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NOTA BREVE:

First record of *Cyrtarachne ixoides* (Simon, 1870) (Araneae: Araneidae) from Sardinia

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First record of *Cyrtarachne ixoides* (Simon, 1870) (Araneae: Araneidae) from Sardinia

Marco Colombo & Bruno Manunza

Abstract:

Cyrtarachne ixoides (Simon, 1870) (Araneae: Araneidae) is a rare species, present along the Mediterranean basin. It is found in several coastal countries in the area, from Portugal and Spain to Greece and Israel. In the Italian peninsula it has been collected only from few sites located in central and southern regions (Tuscany, Lazio, Campania, Calabria). The species is also reported from Madagascar. During a survey on arachnofauna in north-western Sardinia the authors found an adult female of *Cyrtarachne ixoides*, proving the presence of this species on the island and extending the known distribution of this spider in Italy. Brief ecological notes about the collecting habitat are also given.

Key words: Spiders, Araneidae, *Cyrtarachne*, distribution, ecology, Sardinia, Italy.

Primer registro de *Cyrtarachne ixoides* (Simon, 1870) (Araneae: Araneidae) para Cerdeña

Resumen:

Cyrtarachne ixoides (Simon, 1870) (Araneae: Araneidae) es una especie rara, que se da sobre todo en la cuenca mediterránea. Según fuentes bibliográficas, esta especie se encuentra en numerosos países costeros de la zona oeste, desde Portugal y España, extendiéndose al este hasta llegar a Grecia e Israel y en Madagascar. En la península italiana ha parecido sólo en algunas localidades ubicadas en las regiones centrales y meridionales (Toscana, Lazio, Campaña, Calabria). Durante un estudio realizado sobre la aracnofauna de la zona noroeste de Cerdeña, los autores han encontrado una hembra adulta de *Cyrtarachne ixoides*, lo cual demuestra la presencia de la especie en la isla, ampliándose el área de distribución de este arácnido en Italia; se facilitan algunas informaciones ecológicas relativas a la zona de captura.

Palabras clave: Arañas, Araneidae, *Cyrtarachne*, distribución, ecología, Cerdeña, Italia.

Introduction

The genus *Cyrtarachne* Thorell, 1868 includes 52 species distributed mainly in the Oriental, African and Australian regions (Platnick 2009). A few species of the genus are found in the Paleartic region while in Europe only *Cyrtarachne ixoides* is found. It is the only species of the genus *Cyrtarachne* found in the Mediterranean basin.

Spiders of this genus exhibit interesting characteristics: they build a horizontal orb-web, with widely spaced spiral thread, the spiral thread has low shear joint and one end of a spiral connected to a radius can easily break.

The web is highly sticky (Suginaga 1963; Shinkai et al.1985; Shinkai 1992). Diameter, breaking strength, and energy absorption ability of the sticky spiral silk in *Cyrtarachne* are much higher than those in other members of Araneidae with similar body size. The silk characteristics are probably an adaptation for capturing flying moths by means of a single spiral thread, as the kinetic energy of flying moths is approximately equivalent to the energy the single spiral thread can absorb (Cartan & Miyashita 2000). *Cyrtarachne* shares with *Mastophora* and *Pasilobus* (Scharff & Coddington 1997) two interesting peculiarities: the high stickiness of the viscid spirals and the extensive combing action of the fourth pair of legs. Several authors suggested an evolutionary tendency for web reduction grading from *Cyrtarachne*, *Poecilopachys*, *Pasilobus*, and *Mastophora* to webless *Celaenia* (Robinson & Robinson 1975; Eberhard 1980; Cartan & Miyashita 2000).

A detailed description of *Cyrtarachne ixoides* can be found in Emerit (1977); few photographs of the Sardinian specimen are given in Figures 1-3.

Material and Methods

The *Cyrtarachne ixoides* (Simon, 1870) female specimen was found at night, inspecting bushes and hedges inside a private garden. No other specimens were found during further researches in the area. Photos of the live specimen were taken with a Nikon F100 camera provided with a 105 mm macro lens and two flashes for macrophotography. The collected specimen, preserved in 75% ethanol is deposited in the collection of the Department of Zootechnical Sciences, University of Sassari.

MATERIAL EXAMINED: 20.VIII.2007, 1 adult ♀, Maristella (Sassari; 40°35'34.80" N, 8°12'51.39" E), Sardinia, Italy; M. Colombo and B. Manunza leg. & det.

Results

Cyrtarachne ixoides (Simon, 1870) is a poorly known species. Few collecting sites, often referring to single specimens, are reported from the Mediterranean basin. Telfer et al. (2003) mention the species from Portugal; Emerit (1977), mentions "en Afrique du Nord, en Grèce, en Italie […], en France continentale et dans les iles (Corfou, Corse)" and as north as southern Russia. According to Fauna Europaea (van Helsdingen, 2004) *Cyrtarachne ixoides* also occurs in Croatia and Spain; Levy (1998) reports the species in Israel. According to Emerit (2000) it is also found in Madagascar. The Checklist of the Italian Fauna (Pesarini, 2003) generally lists this species from southern Italy. Brignoli (1966, 1967) reports the presence of the species from Lazio (Bagni di Stigliano, Monti della Tolfa, Rome) and Calabria (La Sila, Cosenza, Amato river; mouth of Angitola river); also Caffi (1895) reports it from Calabria (Palizzi, Reggio Calabria), while Pavesi (1873) mentions a locality in Campania (Caserta park). Very recently, a specimen has been collected by Platania S. and Platania L. in Capraia e Limite, Florence, Tuscany (A. Trotta, pers. com., 2007).

