

A NEW SPECIES OF THE GENUS *HARPACTEA* (ARANEAE, DYSDERIDAE) FROM THE CARPATHIANS MOUNTAINS (ROMANIA)

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Abstract. *Harpactea decebali* spec. nov. a spider species from edaphic, caves and MSS from Romania is described and illustrated. The relationship between this new species and other European species of *Harpactea* is discussed.

Key words: new species, edaphic, caves, MSS, Araneae – Dysderidae – Taxonomy – *Harpactea* – Romania.

1. INTRODUCTION

The World Spider Catalog (2020) lists 187 accepted species of the genus *Harpactea* Bristowe, 1939. 147 of them occur in Europe, particularly in the Mediterranean Basin, many as endemic species (Nentwig *et al.* 2020).

In Romania, genus *Harpactea* has five species: *H. alexandrae*, *H. hombergi*, *H. lepida*, *H. rubicunda* and *H. saeva*, and *H. decebali* is the sixth. Bulgaria, country that lies in the south of Romania, has 24 *Harpactea* species (Blagoev G, Deltshv C, Lazarov S, Naumova M 2018), the majority being endemic (15 species).

Individuals belonging to the new species of *Harpactea* were collected from the Mesovoid Shallow Substratum (MSS) during the studies made by Dr. Victoria Ilie in Carasului and Comarnicului Gorges from Aninei Mountains, in the South-West part of Romania. They were also collected from forest litter, caves entrances and even from a vertical cave.

2. MATERIAL AND METHOD

This study is based on 10 males (1 ♂ litter Comarnicului Gorges; 4 ♂♂ Pestera Cu Gheață Cave; 2 ♂♂ litter Vălina Vallei; 1 ♂ poll MSS Comarnicului Gorges; 2 ♂♂ Avenul cel Nou Cave, Minișului Valley) and one female (♀ litter Vălina Vallei) from the Aninei Mountains, Caraș-Severin County, Romania. All specimens are preserved in the scientific collection of the “Emil Racovitza” Institute of Speleology Bucharest, Romania (ISER). The material (holotype,

allotype and paratypes) was conserved in 70% ethylic alcohol. The dissection was made in glycerol at a Zeiss Stemi 2000 stereomicroscope and mounted for observation in mixture of gelatine Merk and anhydrous glycerol. An Olympus CH2 with drawing attachment was used for microscopic examination and drawings. The photos were made on Zeiss Discovery V8 with Canon A 640 camera.

All measurements are in millimetres. Terminology for the body measurements and copulatory organ structures were taken from CHATZAKI & ARNEDO (2006). The following abbreviations were used in the text: AL, abdominal length; CL, carapace length; CW carapace width; ChL, total length of chelicera (lateral external view); Ta, tarsus; Me, metatarsus, Ti, tibia; Pa, patella; Fe, femur; Tr, trochanter; C, coxa; d, dorsal; pl, prolateral; v, ventral; CO, conductor; E, embolus; T, tegulum; AA, accessory apophysis; SA secondary apophysis, MSS – Mesovoid Shallow Substratum, ISER – “Emile Racovitza” Institute of Speleology Bucharest.

3. RESULTS

Taxonomy

Family Disderidae C.L. Koch, 1837

Genus *Harpactea* Bristowe, 1939

***Harpactea decebali* n. sp.**

Figs 1–9.

Type data: Holotype: 1 male, Vălina Valley, 17.10.2004, Caraş-Severin County, Romania, legit V. Ilie and C. Ţencuşe. Allotype: 1 female, Caraşului Gorges, 24.04.2002, Caraş-Severin County, Romania, legit Victoria Ilie (all specimens in ISER collection).

Etymology: The name of the new species is dedicated to Decebal, the last king of the Dacian Kingdom that represented most of the territory that is now Romania. Its existence ends with the Roman Conquest, after the Daco-Roman wars from 101–102 and 105–106 A.D.

Diagnosis: the species can be recognized by genital characters, bulbus (male) and epigyne/vulva (female).

Harpactea decebali n. sp. differs from other Romanian *Harpactea* species in the structure of the pedipalp of the male and epigyne/vulva of female. However, the palpal structures of *Harpactea decebali* n. sp. it is generally close to *H. catholica* (Brignoli, 1984) from Crete. The new species can be distinguished from *H. catholica* by a more complex distal part, by the different shape of the embolus and conductor; by the presence of a secondary apophysis SA and by the embolus and the conductor have almost the same orientation. The conductor of *H. catholica* is projected in opposite direction to the embolus (Chatzaki & Arnedo 2006). The epigyne/vulva of these two species are completely different and the leg spination too.

