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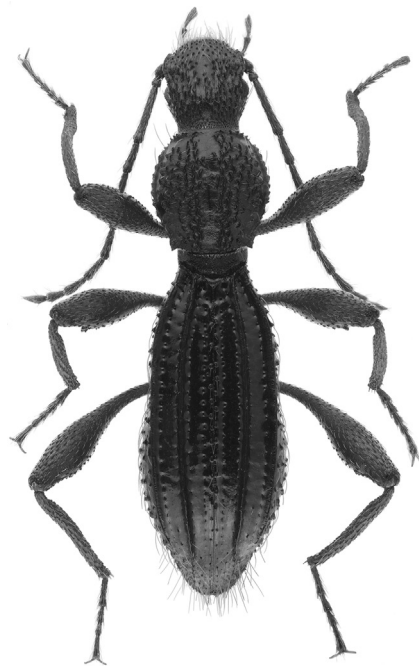


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A new species of *Dysdera* Latreille, 1804 (Aranei: Dysderidae) from South Ossetia, the Greater Caucasus

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Abstract. A new species, *Dysdera bakhanovi* sp. n., is described from South Ossetia based on a male specimen. The new species is closely related to the Pontic-Caspian *D. dunini* Deeleman-Reinhold, 1988, the Anatolian *D. anatoliae* Deeleman-Reinhold, 1988 and *D. krosis* Komnenov et Chatzaki, 2016, and can be grouped within the *anatoliae* species-group. Males from the *anatoliae* species-group can be defined by the following characters: numerous small pits on carapace, non-sclerotized posterior apophysis, shortened psembolus bent anteriorly relative to the longitudinal axis of the bulb, and distal part of the psembolus bent at an angle of 90° from the posterior apophysis. Illustrations of the new species are provided. Distributional records of all species from the *anatoliae* species-group are mapped.

Key words: Araneae, Dysderidae, new species, biodiversity, Greater Caucasus.

Новый вид рода *Dysdera* Latreille, 1804 (Aranei: Dysderidae) из Южной Осетии, Большой Кавказ

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Резюме. Из Южной Осетии по самцу описан новый вид, *Dysdera bakhanovi* sp. n. Новый вид родственен понто-каспийскому виду *D. dunini* Deeleman-Reinhold, 1988 и двум видам из Малой Азии: *D. anatoliae* Deeleman-Reinhold, 1988 и *D. krosis* Komnenov et Chatzaki, 2016. *Dysdera bakhanovi* sp. n. образует вместе с этими видами группу видов *anatoliae*. Самцы видов, относящихся к группе видов *anatoliae*, могут быть определены по следующим признакам: многочисленные мелкие ямки на карапаксе, не хитинизированный задний отросток бульбуса, укороченный псемболюс, загнутый вперед относительно продольной оси бульбуса, и дистальная часть псемболюса, отогнутая от заднего отростка бульбуса под углом в 90°. Приведены иллюстрации нового вида. Все находки видов группы *anatoliae* картированы.

Ключевые слова: Araneae, Dysderidae, новый вид, биоразнообразие, Большой Кавказ.

Introduction

Dysdera Latreille, 1804 is the largest genus of Dysderidae, accounting for 312 (sub)species [World Spider Catalog, 2023]. Spiders of this genus are represented by the largest number of species in Canary Islands, Mediterranean and the Caucasus [World Spider Catalog, 2023]. In total, 26 species of *Dysdera* have been recorded or described from the Caucasus [Mikhailov, 2022]. Among these, 20 species (77%) are endemic [Dunin, 1992; Mikhailov, 2022; World Spider Catalog, 2023]. The majority of Caucasian representatives of the genus were described and studied by Dunin [1990, 1991, 1992].

South Ossetia is a small country in southern slopes of the Greater Caucasus. Ponomarev and Komarov [2015] reported three species of *Dysdera* from South Ossetia in their checklist: *D. dunini* Deeleman-Reinhold, 1988, *D. meschetiensis* Mcheidze, 1979 (= *D. tkibuliensis* Mcheidze, 1979), and an unidentified species (most likely, it is an undescribed species similar to *D. borealicaucasica* Dunin, 1991 (A.V. Ponomarev personal communication)). During a recent expedition to South Ossetia, I collected one undescribed species of *Dysdera* which is closely related to *D. dunini*. The aim of the present paper is to describe this new species.

Material and methods

The specimen was hand-collected and preserved in 70% ethanol. It was photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope at the Altai State University (Barnaul, Russia). Photographs were taken in a dish with a white cotton at the bottom and filled with ethanol, or in a dish filled with a water based lubricant. Digital images were assembled using Zerene Stacker image stacking software.

All measurements are given in millimeters. Length of leg segments were measured on their dorsal sides. Leg measurements are shown as: femur, patella, tibia, metatarsus, tarsus (total length). Spination data are based on the examination of only one side of the body. The terminology for sclerites of the bulb and the format of the description follows Fomichev and Marusik [2021].

