzanthina* (Pavesi, 1876). Dorsal view.

Fig. 1.—*Neoscona byzanthina* (Pavesi, 1876). Vista dorsal.

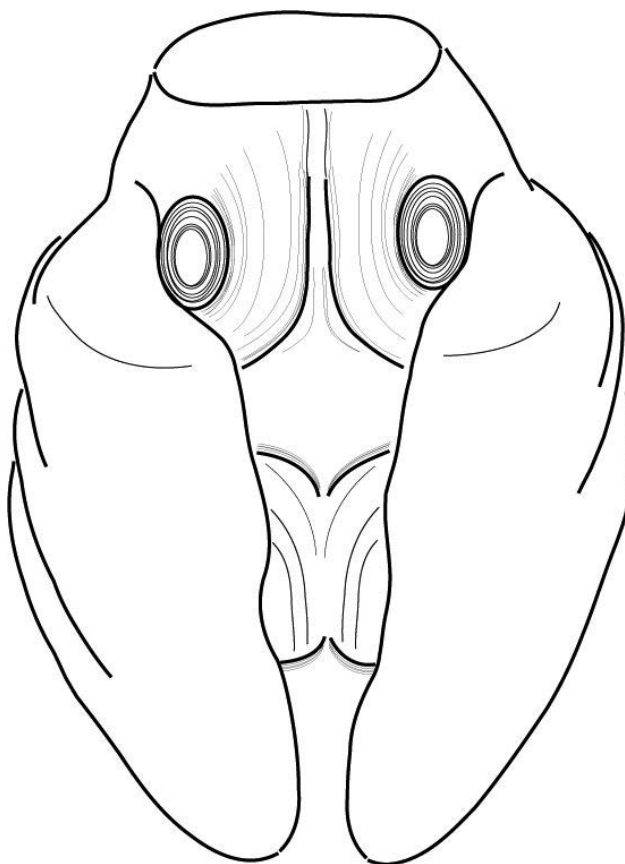


Fig. 2.—*Neoscona byzanthina* (Pavesi, 1876). Epigynum (posterior view).

Fig. 2.—*Neoscona byzanthina* (Pavesi, 1876). Epigynum (vista posterior).



Fig. 3.— Habitat of *N. byzanthina* (Pavesi, 1876). Olivenza, Badajoz.

Fig. 3.— Hábitat of *N. byzanthina* (Pavesi, 1876). Olivenza, Badajoz.

cattle (Datum: ETRS89; UTM X: 667821,77; UTM Y: 4282339,45; alt: 272 m) (Fig. 3). The specimens were sharing habitat with other araneids such as *Argiope lobata* (Pallas, 1772), an abundant species in the area; as well as *Argiope trifasciata* (Forskål, 1775), with a significantly lower occurrence (Mora-Rubio, 2018), and *Cyrtophora citricola* (Forskål, 1775), a frequent species in bushy holm-oaks. Unlike *A. lobata*, which appears in areas of greater density of scrubs and trees (since this araneid uses the lowest branches of the small holm-oaks as anchoring substrate of its web), *N. byzanthina* was only located on areas with a predominance of herbaceous plants, which were always used as the substratum for the elaboration of their web. In contrast to individuals observed by Ledoux (2008), which were located in humid areas because of the proximity of the sea, the climatic conditions of our study area are very different, characterized by long and dry summers with scarce rainfall.

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