

A new species of *Coelotes* Blackwall, 1841 (Araneae: Agelenidae) from Turkey

Tarık DANIŞMAN^{1,*}, Kübra Ceren KARANFİL², İlhan COŞAR²

¹Department of Biology, Faculty of Science and Arts, Kırıkkale University, Yahşihan, Kırıkkale, Turkey

²Department of Biology, Graduate School of Natural and Applied Sciences, Kırıkkale University, Yahşihan, Kırıkkale, Turkey

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Abstract: The species *Coelotes sinopensis* sp.n. is described from Sinop Province, Turkey. Differences between the new species and related species are discussed.

Key words: Araneae, Coelotinae, new species, *Coelotes sinopensis*, systematic, Turkey

1. Introduction

In Agelenidae, from the subfamily Coelotinae, three genera occur in Turkey. So far, nearly 187 species have been described in *Coelotes* all over the Palearctic region (World Spider Catalog, 2015). The current number of Coelotinae species in Turkey is increased to 12 (Bayram et al., 2014). In the present study, a new spider is described from Sinop, Turkey, on the basis of one male and two female type specimens. As a result of investigations, it was found that the male's palpal structure differs from that of other *Coelotes* species in the Palearctic region. Moreover, the female's epigynal median plate is rectangular.

2. Materials and methods

The specimens were collected during the day by pooter from under rotten logs. Pictures were taken using a Leica S8APO microscope by means of a Leica DC 160 camera. Photographs were taken in dishes of different size with paraffin on the bottom. Different size holes were made in the bottom to keep the specimens in the right position. The images were montaged using Combine ZM image stacking software and Photoshop CS5 image editing software. The epigyne was macerated in 10% KOH. SEM photographs were made with a JEOL JSM-5600 at the University of Kırıkkale. All measurements are in millimeters (mm). All material will be deposited in the collection of the Arachnological Museum of Kırıkkale University (KUAM). The terminology of genital structures follows Wang (2002).

Abbreviations: ALE: Anterior lateral eyes, AME: Anterior median eyes, C: conductor, CD: copulatory duct, CDd: conductor dorsal apophysis, CL: conductor lamella,

EM: embolus, ET: epigynal teeth, FD: fertilization duct, MA: median apophysis, MP: median plate, PLE: Posterior lateral eyes, PME: Posterior median eyes, RTA: retrolateral tibial apophysis, S: spermathecae, SH: spermathecal head, ST: subtegulum, T: tegulum, TS: tegulum sclerite. Leg measurements are shown as: total length (femur, patella, tibia, metatarsus, tarsus); measurements of leg segments were taken from the dorsal side.

3. Results and discussion

Coelotes sinopensis sp. n

Material: Holotype ♂, Turkey, Sinop Province, Sarıkum District (42°0'N, 34°56'E), 17.11.2011. Paratypes: 2♀, 1 juv.♂ and 27 juv. 1♀, Sinop Province, Sarıkum District, 24–26.5.2012; 1♀, Sinop Province, Sivrice hill (41°48'N, 35°01'E), 08.11.2013; 1 juv.♂, same locality, 08.11.2013. (leg. T. Danişman). 27 immature, Sinop Province, Sarıkum District, 08.11.2013.

Etymology: The specific name is a noun in apposition taken from the type locality.

Diagnosis: The male of the new species differs from all other congeners by the shape of the palpal tibial apophysis and patellar apophysis. The male of the species is distinguished from other congeners by a finger-like patellar apophysis, a typical tongue-shaped retrolateral tibial apophysis, and a turned up conductor lamella. Likewise, the female of the new species has slightly convoluted distinctive spermathecae and typical vulvae. The female differs by having relatively triangular and relatively long epigynal teeth.

* Correspondence: tarikdanisman@yahoo.com.tr

Description: Male (holotype). Total length 8.1, Carapace 4.2 long, 2.1 wide. Abdomen 3.9 long, 2.4 wide. Carapace elongated, reddish brown, moderately narrowed in ocular area (Figure 1). Chelicerae with three promarginal and three retromarginal teeth. Legs yellow, long, and strong. Leg formula IV, I, II, III. Leg measurements ($n = 1$): I 13 (3.2, 1.6, 3.1, 3.0, 2.1), II 11.1 (2.9, 1.3, 2.2, 2.8, 1.9), III 10.6 (2.7, 1.3, 2.2, 2.8, 1.6), IV 14 (3.5, 1.5, 3.4, 3.9, 1.7). Anterior eye row slightly procurved and posterior eye row procurved. AME smaller than ALE, PME nearly equal PLE. Abdomen gray, with distinct pattern. Palp: tibial apophysis tongue shaped. Median apophysis large, circular and spoon-like, and extended towards the top. Patellar apophysis thin and not blunt, with finger-like appearance. Conductor consists of two parts. Tip of conductor lamella curved upwards, and beak shaped. Dorsal apophysis of conductor triangular. There is a cymbial furrow (Figures 2–4).