The holotype is deposited in the Institute of Systematics and Ecology of Animals of the Siberian Branch of the Russian Academy of Sciences (ISEA, Novosibirsk, Russia; curator G.N. Azarkina).

Abbreviations: AME – anterior median eyes, Mt – metatarsus, p – prolatateral, PLE – posterior lateral eyes, PME – posterior median eyes, r – retrolateral, Ti – tibia, v – ventral.



Figs 1–7. *Dysdera bakhanovi* sp. n., male, general view and details of structure.

1 – habitus, dorsally; 2 – prosoma, laterally; 3 – whole palp, retrolaterally; 4–7 – left bulb: 4 – anterior view, 5 – posterior view, 6 – prolaterally, 7 – retrolaterally. *Ap* – posterior apophysis; *Se* – stem of the psembolus; *Tb* – terminal blades; *Te* – tegulum. Scale bars: 1 – 2 mm; 2–3 – 1 mm; 4–7 – 0.2 mm.

Рис. 1–7. *Dysdera bakhanovi* sp. n., самец, общий вид и детали строения.

1 – габитус, дорсально; 2 – головогрудь, латерально; 3 – целая пальпа, ретролатерально; 4–7 – левый бульбус: 4 – вид спереди, 5 – вид сзади, 6 – пролатерально, 7 – ретролатерально. *Ap* – задний отросток; *Se* – стемель псемболоуса; *Tb* – концевые лопасти; *Te* – тегулюм. Масштабные линейки: 1 – 2 мм; 2–3 – 1 мм; 4–7 – 0.2 мм.

Family Dysderidae C.L. Koch, 1837

Genus *Dysdera* Latreille, 1804

Dysdera bakhanovi sp. n.

(Figs 1–9)

Material. Holotype, ♂ (ISEA, 001.9544): South Ossetia, Tskhinval District, 2 km WNW from Grom vill., Adzula River valley, 42°10.284'N / 44°11.848'E, 950 m, pebbly river bank, 21–25.06.2021 (A.A. Fomichev).

Diagnosis. The male of the new species is similar to those of *D. anatoliae* Deeleman-Reinhold, 1988 (Turkey),

D. dunini (Turkey, Crimea and the Caucasus) and *D. krisis* Komnenov et Chatzaki, 2016 (Turkey and Greece) in having numerous small pits on carapace and shortened psembolus with its distal part bent at an angle of 90° from elliptical non-sclerotized posterior apophysis. The male of *D. bakhanovi* sp. n. can be distinguished from all above-mentioned species by slender and elongated tegulum with a length/width ratio of 1.8 (vs 0.9 in *D. anatoliae*, 1.2 in *D. dunini* and 1.5 in *D. krisis*; cf. Figs 6, 7 and fig. 103 in Deeleman-Reinhold and Deeleman [1988], figs 10A–E in



Figs 8–9. Localities of species from *Dysdera anatoliae* species-group.

8 – habitat of *D. bakhanovi* sp. n.; 9 – collection points: inverted triangle – *D. anatoliae*, circle – *D. bakhanovi* sp. n., triangles – *D. dunini*, squares – *D. krisis*.

Рис. 8–9. Местонахождения видов из видовой группы *Dysdera anatoliae*.

8 – биотоп *D. bakhanovi* sp. n.; 9 – точки находок: перевернутый треугольник – *D. anatoliae*, круг – *D. bakhanovi* sp. n., треугольники – *D. dunini*, квадраты – *D. krisis*.

Dunin [1992] and figs 25, 26 in Komnenov et al. [2016]). Additionally, the male of the new species differs from that of *D. anatoliae* by the flat anterior surface of the stem of the psembolus (vs swollen; cf. Fig. 6 and fig. 103 in Deeleman-Reinhold and Deeleman [1988]). The male of *D. bakhanovi* sp. n. differs from the male of *D. dunini* by the strongly shortened posterior apophysis, that is dorsally bent (vs elongated and straight posterior apophysis; cf. Figs 6, 7 and figs 10A–e in Dunin [1992]). Finally, the male of *D. bakhanovi* sp. n. can be distinguished from that of *D. krisis* by strongly shortened chelicerae with a carapace/chelicerae length ratio of 1.9 (vs 1.3; cf. Fig. 2 and fig. 21 in Komnenov et al. [2016]) and by the psembolus with 4 terminal blades (vs 3; cf. Figs 6, 7 and figs 29, 31 in Komnenov et al. [2016]).

Description. Male. Total length 7.2. Carapace: 4.3 long, 3.5 wide. Abdomen: 4.1 long, 2.7 wide. Chelicerae: 2.3 long. AME 0.23, PME 0.23, PLE 0.24. Colouration. Carapace and chelicerae dark cherry coloured. Carapace covered with numerous small pits. Sternum and labium orange-red. Endites and coxae orange. Legs and palps yellow-orange. Abdomen gray-beige. Spinnerets pale yellow. Leg measurements: I: 3.1, 2, 2.55, 2.6, 0.7 (10.95); II: 2.9, 1.85, 2.35, 2.55, 0.7 (10.35); III: 2.4, 1.4, 1.5, 2.2, 0.55 (8.05); IV: 3.05, 1.7, 2.2, 2.7, 0.65 (10.3). Leg spination: III: Ti p3, v2; Mt p6, r1, v2. IV: Ti p1, r1, v4; Mt p3, r2, v5.

