

## *Harpactea ballarini* sp. nov., a new dysderid (Araneae, Dysderidae) spider from Turkey

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**Abstract:** A new species of the spider genus *Harpactea* Bristowe, 1939 is described from pine forests in Antalya Province, in the Mediterranean region of Turkey. The new species resembles *H. abantia* (Simon, 1884) known from Greece, but differs in a number of characters. Detailed morphological description and illustrations of the new species are provided on the basis of both sexes.

**Key words:** *Harpactea abantia*, Mediterranean, new species, woodlouse hunters

With 170 species recognized worldwide, *Harpactea* Bristowe, 1939 is the second most diverse genus of the family Dysderidae after the type genus *Dysdera* Latreille, 1804, and it is represented by 22 species in Turkey (Bayram et al., 2012; Platnick, 2012). The majority of these species are Turkish endemics and their known distributions are limited to the vicinities of their type localities.

The purpose of this brief article is to describe the male and female of a new species of the genus *Harpactea* collected from the Mediterranean region of Turkey.

Two males and 1 female were collected from Antalya Province in the Mediterranean region of Turkey using a litter reducer (sifter). The specimens were preserved in 70% ethanol and deposited in the Anadolu University Zoology Museum. Digital images of the palp were taken with a Leica DFC295 digital camera attached to a Leica S8AP0 stereomicroscope, and 5–15 photographs were taken in different focal planes and combined. All measurements are in millimeters. Terminology for the body measurements follows Chatzaki and Arnedo (2006). Terminology for the copulatory organs is adapted from Alicata (1966) and Deeleman-Reinhold (1993). The following abbreviations are used in the text: AL, abdominal length; CL, carapace length; CWmax, maximum carapace width; CWmin, minimum carapace width; AME, anterior median eyes; PLE, posterior lateral eyes; PME, posterior median eyes; AMEd, diameter of anterior median eyes; PLEd, diameter of posterior lateral eyes; PMEd, diameter of posterior

median eyes; ChF, length of cheliceral fang; ChG, length of cheliceral groove; ChL, total length of chelicera (lateral external view); Ta, tarsus; Me, metatarsus; Ti, tibia; Pa, patella; Fe, femur; C, coxa; D, dorsal; Pl, prolateral; RL, retrolateral; V, ventral; AUZM, Anadolu University Zoology Museum, Eskişehir, Turkey; MCSNV, Museo Civico di Storia Naturale di Verona, Italy.

### Taxonomy

#### *Harpactea* Bristowe, 1939

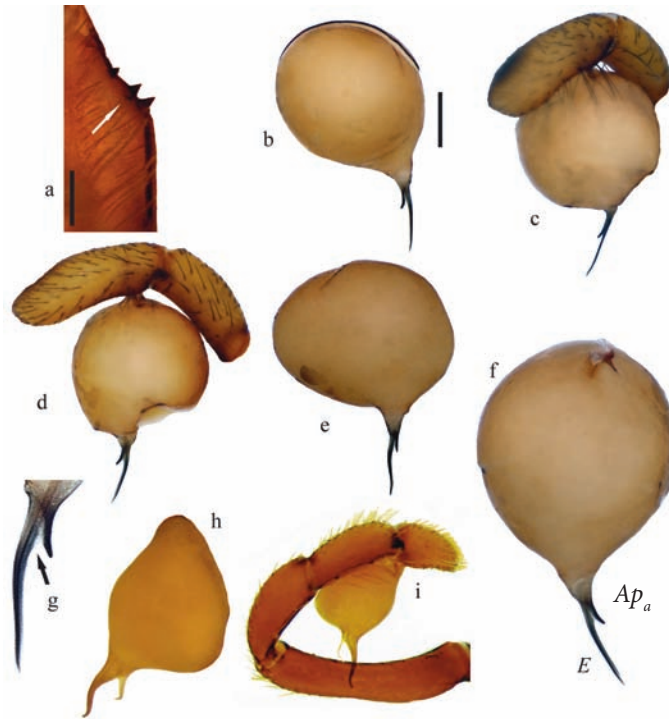
#### *Harpactea ballarini* sp. nov. (Figures 1a–1g and 2a–2e)

**Material examined:** Holotype ♂ (AUZM) Antalya Province, Alanya District, Dim Valley (36°32'28.00"N; 32°5'49.00"E), 3 December 2011, in leaf litter under pine trees, K. B. Kunt & M. Elverici leg. Paratypes 1 ♂, 1 ♀ same data as holotype.

