



A New Species of the Genus *Leptonetela* Kratochvil, 1978 (Araneae: Leptonetidae) from Turkey

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Abstract: *Leptonetela turcica* sp. n. is described and illustrated based on material collected in the Kahramanmaraş Province of Turkey. Differences between the new species and the closely related species are discussed.

Key words: Anatolia, haplogyne spider, description, taxonomy

Introduction

Spiders in the family Leptonetidae are included in the group of haplogyne spiders because they have relatively simple reproductive organs. They are small (1.0–3.0 mm), light coloured (pale) and with 6 eyes; in some troglobiont species, the eyes are reduced or may be completely absent (MAMMOLA et al. 2018). The eyes are distributed as four in the anterior and two in the posterior. Anterior and posterior eyes are widely separated from each other (WANG & LI 2011). Species in the family Leptonetidae usually live in caves, in damp places, under stones and under leaf debris (LE PERU 2011). There are 363 species belonging to 22 genera in the family Leptonetidae (WSC 2021) in the Holarctic region. Seventy two species belonging to eight genera of this family are distributed in Europe (NENTWIG et al. 2021). The genus *Leptonetela* Kratochvil, 1978 is the largest genus in the family, with 108 species included in it (WSC 2021). In Europe, it is the second most speciose genus, represented with 11 species (NENTWIG et al. 2021). The Leptonetidae is one of the families that contain a small number of species in Turkey; for long time, only three species belonging to two gen-

era (DANIŞMAN et al. 2019) have been known from this country: *Cataleptoneta aesculapii* (Brignoli, 1968) (from Damlataş Cave, Antalya, Mediterranean Region), *Cataleptoneta sbordonii* (Brignoli, 1968) (from Insuyu Cave, Burdur and Mustanini Cave, Antalya, Mediterranean Region) and *Leptonetela deltshevi* (Brignoli, 1979) (described only by male from the Ordu Province, Black Sea Region) (BRIGNOLI 1968, 1979). Recently, *Cataleptoneta aydintopcu* Demircan, 2020 (from Astım Cave, Mersin, Mediterranean Region) was described as a new species (DEMIRCAN 2020) and the number of species in Turkey increased to four.

The aim of this study is to add the description of the second species of the genus *Leptonetela* and the fifth species of the family Leptonetidae from Turkey.

Materials and Methods

The samples were collected by hand aspirator under stones in woods from Kahramanmaraş, Turkey. Identification and measurements of the specimens were made with a Leica S8APO microscope. The photos were taken with the Canon EOS 250D cam-

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era connected to the same microscope. Since the specimens have pale colour, a dark base was used when taking photos. In order to obtain a clear image, more than one photographs were obtained by focusing different points of the sample. Photos were assembled by Combine ZM image stacking software and Photoshop CC 2019 image editing software. For SEM microphotography, the pedipalp was dried with a Critical Point Dryer for 30 minutes, mounted using a double-sided tape on the SEM stub and coated with a thin layer of gold by Polaron SC 502 sputter coater. SEM images were taken under high vacuum with a JEOL JSM-5600. Spiders were preserved in the collection of Arachnological Museum of Kırıkkale University (KUAM) in 70% ethanol. The map was generated with the SimpleMappr API (<https://www.simplemappr.net/api>). Identification

was base on comparisons with the descriptions and figures presented by BRIGNOLI (1968, 1978, 1979), LE PERU (2011) and NENTWIG et al. (2021). All measurements are in millimetres.

Abbreviations used: Fe: femur, Mt: metatarsus, Pa: patella, Ta: tarsus, Ti: tibia, em: embolus, co: conductor, ma: median apophysis, pl: prolateral lob, tr: tarsal rugae.

