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Two New Spider Species, *Harpactea simovi* sp. n. and *H. stoevi* sp. n. (Araneae: Dysderidae), from the Balkan Peninsula

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Abstract: *Harpactea simovi* sp. n. (male and female) is described and illustrated from localities close to the entrance of two caves in the West Stara Planina Mountains (Bulgaria). *Harpactea stoevi* sp. n. (male) is described and illustrated from a cave in the East Stara Planina Mountains (Bulgaria). The new species correspond well to the *lepida* species group and are compared with related species and discussed.

Key words: Description, *lepida* species group, cave, Bulgaria

Introduction

Dysderid spiders are common in ground habitats, especially leaf litter, and are often found in caves (Chatzaki & Arnedo 2006). In this article, we describe two new species of the genus *Harpactea* Bristowe, 1939 collected from the superficial underground compartment close to a cave entrances in the West Stara Planina Mts. and from a cave in the East Stara Planina Mts.

Materials and Methods

The spider material was collected by hand and by underground traps described in detail by Deltshev et al. (2011). Coloration is described from alcohol-preserved specimens. Measurements of the legs were taken from the dorsal side. Total length of the body includes the chelicerae. All measurements are in mm. Specimens were examined and measured using a Wild M5A stereomicroscope. Male palps were examined and illustrated after they were dissected from the spiders' bodies. Photos were taken with Lumix digital camera mounted on Wild M5A stereomicroscope.

The following abbreviations are used in the text and figures: eyes, AME – anterior median eyes; spinulation, d – dorsal, p – prolateral, r – retrolateral, v – ventral; male palp: AA – accessory apophysis of bulb, CO – conductor, E – embolus; vulva: AC – anterior arc, PD – posterior diverticulum, S – spermatheca.

The material is deposited in the National Museum of Natural History, Sofia, Bulgaria (NMNHS), Museum für Naturkunde, Humboldt-Universität zu Berlin (ZMB) and Senckenberg Museum, Frankfurt am Main (SMF), Germany.

Results

Dysderidae Thorell, 1881
***Harpactea* Bristowe, 1936**
***Harpactea simovi* sp. n.**

Figs 2–7, 8–12

Type material: Holotype, male, Bulgaria, West Stara Planina Mountains, Bov Village, Mecha Dupka Cave, E 23.2435, N 43.0017, 935 m a.s.l., 09.07.2013 (NMNHS) (leg. C. Deltshev, N. Simov). Paratypes: 4 ♂♂ and 3 ♀♀, same data as for the hol-

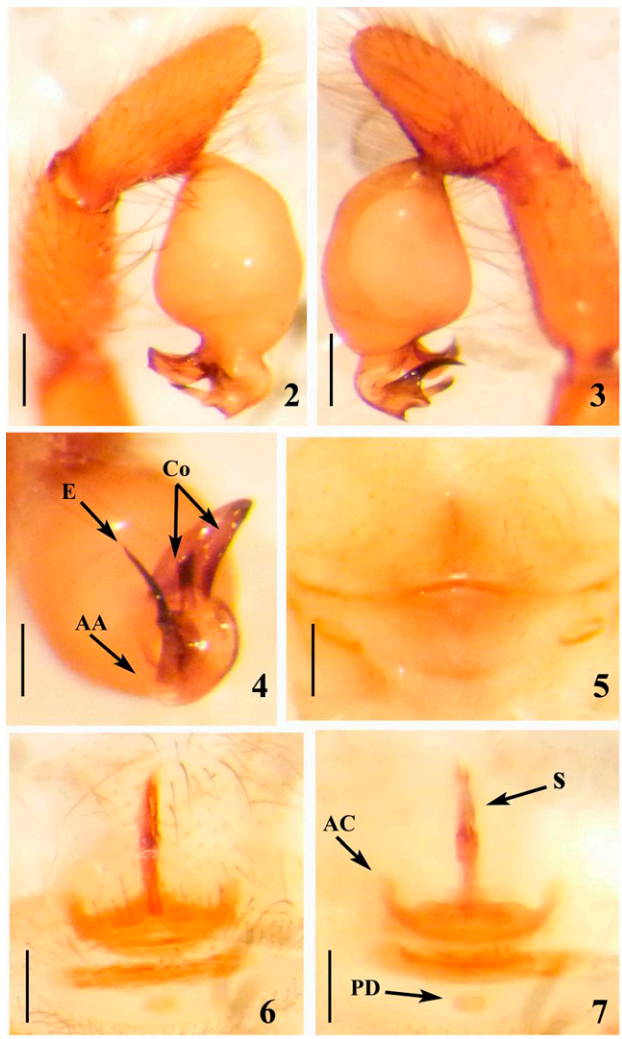
Fig. 1. Distribution map of *Harpactea simovi* sp. n. and *H. stoevi* sp. n.