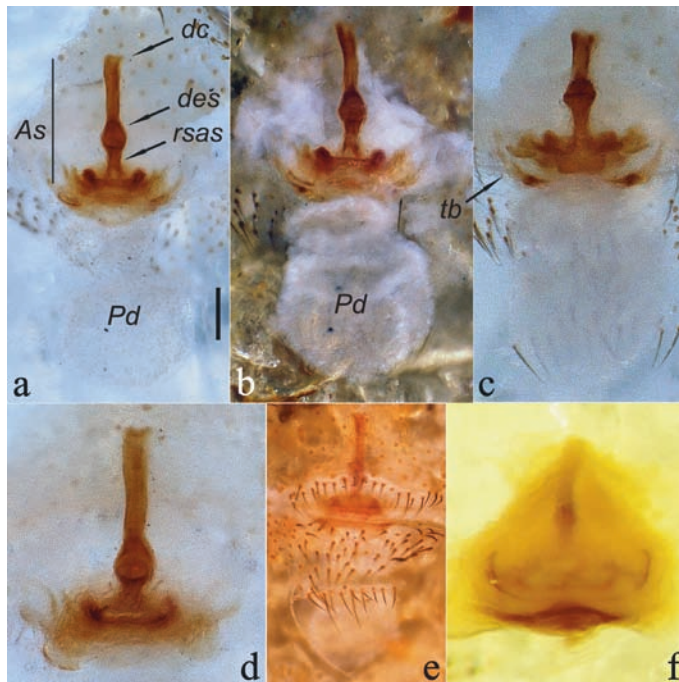
**Derivatio nominis:** The new species is dedicated to the Italian arachnologist Francesco Ballarin, who is a friend of the authors.

**Diagnosis:** *Harpactea ballarini* sp. nov. bears a resemblance to *H. abantia* (Simon, 1884) from Greece. In *H. abantia*, bulb pear-shaped; embolus and apophysis<sub>a</sub> curled. Apophysis<sub>a</sub> longer than that of *H. ballarini* sp. nov. and constitutes a wider angle with the embolus. The bulb of *H. ballarini* sp. nov. is more globular than that of *H. abantia*; the embolus is thinner, longer, and spiniform; apophysis<sub>a</sub> is shorter and straighter. In *H. ballarini* sp. nov. the distal appendages of the bulb are also more sclerotized than in *H. abantia*. Both species are similar in the high

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**Figure 1.** a) Cheliceral teeth of *Harpactea ballarini* sp. nov. (arrow indicates position of retromarginal small tooth); b) male palp of *H. ballarini* sp. nov., nearly posterior view; c) bulb of *H. ballarini* sp. nov., nearly prolateral view; d) bulb of *H. ballarini* sp. nov., prolateral view; e) bulb of *H. ballarini* sp. nov., nearly prolateral view; f) bulb of *H. ballarini* sp. nov., posterior view; g) bulb of *H. ballarini* sp. nov., distal appendages of bulb (arrow indicates thin layer of tegument); h, i) male palp of *H. abantia* from Greece (MCSNV; Brignoli collection, pot number 517). Abbreviations:  $Ap_a$ , apophysis; E, embolus. Scale lines: a) 0.1 mm, b) 0.25 mm.



**Figure 2.** a, b, c, d) Vulva of *Harpactea ballarini* sp. nov., dorsal view; e) vulva of *Harpactea ballarini* sp. nov., ventral view; f) vulva of *H. abantia* from Greece (MCSNV; Brignoli collection, pot number 517). Abbreviations: As, anterior spermatheca; dc, distal crest; des, distal expansion of the spermatheca; Pd, posterior diverticulum; rsas, rod-shaped part of the anterior spermatheca; tb, transverse bar. Scale line: 0.1 mm.

distal crest of the spermatheca and the large posterior diverticulum. However, *H. ballarini* sp. nov. differs by having a differentially proportioned distal crest and rod-shaped part of the anterior spermatheca, but most obviously by the distal expansion of the spermatheca and the transverse bar (see Brignoli, 1974, p. 495, figure 1).