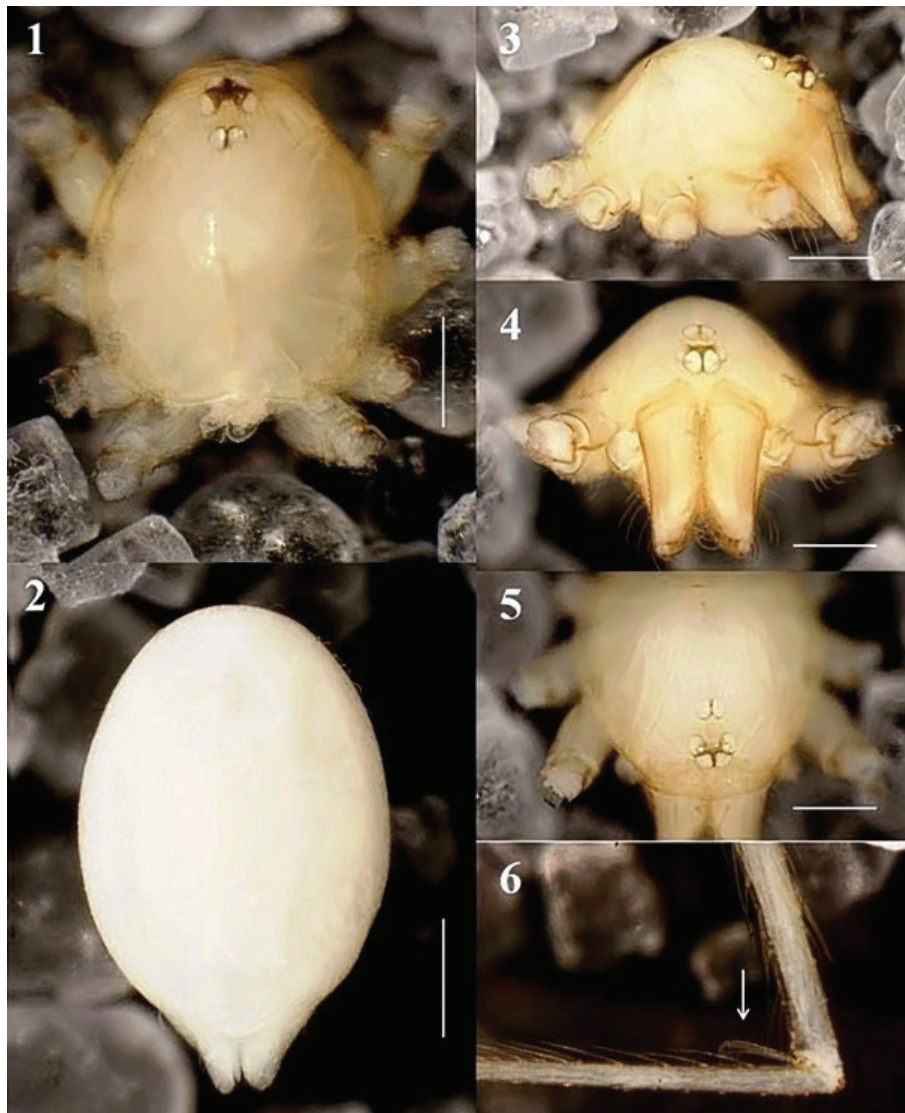
Results

Family Leptonetidae Simon, 1890

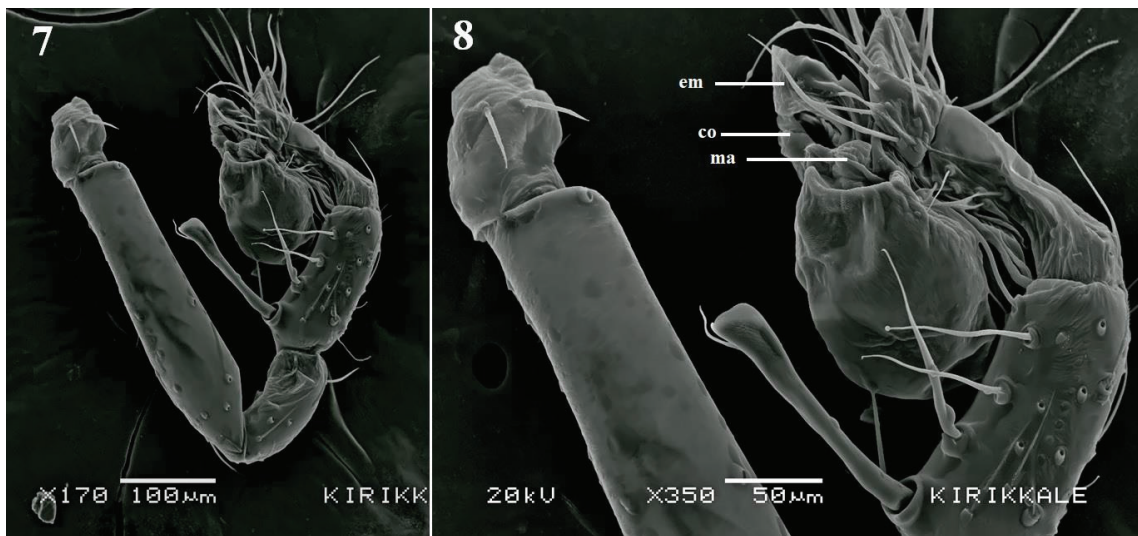
Genus *Leptonetela* Kratochvil, 1978

Leptonetela turcica sp. n. (Figs 1-10)

Material examined: Holotype, ♂, Turkey: Kahramanmaraş, Andırın (37°37'34.6"N 36°24'48.9"E), 1268 m a.s.l., 04.05.2012 (leg. T.