Palp as shown in Figs 3–7. Femur 1.4 times longer than patella. Patella 1.3 times longer than tibia. Cymbium 1.2 times longer than tibia. Length/width ratio of the bulb 2.5. Posterior apophysis elliptical, non-sclerotized. Psembolus with its distal part bent at an angle of 90° from posterior apophysis. Apex of the psembolus splits into four terminal blades.

Female unknown.

Etymology. The new species is dedicated to Roman A. Bakhanov (Gorno-Altaysk, Russia), who helped to organize the expedition to South Ossetia, during which the holotype was collected.

Discussion

Deeleman-Reinhold and Deeleman [1988] assigned all *Dysdera* species to nine species groups: *aculeata*, *asiatica*, *crocata*, *erythrina*, *festai*, *lata*, *longirostris*, *ninnii* and *punctata*. *Dysdera anatoliae* together with *D. dunini* were placed in the *longirostris* species-group comprising of eight species that are distributed in Mediterranean [Deeleman-

Reinhold, Deeleman, 1988]. These species were assigned to one species group based on the following features: large and flattened cephalic part of the carapace, spineless femora of all legs and bulbal posterior apophysis smaller in size than the distal part of psembolus [Deeleman-Reinhold, Deeleman 1988]. As a result, the *longirostris* species-group turned out to be very heterogeneous. For example, *D. granulata* Kulczyński, 1897 has a very small hook-like posterior apophysis, while *D. anatoliae* possesses a large ovoid posterior apophysis (cf. figs 76 and 103 in Deeleman-Reinhold and Deeleman [1988]). Another species similar to *D. anatoliae* and *D. dunini* is *D. krisis*, which was described from Greece [Komnenov et al., 2016]. Subsequently it was recorded in Turkey [Varol, Danişman, 2017]. *Dysdera anatoliae*, *D. dunini* and *D. krisis* can be united into one species-group by a number of characters: 1) numerous small pits on carapace (cf. figs 101 in Deeleman-Reinhold and Deeleman [1988] and figs 1a, c in Varol and Danişman [2017]); 2) shortened psembolus (cf. fig. 103 in Deeleman-Reinhold and Deeleman [1988], figs 10A–e in Dunin [1992] and figs 25, 26 in Komnenov et al. [2016]); 3) psembolus bent anteriorly relative to the longitudinal axis of the bulb; 4) distal part of the psembolus bent at an angle of 90° from the posterior apophysis; 5) non-sclerotized posterior apophysis. Other species from the *longirostris* species-group do not possess this set of characters and remain outside this group. For example, *D. punctoretica* Deeleman-Reinhold, 1988 described from the Greek Corfu Island and assigned to the *longirostris* species-group, has a carapace with numerous small pits (cf. fig. 90 in Deeleman-Reinhold and Deeleman [1988]) and rather similar conformation of the bulb, but possesses a large straight psembolus oriented along the longitudinal axis of the bulb (cf. fig. 93 in the same paper). The newly described species from South Ossetia belongs to the same species-group as *D. anatoliae*, *D. dunini* and *D. krisis*. I propose naming this species group as *Dysdera anatoliae* species-group. Members of the *anatoliae* species-group are distributed from the Sea of Marmara through Crimea and Turkey to the Absheron Peninsula (Fig. 9) [Dunin, 1992; Kovblyuk et al., 2008; Varol, Danişman, 2017]. *Dysdera dunini* is the most widespread species from this species-group. It is important to note that depictions of

the bulb of this species by different authors based on specimens from various regions, such as the Caucasus, Crimea and Turkey, are very different. For example, Dunin [1992: figs 10_A–e], who studied the Caucasian specimens, has depicted psembolus with three terminal blades, while later Kovblyuk et al. [2008: figs 11, 12] provided drawings of the bulb of *D. dunini* from Crimea which clearly shows psembolus with two longitudinal ridges. Such differences may indicate that the Crimean specimens may actually belong to an undescribed species.

Key to the males of the *Dysdera anatoliae* species-group

1. Tegulum length/width ratio 1.8 *D. bakhanovi* **sp. n.**
– Tegulum length/width ratio 1.5 or less 2
2. Psembolus with two terminal blades, scissors-like
..... *D. krosis*
– Psembolus with more than two terminal blades 3
3. Chelicerae shortened (carapace/chelicerae length ratio
of 2.1), posterior apophysis narrower than the distal
part of psembolus *D. anatoliae*
– Chelicerae elongated (carapace/chelicerae length ratio
of 1.8), posterior apophysis wider than the distal part
of psembolus *D. dunini*

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