Description: *Male holotype:* Vălina Valley, 17.10.2004, Caraş-Severin County, Romania, legit V. Ilie and C. Ţencuşe.

Measurements (mm): Carapace CL 3.72 long, CW 2.86 wide. Length of abdomen (AL) 4.6 long, 2.76 wide. Sternum 2.3 long, 1.94 wide. Legs measurements are given in Table 1.

Colour: Carapace light yellowish-brown (Fig. 5), darker on the margins. Sternum whitish, with light yellowish-brown margins. Labium, gnathocoxae and chelicerae the same colour as carapace. The eyes are bordered by a black stripe.

Chelicerae (Figs. 6–7): ChL1.88 mm. Cheliceral groove with four teeth: retromargin with two teeth, distanced from each other, the tooth towards the base situated, approximately, as those from the promargin (right in the space between them); promargin with two strong teeth of equal size, close to each other.

Abdomen (Opisthosoma) whitish (Fig. 5). Legs pale yellow, in general very pale colour (Fig. 5). Legs: IV, I, II, III. Dorsal part of coxae without spines. Details of leg spination are given in Table 2.

Palpal organ with globular-oval bulb, light yellowish-brown, with the proximal part, tegulum, simple and lighter in colour, while the distal part is more complex, represented by a brown embolus, darker than the rest, tubular, thinning towards the tip, with an “S” shape, lightly twisted, forming one whirl around its own axis (Figs. 1–4). Conductor same colour as embolus, orientated in the same direction as it, triangular, strongly sharpened towards the tip. Near the conductor, on its anterior part, lies the accessory apophysis (AA), with the same shape as the conductor, but lightly curved, ending with a sharp tip. Immediately under it, on the same side, lies the secondary apophysis (SA), thicker than the first, hook shaped and lighter in colour (Figs. 1, 3).

Table 1

Male legs (I–IV) and palpal segments measurements (mm)

	Fe	Pa	Ti	Mt	Ta	Total
Palp	1.9	1.1	1.08	-	1	5.08
I	3.3	2.2	2.78	2.68	1.1	12.06
II	3.0	1.96	2.52	2.54	1.1	11.12
III	2.48	1.24	1.8	2.4	1	8.92
IV	3.44	1.7	2.84	3.64	1.14	12.76

Table 2

Male legs (I–IV) spination

Leg	I	II	III	IV
Co	0	0	0	0
Fe	3 pl	2 pl	6 d	3 d
Pa	0	0	0	0
Ti	0	0	13	18
Me	0	0	14	8
Ta	0	0	0	0



Fig. 1. Pedipalp, ventral view (scale bars: 0.1 mm).

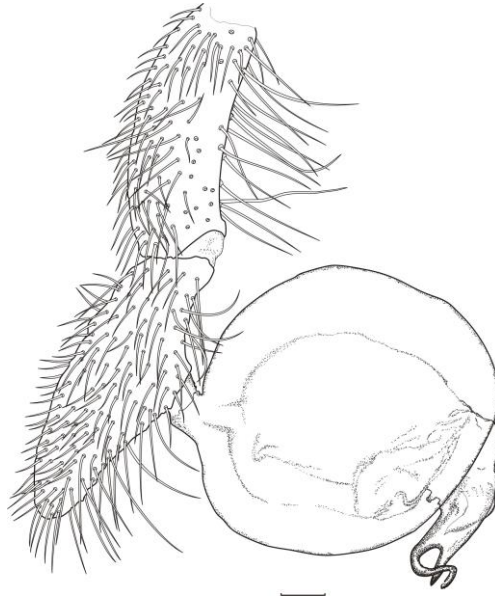


Fig. 2. Pedipalp, dorsal view (scale bars: 0.1 mm).