Figs 1-6. *Leptonetela turcica* sp. n., male. 1. Prosoma, dorsal view. 2. Abdomen, dorsal view. 3. Prosoma, lateral view. 4. Ocular area, frontal view. 5. Ditto, dorsal view. 6. Metatarsus II (white arrow: modified ventral setae). Scale-bars 0.2.



Figs 7-8. SEM microphotographs of *Leptonetela turcica* sp. n. 7. Left male palp, retrolateral view. 8. Ditto, detail of bulb. Abbreviations: em, embolus; ma, median apophysis; co, conductor; tr, tarsal rugae.

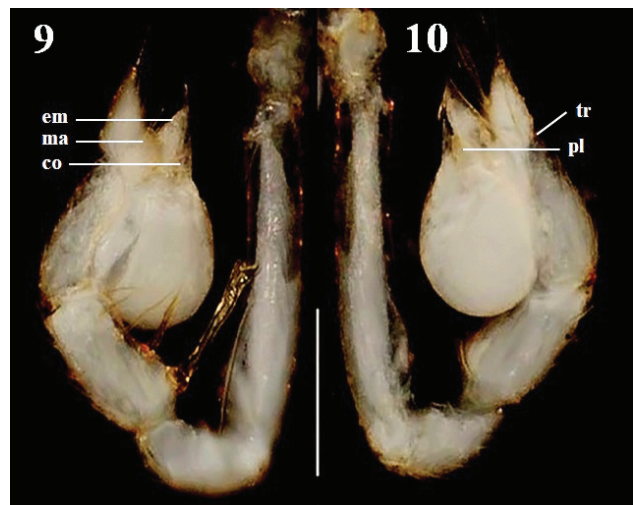
Danışman). Paratype: 1♂, collected together with holotype.

Etymology: The specific name is an adjective referring to the country it was found.

Diagnosis: *Leptonetela turcica* sp. n. is similar to *L. andreevi* Deltsev, 1985 but can be distinguished by the spatulate-shaped basal tibial spine. In addition, the numbers of cheliceral teeth are different from those of *L. andreevi*. *Leptonetela turcica* sp. n. has 8 promarginal and 4 retromarginal cheliceral teeth, while *L. andreevi* has 7 promarginal and 4 retromarginal cheliceral teeth (DELTSHEV 1985).

Description

Male (holotype): Measurements: total length 1.50; prosoma 0.65 long and 0.55 wide; abdomen 0.85 long and 0.60 wide. Ocular area 0.30 long. Palp 0.50 long. Sternum 0.50 long and 0.45 wide. Leg formula I, IV, II, III. Lengths of legs: I. Leg: Fe: 1.0, Pa: 0.25, Ti: 1.10, Mt: 0.90, Ta: 0.60, Total: 3.85; II. Leg: Fe: 1.0, Pa: 0.20, Ti: 0.90, Mt: 0.70, Ta: 0.50, Total: 3.30; III. Leg: Fe: 0.85, Pa: 0.20, Ti: 0.70, Mt: 0.60, Ta: 0.40, Total: 2.75; IV. Leg: Fe: 1.0, Pa: 0.25, Ti: 1.05, Mt: 0.85, Ta: 0.55, Total: 3.70. Prosoma pale yellow. Chelicerae with 8 promarginal and 4 retromarginal teeth. Six eyes, anterior median eyes and anterior lateral eyes contiguous; eyes modified with black ring at ocular base. Anterior eye row strongly recurved. Posterior eyes smaller, adjacent and situated about one diameter from anterior lateral eyes (Fig. 1, 3-5). Opisthosoma whitish grey (Fig. 2). Legs yellowish, metatarsus II and III proximally with modified ventral setae (Fig. 6). Palpal femur without spines, tarsus with a transverse depression (tarsal rugae), tibia with a proximal, very strong,



Figs 9-10. *Leptonetela turcica* sp. n., right male palp. 9. Retrolateral view. 10. Prolateral view. Abbreviations: em, embolus; ma, median apophysis; co, conductor; pl, prolateral lobe; tr, tarsal rugae. Scale-bar 0.2.

long and spatulate shaped spine, followed by a long and thin spine and series of 3 relatively short and thin spines. Bulb oval, with triangular shaped embolus. Median apophysis with teeth distally. Conductor membranous, triangular in lateral view. Prolateral lobe medium-sized, elliptical-shaped (Fig 7-10).