otype; 4 ♂♂and 3 ♀♀, 11.08.2012 (NMNHS, ZMB, SMF) (leg. C. Deltshev, I. Gjonov, N. Toshkova); 1 ♂ and 2 ♀♀, 4.03.2013 (NMNHS) (leg. C. Deltshev, M. Langourov, N. Simov); 2 ♂♂ and 1 ♀, 12.04.2013 (NMNHS) (leg. C. Deltshev, N. Simov). Gintsi Village, Tizoin Cave, N 43.0893, E 23.0764, 1328 m a.s.l., 1 ♂ and 1 ♀, 5.10.2015 (NMNHS) (leg. N. Simov & V. Zhelyazkova).

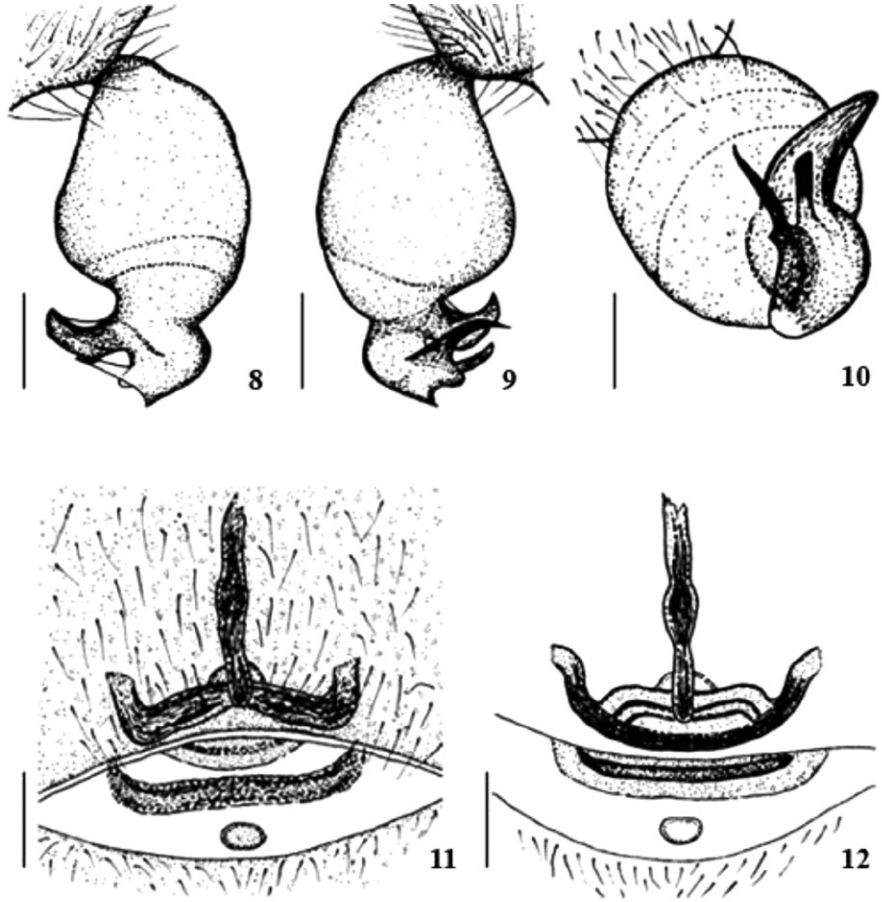
Etymology: Named in honour of the Bulgarian heteropterologist Nikolay Simov, who has greatly contributed for the collection of the material; name in the genitive case.