Female. Total length 10. Carapace 5.1 long, 2.4 wide; Abdomen 4.9 long, 3.0 wide. Coloration and texture as in the male. Leg formula IV, I, II, III. Leg measurements ($n = 2$): I 12.5 (3.6, 1.5, 3.1, 2.8, 1.5), II 10.9 (3.1, 1.4, 2.6, 2.5, 1.3), III 9.9 (2.9, 1.3, 2.2, 2.3, 1.2), IV 13.8 (3.9, 1.6,



Figure 1. Habitus of female *Coelotes sinopensis* sp. n.

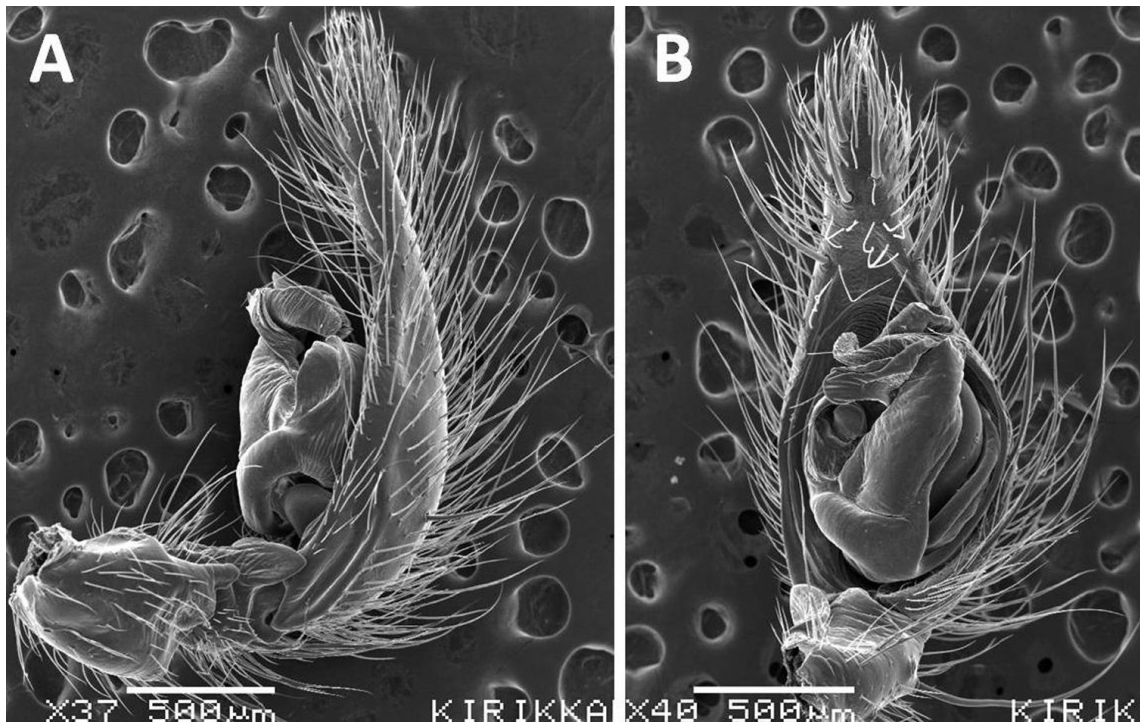


Figure 2. SEM microphotographs of *Coelotes sinopensis* sp. n. male palp. Retrolateral view (A) and ventral view (B).

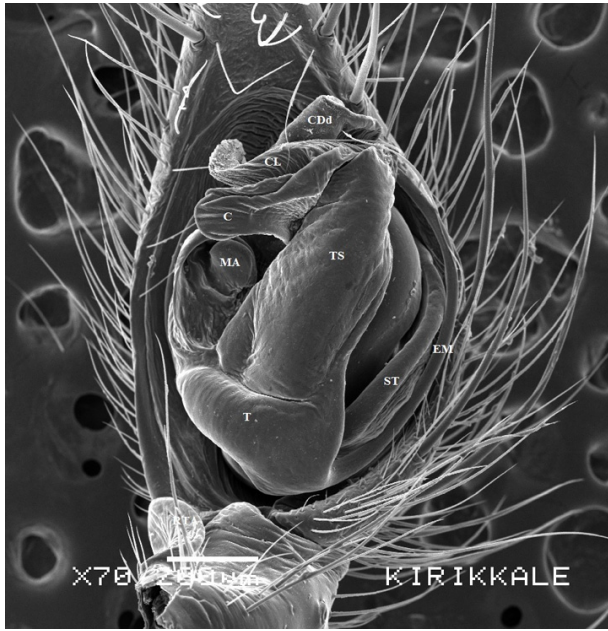


Figure 3. SEM microphotographs of *Coelotes sinopensis* sp. n. male palp, ventral view.