Female: Unknown.

Discussion

Until now, only four species of the family Leptonetidae are known from Turkey (Fig. 11). Three of them are troglobionts. Only *Leptonetela deltshevi* (Brignoli, 1979) is not a troglobiont; it has been

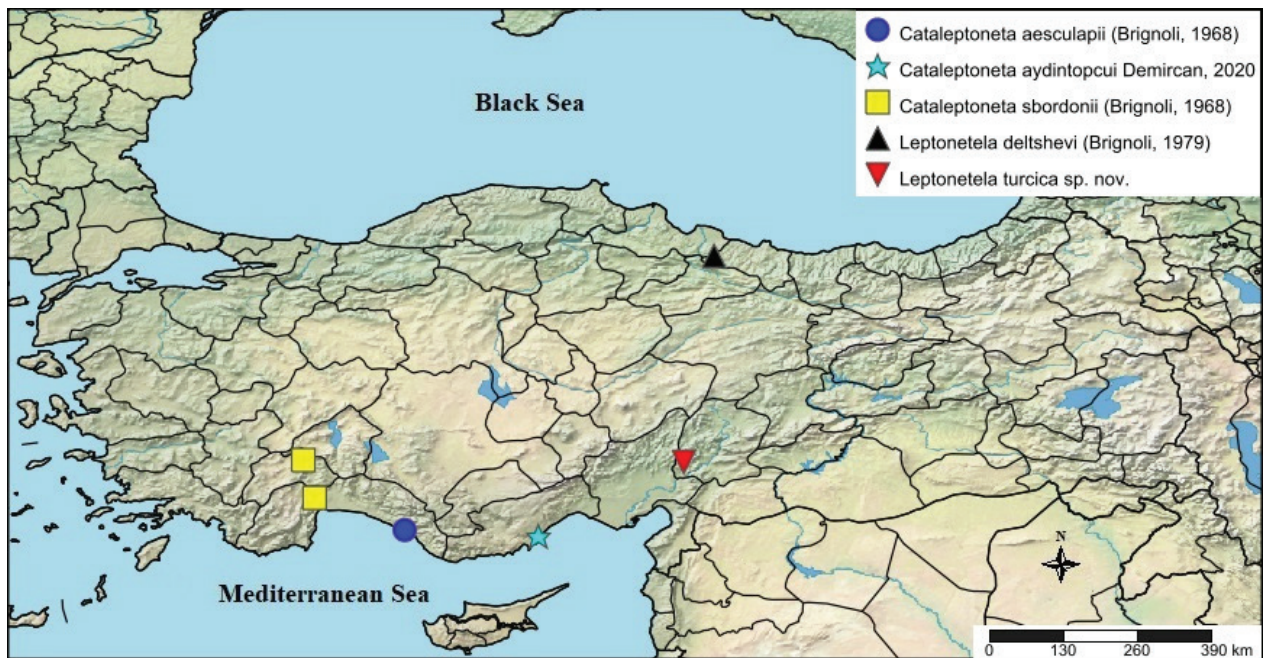


Fig 11. Distribution map of Turkish leptonetid species.

found from a forest at an altitude of 900-1100 m. *Leptonetela turcica* sp. n. has also been found at 1268 m a.s.l. and is not a troglobiont. Some non-troglobiont *Leptonetela* spp. such as *L. caucasica* Dunin, 1990 and *L. pungitia* Wang & Li, 2011 are similarly encountered at the range of 700-1600 m (DUNIN 1990, WANG & LI 2011).

Nomenclatural acts

This study and the nomenclatural acts it contains have been registered in ZooBank. The ZooBank Life Science Identifier (LSID) for this publication is urn:lsid:zoobank.org:pub: DDDF45A9-7002-4511-B708-DB8AC436B5B4 and for the new species is urn:lsid:zoobank.org:act: 4EE49E56-92AC-47A4-A1F2-35FD953EC9CF.

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