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A new ant-eating spider record (Aranei: Zodariidae) from Turkey

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Abstract. *Zodarion barbarae* Bosmans, 2009 (Zodariidae) is reported for the first time for the spider fauna of Turkey based on the material collected in the Mediterranean region. Figures of the male and female genitalia, the metric data of the specimens are given, and no significant difference could be detected between the Turkish and Greek populations.

Key words: ant spiders, araneofauna, *Zodarion*, new record, Mediterranean region, Anatolia.

Новая находка паука-муравьеда (Aranei: Zodariidae) в Турции

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Резюме. *Zodarion barbarae* Bosmans, 2009 (Zodariidae) впервые указан для фауны Турции по материалам, собранным в Средиземноморском регионе. Приведены иллюстрации гениталий самца и самки, дана морфологическая характеристика экземпляров. Существенной разницы между особями турецкой и греческой популяций не обнаружено.

Ключевые слова: Zodariidae, аранеофауна, *Zodarion*, новая находка, Средиземноморье, Анатолия.

Introduction

Of the 50345 described spider species, 1253 belong to the family Zodariidae Thorell, 1881. The fauna of Turkey includes 34 species of zodariids belonging to four genera [World Spider Catalog, 2022; Danişman et al., 2022]. *Zodarion* Walckenaer, 1826 is the second-most species-rich genus of the family in the Mediterranean Basin [Bosmans, 2009], with the number of species which is 32 with recent studies [Danişman et al., 2022; Coşar et al., 2022a, b]. In the recent decades, several *Zodarion* species were described from Turkey [Danişman, 2013; Bosmans et al., 2014; Akpınar, 2016; Danişman et al., 2017; Dimitrov, 2020; Danişman, Coşar, 2020, 2021; Coşar, 2021a, b; Coşar et al., 2021; Coşar, Danişman, 2021; Coşar et al., 2022a, b]. However, the zodariid fauna of Turkey is still not well known. Here, I give morphological characters and illustrations of a *Zodarion* species first recorded from Turkey.

Material and methods

Examined specimens were collected in Antalya, Burdur and Konya provinces (Turkey) using a litter reducer (sifter). Specimens were preserved in 70% ethanol.

All measurements are given in millimeters. Terminology and measurements follow Jocqué [1991] and Bosmans [2009].

The following abbreviations are used in the text:

Carapace and abdomen: AL – abdominal length; AbW – abdominal width; CL – carapace length; CWmax – maximum carapace width; CWmin – minimum carapace width.

Eyes: AL – anterior lateral eyes; AME – anterior median eyes; PLE – posterior lateral eyes; PME – posterior median eyes; dALE – diameter of anterior lateral eyes; dAME – diameter of anterior median eyes; dPLE – diameter of posterior lateral eyes; dPME – diameter of posterior median eyes; a, b, c, d – distance between eyes: a = AME–AME, b = AME–ALE, c = PME–PME, d = PME–PLE; MOQ – median ocular quadrangle; AW – anterior width; PW – posterior width; L – length.

Legs: Ta – tarsus; Me – metatarsus, Ti – tibia; Pa – patella; Fe – femur; Tr – trochanter; D – dorsal; V – ventral.