3.4, 3.4, 1.5). Epigynal median plate (atrium) a little longer and rectangular. Epigynal teeth relatively triangular, short, situated on the side of the atrium. Spermathecae relatively slightly prolonged, articulated, not strongly convoluted. Spermathecal heads touch each other at the top. Fertilization ducts small (Figures 5 and 6).

According to the palp and epigyne conformation, the new species clearly belongs to the genus *Coelotes* Blackwall 1841. *Coelotes sinopensis* sp. n. belongs to the “*atropos* group” and is similar to *C. atropos* (Walckenaer, 1830) and *C. phthisicus* Brignoli, 1978. In this group, females have partly reduced epigynal teeth and copulatory ducts; males have a broad patellar apophysis, a small tibial apophysis, and a conductor dorsal apophysis.

Nomenclatural Acts: This work and the nomenclatural acts it contains have been registered in Zoobank. Zoobank Life Science Identifier (LSID) for this publication is: <http://zoobank.org/urn:lsid:zoobank.org:pub:60AFC70B-D52A-4923-B86DF8FB49F7C2DC>

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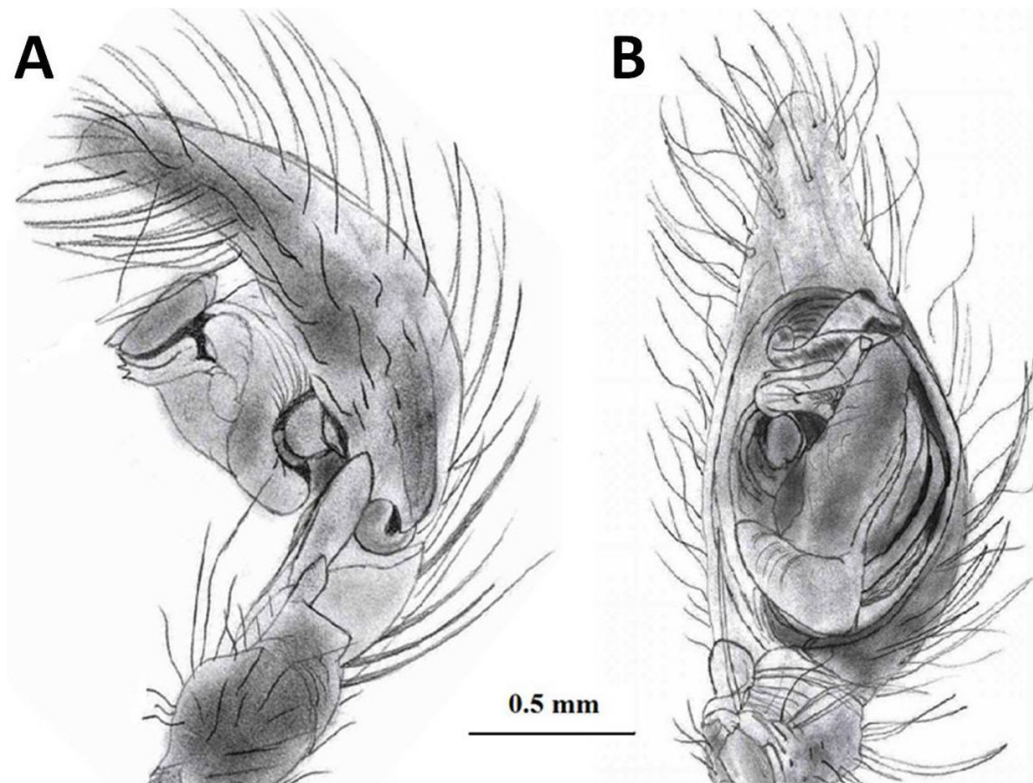


Figure 4. *Coelotes sinopensis* sp.n. male palp drawings, retrolateral view (A) and ventral view (B).