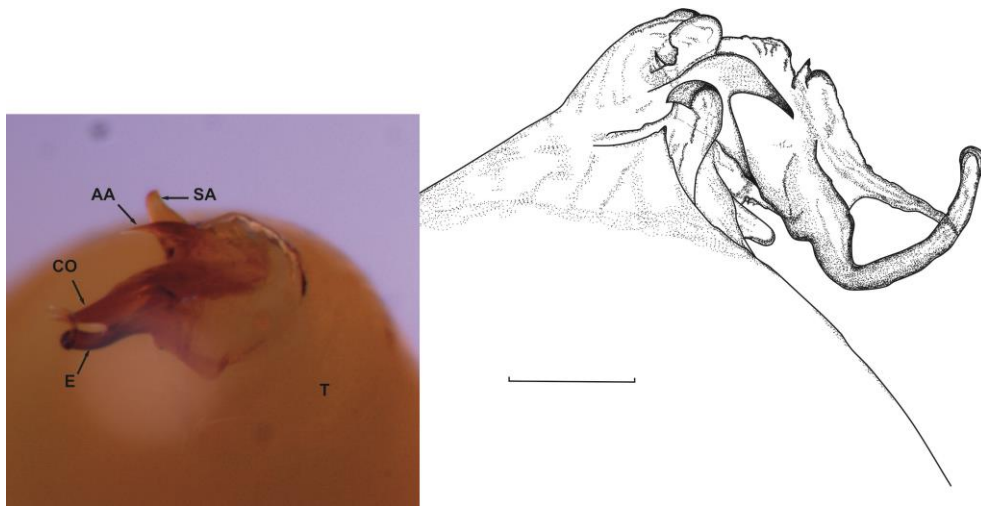


Fig. 3. Pedipalp, distal part of bulbous (scale bars: 0.1 mm).



Fig. 4. Pedipalp, general view.



Fig. 5. Habitus (male).



Fig. 6. Chelicerae, ventral view
(scale bars: 0.1 mm).

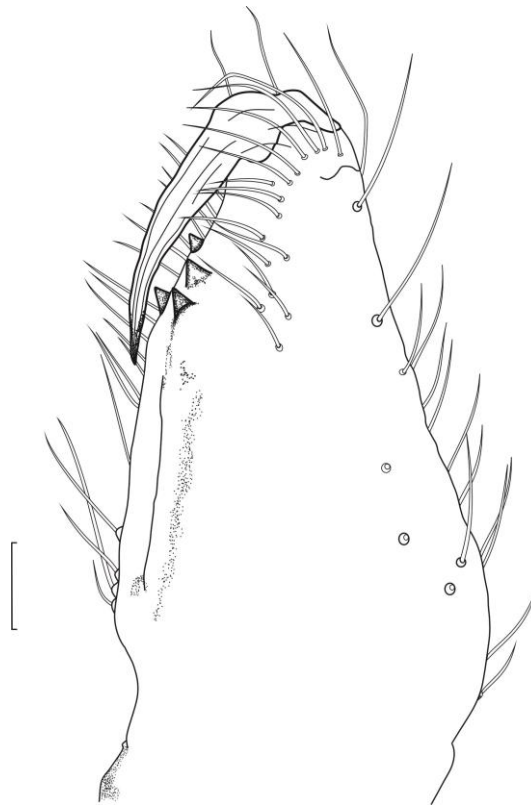


Fig. 7. Chelicerae, ventral view
(scale bars: 0.1 mm).

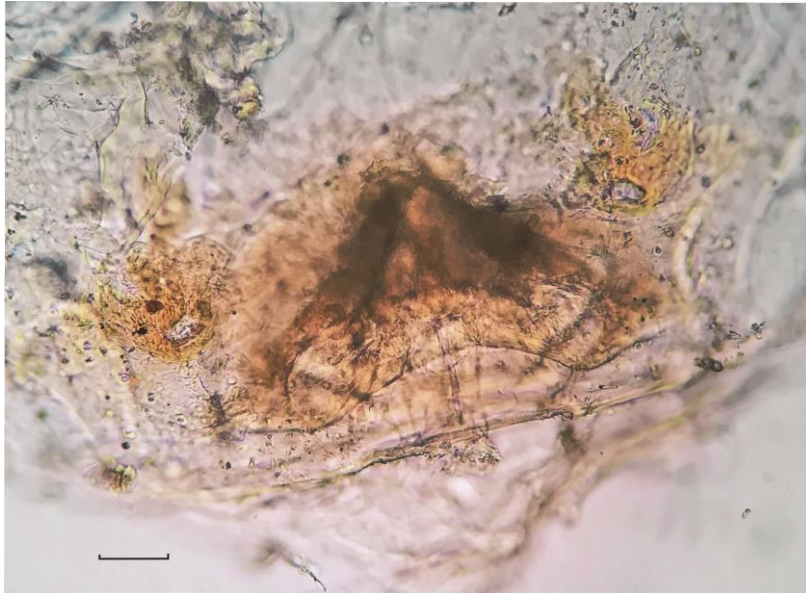


Fig. 8. Epigyne, ventral view (scale bars: 0.1 mm).