Diagnosis: Differs from similar species in the *lepida* group such as *Harpactea apollinea* Brignoli, 1979, *H. complicata* Deltshev, 2011, *H. cressa* Brignoli, 1984, *H. bulgarica* Lazarov & Naumova, 2010, *H. lazarovi* Deltshev, 2011, *H. mentor* Lazarov & Naumova, 2010 and *H. tenuiemboli* Deltshev, 2011 by the curved and tapered embolus, the lamellar part of the conductor shaped like a yataghan, a chisel-shaped projection and an subconcave accessory apophysis tapered apically (Figs. 2–4, 8–10). The female differs mainly in the shape of the spermatheca and anterior arc with elevated lateral edges (Figs. 5–7, 9, 10).

Description: Male, holotype: Total length 5.25; prosoma, length 2.25, width 1.50; sternum length 1.50, width 1.33; opisthosoma, length 3.00. Carapace with smooth surface, yellow to yellow-brown on the cephalic part; hairs sparse. AME larger than the rest of the eyes. Distance between AME less than their diameter. Labium length two times its width, with hairy, whitish upper part. Sternum with hairs on the periphery. Chelicerae



Figs. 2–7. *Harpactea simovi* sp. n. 2, 3. Male palp, prolateral and retrolateral view. 4. Detail of tip anterior (holotype). 5–7. Epigyne and vulva, ventral and dorsal view (paratype, the same date as holotype). Scale-bars: 2–4, 0.3 mm; 5–7, 0.2 mm.



Figs. 8–12. *Harpactea simovi* sp. n. 8, 9. Male palp, prolateral and retrolateral view. 10. Detail of tip anterior (holotype). 11, 12. Epigyne and vulva, ventral and dorsal view (paratype, the same date as holotype). Scale-bars: 8–10, 0.3 mm; 11, 12, 0.2 mm.

Table 1. *Harpactea simovi* sp. n. spination (holotype).

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus
I	3 p	0	0	0	0
II	3 p	0	0	0	0
III	6 d	0	3 p, 2 r, 4 v	5 p, 2 r, 4 v	0
IV	4 d	0	5 p, 5 r, 4 v	6 p, 5 r, 5 v	0

Table 2. *Harpactea simovi* sp. n. leg measurements (holotype).

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.25	1.28	1.80	1.73	0.75	7.81
II	1.95	1.20	1.50	1.50	0.60	6.75
III	1.73	0.75	1.33	1.50	0.60	5.91
IV	2.25	1.28	1.80	2.18	0.75	8.26

Table 3. *Harpactea simovi* sp. n. leg measurements (paratype).

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.33	1.58	1.88	1,73	0.75	8.27
II	2.33	1.43	1.73	1.65	0.60	7.74
III	1.80	0.90	1.20	1.65	0.60	6.15
IV	2.48	1.58	2.03	2.33	0.90	8.87

light brown. Retromargin with one tiny tooth on the base of the groove and the larger one on its middle part. Promargin with two teeth of equal size (larger than those at the retromargin) which are close to each other. Abdomen grey to light grey, elongate and slender. Legs yellow to yellow-brown. Leg spination and measurements are given in Tables 1 and 2.

Male palp (Figs. 2–4, 8–10): Tibia longer than tarsus; straight. Tarsus triangular in lateral view. All segments setose. Tegulum pear-shaped with complex embolar division. Embolus transverse, curved and tapered. Conductor bifurcated; lamellar part yataghan-shaped; projection slender, sharp-cut apically. The accessory apophysis subconcave, tapered apically.

Female (one paratype): Total length 5.78; prosoma: length 2.40, width 1.88; sternum length 1.50, width 1.13; opisthosoma length 3.53. All characters as described for male. Leg measurements given in Table 3.