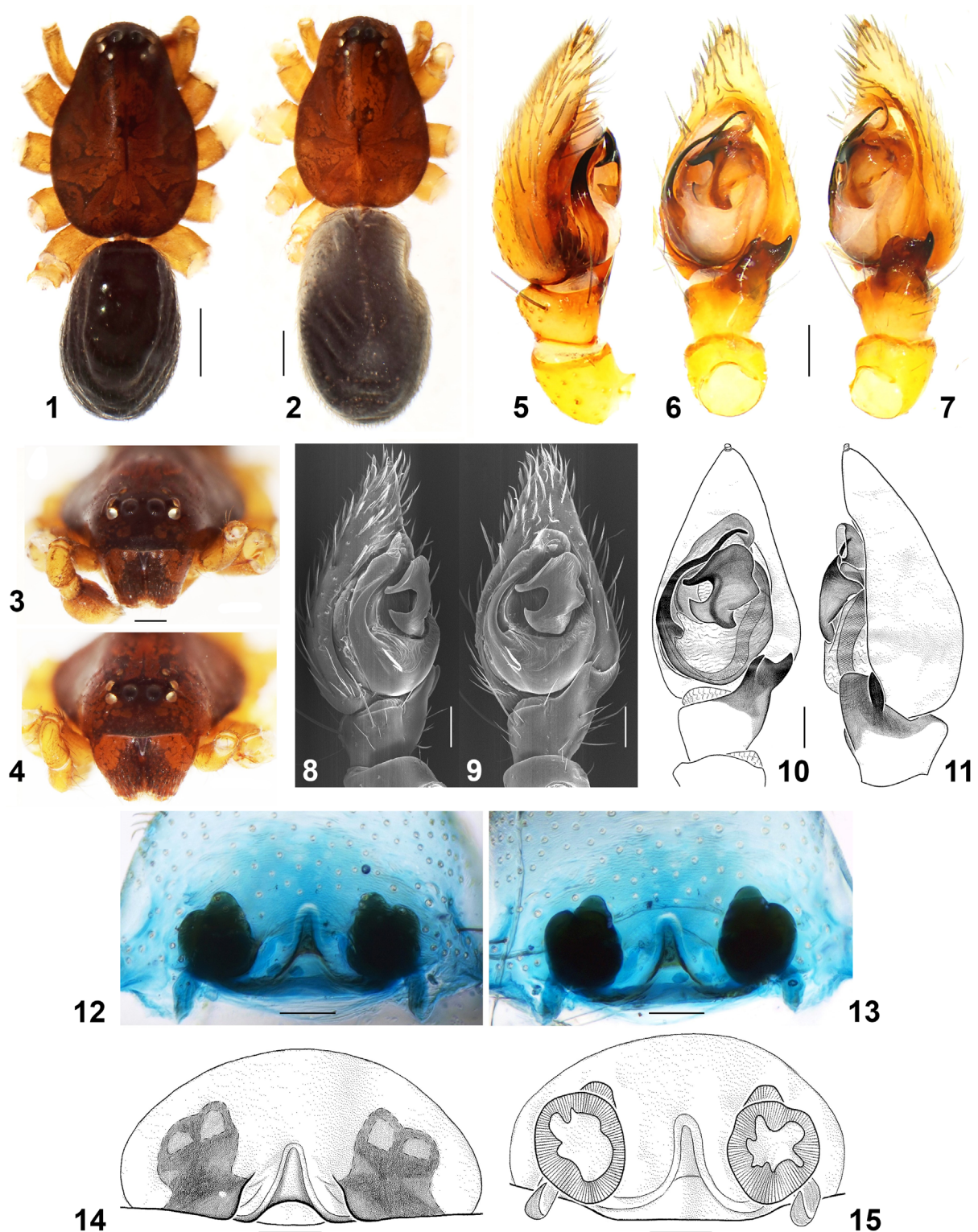
Palp: Em – embolus, Ma – median apophysis, RTA – retrolateral tibial apophysis.

The material is deposited in Zoology Museum of Eskişehir Technical University (Turkey).

Drawings (Figs 10, 11, 14, 15) were kindly made by Dr M. Kovblyuk.

Table 1. Leg measurements of *Zodarion barbarae*, ♂/♀.
Таблица 1. Промеры ног *Zodarion barbarae*, ♂/♀.

Legs Ноги	Fe	Pa	Ti	Me	Ta	Total
I	1.25/2.38	0.38/0.88	1/2.1	1.3/2.25	0.9/1.28	4.83/8.89
II	1.03/2.13	0.35/0.68	0.82/1.8	1.02/2.13	0.66/1.11	3.88/7.85
III	0.98/2.15	0.37/0.75	0.75/1.75	1.25/2.37	0.56/0.97	3.91/7.99
IV	1.33/3.12	0.38/0.88	1.38/2.64	1.3/3.2	0.63/1.21	5.02/11.05



Figs 1–15. *Zodarion barbarae*, habitus and details of structure. 1, 3, 5–11 – male; 2, 4, 12–15 – female. 1–2 – habitus; 3–4 – ocular area, frontal view; 5–11 – pedipalp: 5 – prolateral view, 6, 9–10 – ventral view, 7 – retrolateral view, 8 – nearly prolateral view, 11 – lateral view; 12–15 – epigyne: 12, 14 – ventral view, 13, 15 – dorsal view. Scale bars: 1–2 – 0.5 mm; 3–4, 12–15 – 0.2 mm; 5–11 – 0.25 mm. Figures 10–11, 14–15 by M. Kovblyuk.