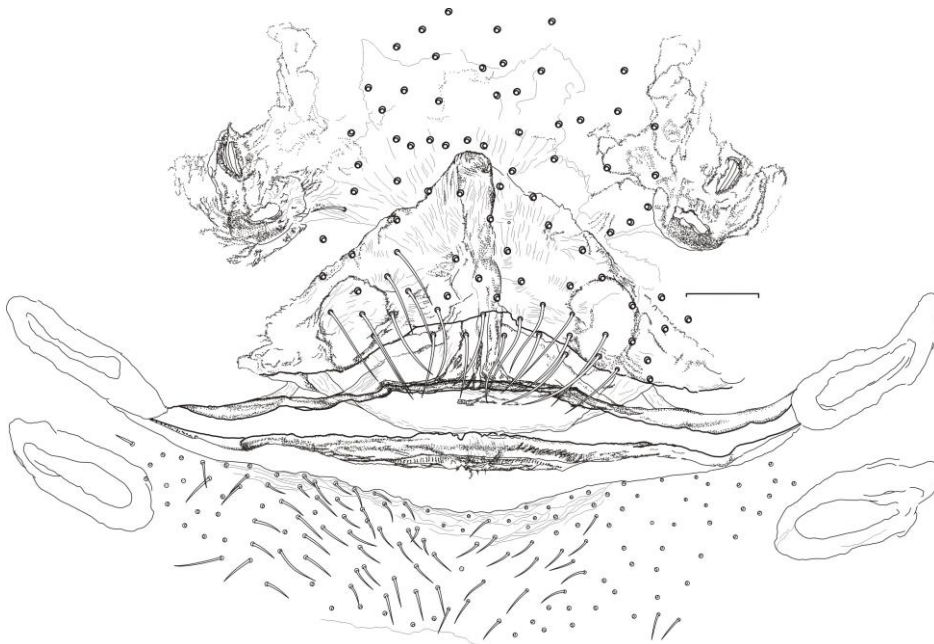


Fig. 9. Epigyne, ventral view (scale bars: 0.1 mm).

Female allotype: Caraşului Gorges, 24.04.2002, Caraş-Severin County, Romania, legit Victoria Ilie.

Measurements (mm): carapace CL 3.76 long, CW 2.72 wide. Length of abdomen (AL) 3.7 long, 3.04 wide. Sternum 2.4 long, 1.96 wide. Leg measurements are given in Table 3 and details of leg spination in Table 4.

Colour: Carapace, sternum, chelicerae, legs the same colour as male. Abdomen white-yellowish.

Chelicerae: ChL 1.92 mm long.

Table 3

Female legs (I–IV) and palpal segments measurements (mm)

	Fe	Pa	Ti	Mt	Ta	Total
Palp	1.76	1.0	0.82	-	1.3	4.88
I	3.34	2.2	2.8	2.52	1.1	11.96
II	3.08	1.96	2.58	2.5	1.1	10.66
III	2.6	1.26	1.9	2.52	1.2	9.48
IV	3.68	1.7	3.4	3.68	1.4	13.86

Table 4

Female legs (I–IV) spination

Leg	I	II	III	IV
Co	0	0	0	0
Fe	3 pl	2 pl	6 d	5 d
Pa	0	0	0	0
Ti	0	0	11	6
Me	0	0	10	15
Ta	0	0	0	0

Epigyne and vulva (Figs. 8–9) are different in shape than the other species of *Harpactea* from Romania.

Distribution: Aninei Mountains, Caraşului and Comarnicului Gorges and surrounding areas; Caraş-Severin County, Romania.

4. DISCUSSIONS

The genus *Harpactea* is represented in Romania by 5 species: *H. alexandrae*, *H. hombergi*, *H. lepida*, *H. rubicunda* and *H. saeva*. Of these, *Harpactea alexandrae* Lazarov, 2006, was recently found in Romanian fauna (De Spiegelaere & Bosmans 2009) with a distribution limited to the Black Sea coastline (Bulgaria, Romania, Ukrain, South–East part of Russia), while the other species have a wider range, mostly European, except *H. saeva*, with a Central-South-East European distribution.

With the descriptions of *Harpactea decebali* n. sp., the total number of *Harpactea* species reported from Romania is six. Until now the species was found

only in Aninei Mountains, Carasului and Comarnicului Gorges and surroundings and it may be endemic to this area. Various individuals were collected from edaphic environment (using pitfall traps), litter (collected with the Winkler mesh), cave entrances, vertical caves, with higher frequency in MSS drillings from depths between 0.5 and 1 m.

With its form and structure of the bulb and epigyne, *Harpactea decebali* n. sp. is different from the other species of the genus *Harpactea*, both from Romania and the surrounding countries. Although the spider fauna of Bulgaria has the highest number of species from the Balcanic Peninsula, *H. decebali* does not resemble one of them.

According to the classification of Deeleman-Reinhold (1993), the majority of this species belongs in the *rubicunda* species group D, which is characterized by a globular palpal body, a massive embolus and conductor and patellae-coxae with spines. *Harpactea decebali*, with coxae and patellae spineless and the general shape of the copulatory organs (male and female), doesn't belong to this group.

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