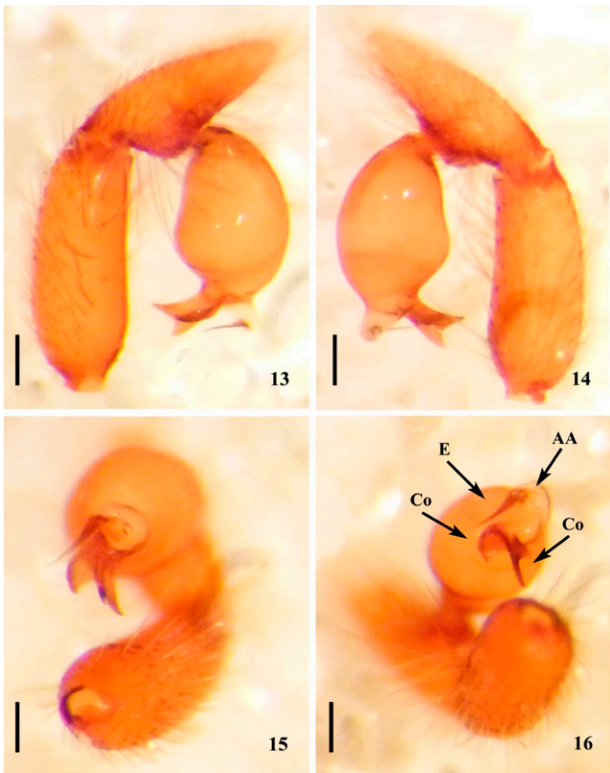
Epigyne and vulva (Figs. 5–7, 9, 10): Comparatively long, sclerotised spermatheca, sharply pointed at its upper part. Anterior arc with elevat-

ed lateral edges. Transverse bar indistinguishable; posterior diverticulum oval-shaped, wider than long.

Distribution: Known from its type locality only (Fig. 1).

***Harpactea stoevi* sp. n.**

Type material: Holotype, male, Bulgaria, East Stara Planina Mts., Sliven Town, Zmeevi Dupki Cave, E 26.3573, N 42.6998, 305 m a.s.l., 09.10.2001 (NMNHS)(leg. B. Petrov).



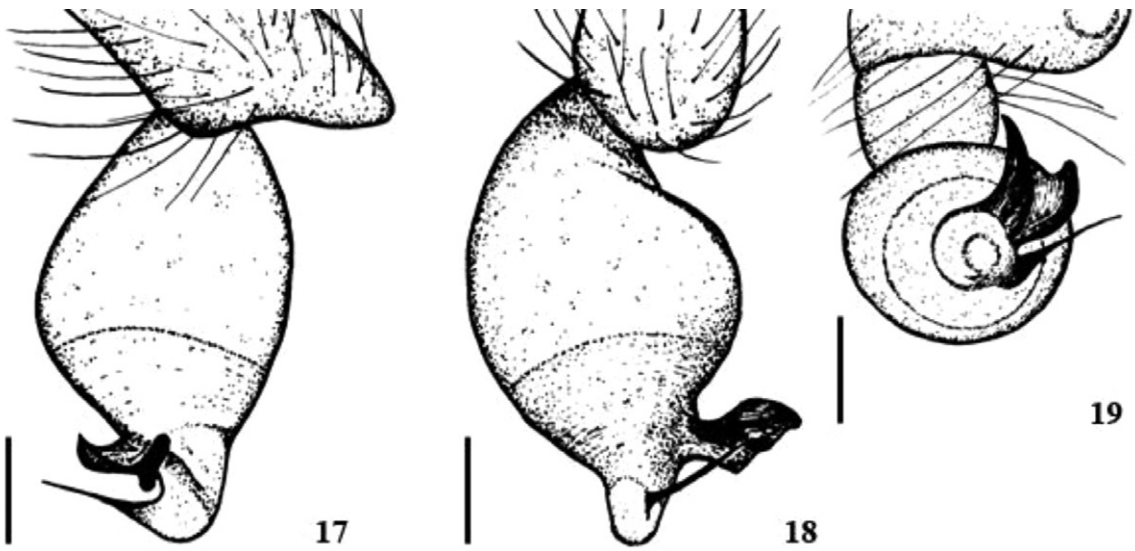
Figs. 13–16. *Harpactea stoevi* sp. n. 13, 14. Male palp, prolateral and retrolateral views. 15, 16. Detail of tip anterior view. Scale-bars: 0.3 mm.