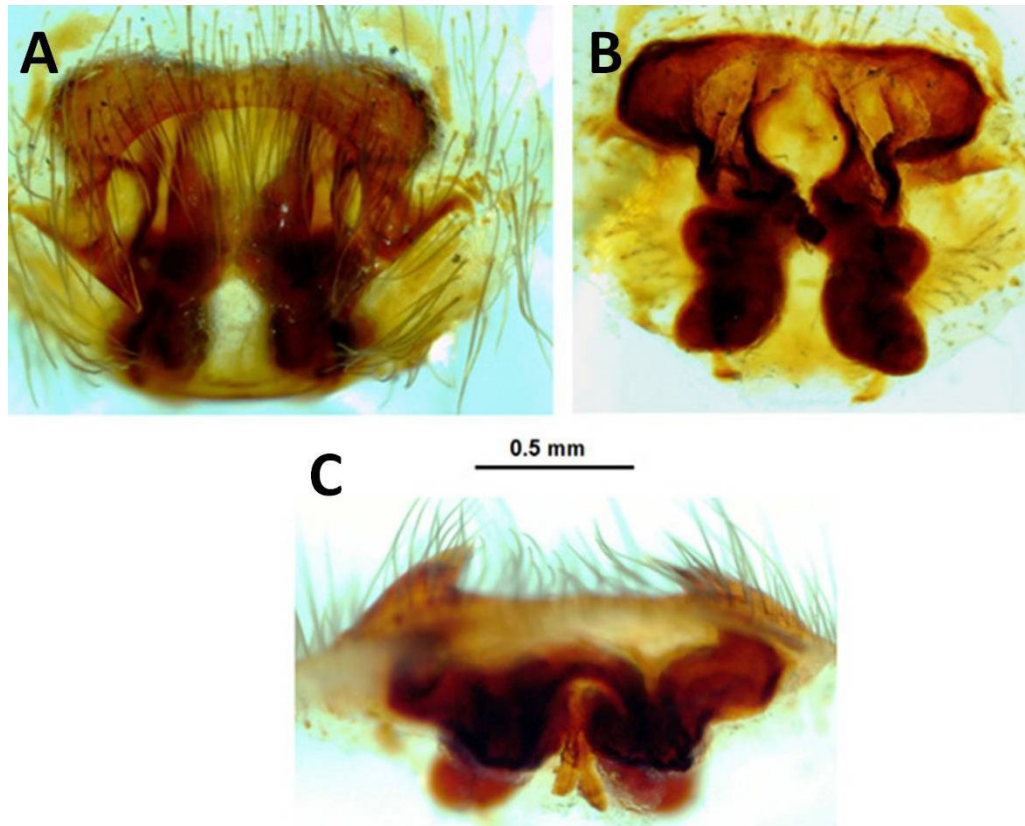


Figure 5. Epigyne of *Coelotes sinopensis* sp.n., dorsal view (A), ventral view (B), and top view (C) after maceration in KOH.

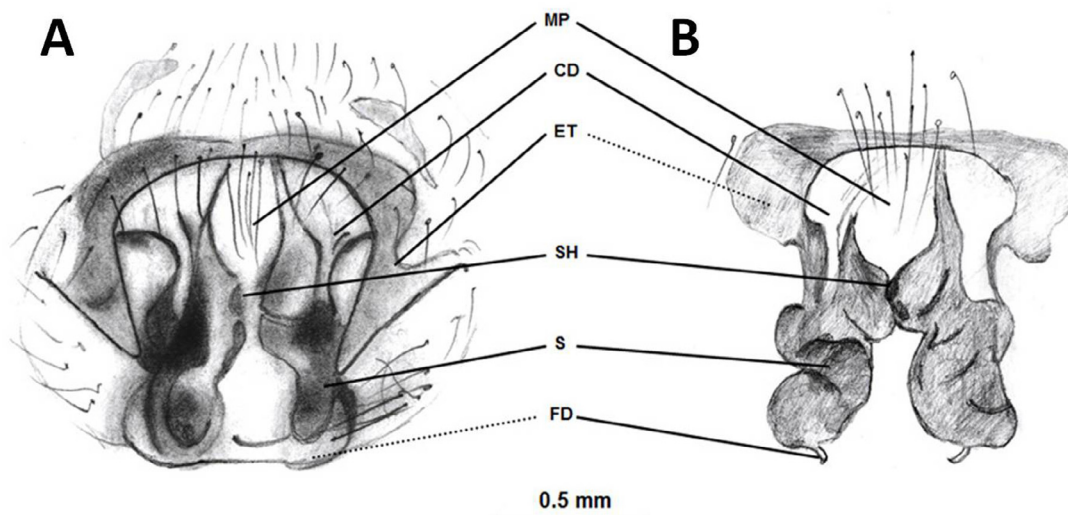


Figure 6. *Coelotes sinopensis* sp.n. epigyne drawings, ventral view (A) and dorsal view (B).

References

Bayram A, Kunt KB, Danişman T (2014). The Checklist of the Spiders of Turkey. version 2014, online at <http://www.spidersofturkey.com>, accessed on 21.04.2015.

Wang XP (2002): A generic-level revision of the spider subfamily Coelotinae (Araneae, Amaurobiidae). B Am Mus Nat Hist 269: 1–150.

World Spider Catalog (2015). World Spider Catalog. Natural History Museum Bern, online at <http://wsc.nmbe.ch>, 15.5, accessed on 21.04.2015.