

A new record for the Turkish spider fauna: *Cyclosa conica* Pallas (Araneae, Araneidae)

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Abstract: The characteristic features and drawings of *Cyclosa conica* Pallas, 1772, which is recorded for the first time in Turkey, are given in this study.

Key Words: *Cyclosa conica*, Araneae, Araneidae, Taxonomy, New record, Turkey

Türkiye İçin Yeni Bir Örümcek Türü: *Cyclosa conica* Pallas (Araneae, Araneidae)

Özet: Bu çalışmada Türkiye'den ilk kez kayıt edilen *Cyclosa conica* Pallas, 1772 'nin karakteristik özellikleri ve çizimleri verilmiştir.

Anahtar Sözcükler: *Cyclosa conica*, Araneae, Araneidae, Taksonomi, Yeni kayıt, Türkiye

Introduction

The best-known type of spider webs belong to araneids (orb-web spiders). The spider either sits right in the center of the web or hides in a retreat outside it. Insects flying into the web become stuck to the sticky threads for long enough for the spider to rush out from the hub to bite or wrap its victim.

Araneids are among the most successful spider families. Over 3,000 species have been identified so far in Araneidae. Araneids are quite common spiders throughout the world. The most notable araneids are the tropical orb-weavers, which can be very colorful and exotically shaped (1).

Over 100 species of *Cyclosa* have been described, mainly from the Asian and American tropics. Two species of *Cyclosa* are known from Europe: *C. conica* (Pallas, 1772) and *C. oculata* (Walckenaer, 1802) (2,3). The posterior end of the opisthosoma has a single tubercle in *C. conica* and three in *C. oculata*. *C. conica* is widespread in northern Europe, while *C. oculata* is a southern European species. Both species were also encountered in southern Russia (4). In addition, two species of *Cyclosa*

(*C. sierra* Simon, 1870; *C. deserticola* Levy, 1997) are known from Israel (5).

No *Cyclosa* species have been recorded so far in Turkey (6). Only one immature specimen was recorded in pitfall trapping in a grassland in Van (7). This paper deals with the characteristic features of *Cyclosa conica* Pallas, and adds a genus and a species to the spider fauna of Turkey.

Materials and Methods

A female specimen was collected from Kızılırmak Green Valley in Kırıkkale. It was preserved in 70% ethanol. The identification was made with a SMZ10A Nikon Stereo microscope. The drawings were made by means of a camera lucida attached to the microscope. The keys of Heimer and Nentwig (2), Roberts (3) and Tyschchenko (4) were used.

Results

Genus: *Cyclosa* Menge, 1866

Type species: *Cyclosa conica* (Pallas, 1772): Female from St Petersburg, Russia (8).

Cyclosa spiders are well known for placing their prey remains and often their egg sacs in a vertical line crossing the center of their orb webs. The spider rests in the center or at one end of that line, resembling a detritus cluster.

Cyclosa species have a very distinctive appearance. The prosoma has a well-defined V-shaped cervical groove and the cephalic region is elevated. Both rows of eyes are recurved, especially the anterior one. The median ocular area is widest anteriorly and is longer than wide. The eyes are somewhat elevated on tubercles, especially in the males. The female opisthosoma has one to three conical posterior protuberances of variable size, which are present but rudimentary in the males. Both sexes have a dark brown or sometimes black carapace. The order of length of the legs is 1,2,4,3. The genus is cosmopolitan.

This genus is new for the spider fauna of Turkey.

Cyclosa conica (Pallas, 1772)

Aranea conica P.S.Pallas, 1772, p.48 (8),

Epeira conica J.Blackwall, 1864, p. 362 (9),

Cyclosa conica O.P.-Cambridge, 1881, p. 246 (10).

Description of the female

Prosoma: Length: 1.95 mm, width: 1.56 mm.

Opisthosoma: Length: 3.51 mm, width: 2.86 mm.

Total length: 5.49 mm.

Carapace longer than wide and deep-brown to black with white hairs. There is a dark V at junction of head and thoracic region (Fig. 1 A), with faint dark radiation striae. Both rows of eyes are recurved, but the anterior row is more recurved. The median ocular area is widest anteriorly and is longer than wide (Fig. 1 A). A circular depression in the foveal region. Chelicera with 3 promarginal and 3 retromarginal teeth. Clypeus narrow. Sternum dark brown. Legs light yellow with brown patella and dark annulations on distal articulations, especially on femurs I, II and IV. Some thick spines on patella and tibia of the legs.

Opisthosoma with one posterior protuberance (Fig. 1 A,B). Coloration of opisthosoma blackish median pattern tinted with white or light yellow on yellow-cream background (Fig. 1 A). Sides marked with gray-black patches. The underside of the opisthosoma is blackish, with a pair of very distinct light spots across the middle. Female epigynum with slender, almost translucent scape

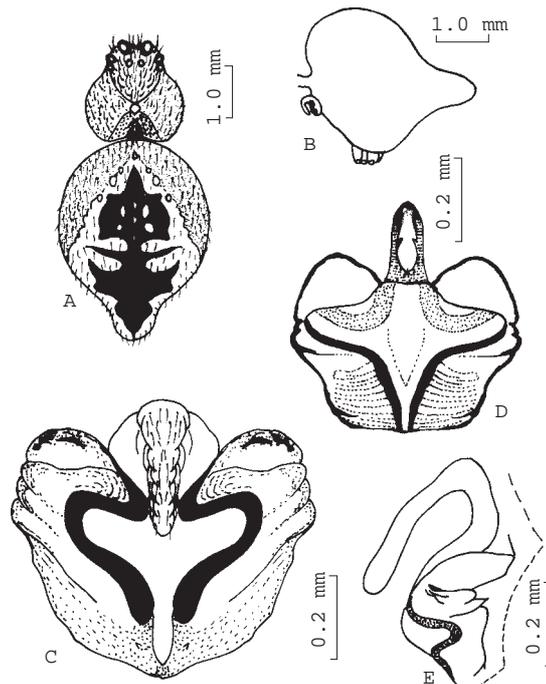


Figure 1. *Cyclosa conica*, female. A: Dorsal view of spider. B: Opisthosoma, lateral view. C-E: Epigynum: C: Ventral view, D: Posterior view, E: Lateral view.

(Fig. 1 C,E) rising above light, wide and membranous area (Fig. 1 C,D).

Material examined

A female; 5.VI.2000, taken from web on a rose plant, Kızılırmak Green Valley, 730 m, Kırıkkale, Turkey. The specimen was deposited in the author's collection.

Habitat and occurrence

This orb-weaver spider is found in shrubberies and woodlands, often in dark places and on evergreens. The web is usually within a few feet of the ground, and is peculiar in that the spider collects debris such as leaf fragments, twigs and remains of prey, in a mass from the hub of the web to the lower edge. Above and below the hub there is usually a vertical string or stabilimentum made of dense silk to which are fastened parts of dead insects and other rubbish, and, in the middle of the summer, the cocoons of eggs. The spider waits in the middle of this band where it crosses the center of the web. Mature individuals are found only in spring and early summer.

General distribution

Britain, Northern Europe, Transbaikalian, Russia, Turkestan, Japan, Canada, United States of America (11,12).

Discussion

There are no differences in the structure of the epigynum between the nominate species and the examined material. Only color variations were found on the dorsum and ventrum of the opisthosoma of the

examined specimen. In the nominate species, the ventrum and posterior part of the dorsum are dark brown with patterns. The pattern and color of opisthosoma are extremely variable, especially in the females (2,3,8).

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