Etymology: Named in honour of the Bulgarian myriapodologist Pavel Stoev, who has contribution also in araneology; name in the genitive case.

Diagnosis: Differs from similar species in the *lepida* group such as *Harpactea apollinea* Brignoli, 1979, *H. complicata* Deltshev, 2011, *H. cressa* Brignoli, 1984, *H. bulgarica* Lazarov & Naumova, 2010, *H. lazarovi* Deltshev, 2011, *H. mentor* Lazarov & Naumova, 2010, *H. tenuiemboli* Deltshev, 2011 and *H. simovi* sp. n. by the thin, long and tapered embolus, the lamellar part of the conductor fish tail-shaped, the leaf-shaped projection and a bud-shaped accessory apophysis tapered apically.

Description: Male, holotype: Total length 4.88; prosoma length 2.48, width 1.88; sternum length 1.50, width 1.33; opisthosoma, length 2.63. Carapace with smooth surface, yellow to yellow-brown on cephalic part; hairs sparse. AME larger than the rest of eyes. Distance between AME less than their diameter. Labium length two times its width, with hairy whitish upper part. Sternum with hairs on periphery. Chelicerae light brown. Retromargin with two teeth on its middle part, close to one another. Promargin with two teeth of equal size; same size as those at retromargin. Abdomen grey to light grey, elongated and slender. Legs yellow to yellow-brown. Leg spination and measurements given in Tables 4 and 5.

Male palp (Figs. 1-5): Tibia longer than tarsus; straight. Tarsus triangular in lateral view. All segments setose. Tegulum pear-shaped with complex embolar



Figs. 17–19. *Harpactea stoevi* sp. n. 17, 18. Male palp, prolateral and retrolateral views. 19. Detail of tip anterior view. Scale-bars: 0.2 mm.

Table 4. *Harpactea stoevi* sp. n. spinulation.

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus
I	5 p	0	0	0	0
II	4 p	0	0	0	0
III	6 d	0	3 p, 2 r, 4 v	4 p, 4 r, 3 v	0
IV	4 d	0	5 p, 5 r, 4 v	5 p, 4 r, 4 v	0

Table 5. *Harpactea stoevi* **sp. n. leg measurements.**

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.25	1.50	1.88	1.95	0.68	8.26
II	2.10	1.35	1.73	1.80	0.60	7.58
III	1.88	0.90	1.28	1.73	0.60	6.39
IV	2.40	1.33	1.95	2.55	0.75	8.98

division. Embolus transverse, thin, long and tapered. Lamellar part of conductor fish tail-shaped, with leaf-shaped projection. Accessory apophysis bud-shaped.

Female unknown.

Distribution: Known from the type locality only (Fig. 1).

Discussion

The genus *Harpactea* currently includes 52 species from the Balkan Peninsula (WSC 2017). In Bulgaria, 22 species are found; of them, *H. deltshevi* Dmitrov & Lazarov, 1999; *H. strandjica* Dimitrov, 1997; *H. asparuhi* Lazarov, 2008; *H. kubrati* Lazarov, 2008; *H. bulgarica* Lazarov & Naumova, 2010; *H. mentor* Lazarov & Naumova, 2010 and *H. lazarovi* Deltshev, 2011 are known only from the territory of Bulgaria (Deltshev & Blagoev 2001, Deltshev et al. 2003, Deltshev 2011a, b, Lazarov 2002, 2005, 2006, 2008a, b). With the present study, the number of the species of the genus *Harpactea* from the Balkan Peninsula becomes 54, and the number of those known from Bulgaria only is 24.

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