Рис. 1–15. *Zodarion barbarae*, габитус и детали строения.

1, 3, 5–11 – самец; 2, 4, 12–15 – самка. 1–2 – габитус; 3–4 – область глаз, вид спереди; 5–11 – педипальпа: 5 – пролатерально, 6, 9–10 – вентрально, 7 – ретролатерально, 8 – почти пролатерально, 11 – латерально; 12–15 – эпигина: 12, 14 – вентрально, 13, 15 – дорсально. Масштабные линейки: 1–2 – 0.5 мм; 3–4, 12–15 – 0.2 мм; 5–11 – 0.25 мм. Рисунки 10–11, 14–15 Н. Ковблюка.

Family Zodariidae Thorell, 1881
Genus *Zodarion* Walckenaer, 1826

Zodarion barbarae Bosmans, 2009

(Figs 1–15)

Material. Turkey: 2♂, 2♀, Konya Province, Taşkent District, 36.91944°N / 32.50027°E, 1435 m, 12.07.2011 (R.S. Özkütük); 2♂, 3♀, Antalya Province, Alanya District, Taşatan Plateau, 36.64083°N / 32.06750°E, 1181 m, 6.10.2015 (R.S. Özkütük); 2♂, 1♀, Antalya Province, Kemer District, Göynük Village, 36.68388°N / 30.53527°E, 57 m, 30.04.2016 (K.B. Kunt); 1♂, 2♀, Burdur Province, Tefenni District, Yaylaköy Village, 37.28611°N / 29.94027°E, 1297 m, 29.04.2016 (K.B. Kunt).

Morphological characters. Measurements, ♂/♀: AL 1.24/2.68, AbW 0.8/1.8, CL 1.52/2.72, CWmax 1.04/1.88, CWmin 0.46/1, dALE 0.07/0.12, dAME 0.08/0.13, dPLE 0.07/0.11, dPME 0.04/0.09, a 0.05/0.09, b 0.03/0.05, c 0.29/0.29, d 0.05/0.06. MOQ: AW 0.29/0.42, PW 0.16/0.31, L 0.2/0.35. Leg measurements are given in Table 1.

Male (Figs 1, 3, 5–11). Carapace dark brown, thoracic region reddish brown, with dispersed dark brown pattern; black around AME; legs: coxae and tarsi yellowish brown, femora brown, basal part of femora III–IV typically reddish brown, tibiae and metatarsi yellowish; abdomen grayish black, with shiny scutum. Palp: RTA consists of two apophyses separated from each other by large concave surface. One apophysis indistinct whereas the other is strongly developed with a blunt tip. Base of RTA almost as high as wide. Ta hook-shaped, apex turned toward embolar base. Ma in center of tegulum. Ma base wide; upper part round, beak-shaped apex strongly sclerotized and directed toward tegulum. Em black, arm-shaped, apex rounded, slightly sclerotized, apex directed toward Ma and curved 2/3 of its length (Figs 5–11).

Female (Figs 2, 4, 12–15). Carapace yellowish light brown, with dispersed dark brown pattern; black around AME; legs: coxae and tarsi dark yellow, other parts; abdomen grayish, with dark hairs. Epigyne: epigynal cavity triangular; deep, reaching spermatheca. Spermatheca with 2 lobes on anteroventral side (Figs 12, 14). Vulva: spermatheca separated by 1.5 times their diameter (Figs 13, 15).

Note. In the metric and morphological examinations of all samples obtained from the Turkish population of *Zodarion barbarae*, no differences were detected between the Turkish and the Greek population, except for minor deviations. For example, Turkish specimens are larger than the holotype, but the eyes (AME, PME) are larger in the holotype male. This problem has been ignored for now, as the number of specimens to compare between populations is not sufficient.

Distribution. This species was first described from the Peloponnese Peninsula of Greece [Bosmans, 2009: 248, figs 80–83, 138–139]. Later, it was identified as a new record from Cyprus [Nentwig et al., 2022; World Spider Catalog, 2022]. It is herein recorded for the first time for Turkey (Fig. 16). Additionally, this represents the first record for Asia.

With the new record of *Zodarion barbarae*, the number of known species from Turkey is increased to 35 for *Zodarion* and to 9 for the *spinibarbe* species-group.

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Fig. 16. Distribution map of *Zodarion barbarae* in Turkey.

Fig. 16. Карта распространения *Zodarion barbarae* в Турции.

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