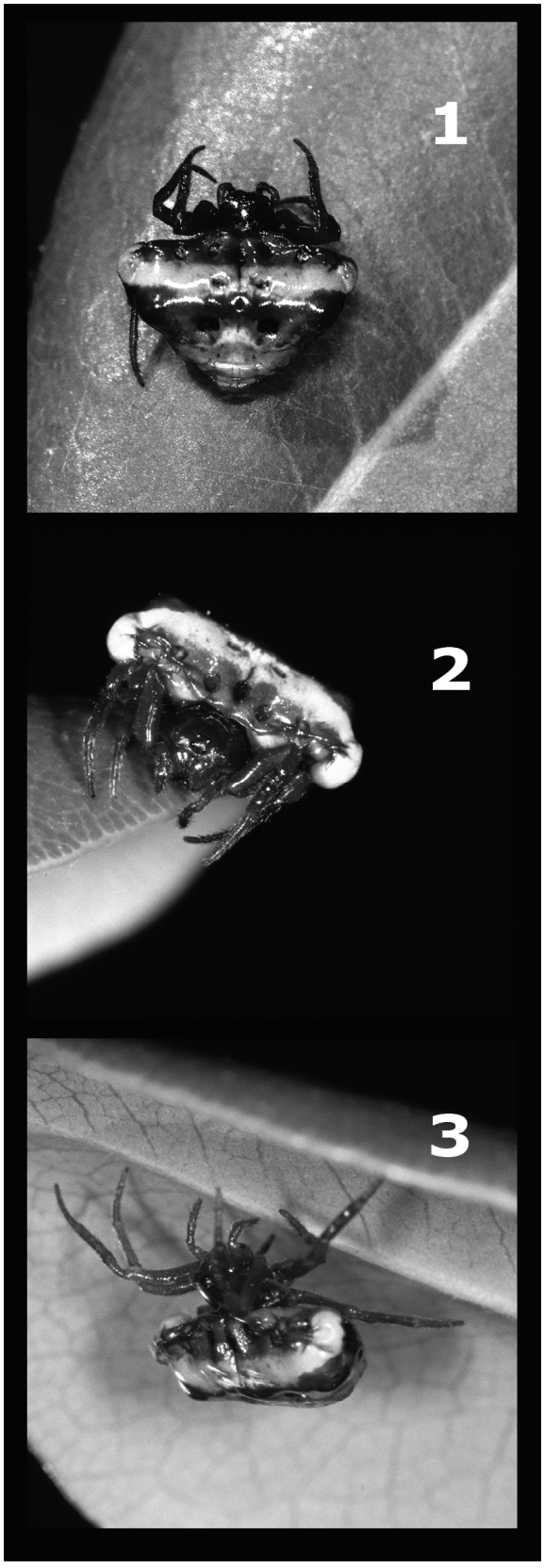
The finding of *Cyrtarachne ixoides* in Maristella, a small village in north-western Sardinia, represents an important extension to the range of the species in Italy, and suggests that the species may occur elsewhere in Italy.

The ecology of this species is very poorly known. It seems to prefer scrublands and uncultivated hedges where it lives on vegetation (Emerit, 1977; Levy, 1998; Verneau, 2002). The collecting site is located on the northern slope of the calcareous complex of Monte Rudedu-Punta Giglio (Porto Conte Regional Park), in a wide depression characterized by a sub-tropical, temperate-warm climate. The Sardinian *Cyrtarachne ixoides* specimen was found about 0.5 m above ground on a pitosporum hedge (*Pittosporum tobira*) along a small path crossing a garden of an inhabited house; another similar hedge is visible on the other side of the path. The garden is located near a large area covered by Mediterranean maquis. The *Cyrtarachne* specimen was active when collected, as it was probably weaving the typical small, horizontal orbicular web of the species (Levy, 1998); only few threads were visible amongst pitosporum leaves at the moment of observation.

This scarcely studied and quite rare species could be endangered in some localities of its distribution area. According to Kovoor & Muñoz-Cuevas (2000), indeed, *Cyrtarachne ixoides* has been reported from Hyères islands (southern France) in 1880 and never found again during recent studies, maybe due to decrease of suitable habitats (open spaces with scrublands).However, this is a quite cryptic nocturnal species and it could have been overlooked in many areas of its distribution range

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Figures 1-3. *Cyrtarachne ixoides* (Simon, 1870), Sardinian female. 1: dorsal view; 2: frontal view; 3: antero-lateral view.

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