**Measurements** [Holotype ♂ / Paratype ♀]: AL 2.52 / 2.40; CL 2.04 / 1.84; CWmax 1.64 / 1.56; CWmin 0.68 / 0.88; AMEd 0.11 / 0.10; PLEd 0.11 / 0.11; PMEd 0.08 / 0.08; ChF 0.40 / 0.39; ChG 0.30 / 0.29; ChL 0.85 / 0.75. Leg measurements are given in Table 1.

**Description:** Carapace grayish brown, smooth in both sexes. Fovea prominent, perpendicular. AME, PLE, PME circularly arranged, close to each other; AME separated. Sternum, labium, gnathocoxae, chelicerae brownish. Sternum covered with thin, sparse, dark brown setae at center, setae thicker, darker near edges. Sternum margins dark brown. Distal part of gnathocoxa sclerotized, with small saw-like teeth retrolaterally.

Cheliceral groove with 4 teeth: small first tooth appears at first quarter of groove on retromargin, indistinct in male but slightly more apparent in female; more developed second tooth present slightly above second quarter. Teeth on promargin more strongly developed, one located at base of cheliceral groove coarser than other (Figure 1a). Yellowish brown setae present at edges of labium and gnathocoxae; setae denser on gnathocoxae.

Chelicera brown at front side, with blackish setae arising from dark brown tubercles. Abdomen grayish light brown, cylindrical, covered with thin brownish setae. Legs yellowish, segments covered with sparse blackish setae. Leg formula 4-1-2-3.

Scopulae very weak on tarsi III and IV, similarly underdeveloped on metatarsi III and IV, ventrally on distal halves. Nevertheless, scopulae on metatarsus III stronger than on IV. Coxae III and IV with 1 or 2 prolateral spines dorsally. Patellae with spines in both sexes. Details of leg spination for *Harpactea ballarini* sp. nov. are given in Table 2.

Bulb yellowish brown, barely spherical, wider than long, tapers at the distal edge. Embolus and apophysis<sub>a</sub> spiniform, strongly sclerotized, black. Apophysis<sub>a</sub> with blunt tip, approximately 1/3 the length of the embolus (Figures 1b-1g). Embolus and apophysis<sub>a</sub> connected basally by a thin layer of tegument (Figure 1g). For comparison with *H. abantia* see Figures 1h and 1i.

All parts of vulva sclerotized almost uniformly. Distal crest long, rectangular, slightly recessed at tip. Distal expansion of spermatheca wide, triangular. Distal crest nearly 2 times longer than rod-shaped part of anterior spermatheca. Anterior basal arc peripherally sclerotized, straight at center line, mace-shaped on both sides, maces more sclerotized than other parts of anterior basal arc. Transverse bar crescent-shaped, sclerotized strongly at center and weakly at sides. Posterior diverticulum in form of distinctly developed thin membranous sac (Figures 2a-2e). For comparison with *H. abantia*, see Figure 2f.

**Distribution:** *Harpactea ballarini* sp. nov. is known from the type locality only.

**Remarks:** In his classification, predominantly based on the structure of male copulatory organs, Brignoli (1978) placed all *Harpactea* species that he described from Turkey into the *hobergi* group (under *babori* and *cecconii* subgroups), while he placed *H. abantia* into the *corticalis* group under the *abantia* subgroup. However, Deeleman-Reinhold (1993) reviewed all above-mentioned subgroups under the *rubicunda* group. As of today, all known Turkish *Harpactea* are being examined under the aforementioned *rubicunda* (D) group. In *Harpactea ballarini* sp. nov., the bulb is spherical, the embolus and apophysis<sub>a</sub> are spiniform and massive, and the patellae have spines. According to the classification proposed by Deeleman-Reinhold (1993), all of these features indicate that *Harpactea ballarini* sp. nov. belongs to the *rubicunda* (D) group, as well, like the other known members of the genus from Turkey.

With *Harpactea ballarini* sp. nov., the number of *Harpactea* species known from Turkey is now increased to 23. Considering the geographical features of Turkey and the habitat preferences of the genus, the number of species will surely increase with ongoing studies in the future.

Table 1. Leg measurements of *Harpactea ballarini* sp. nov.

(♂ / ♀)	Fe	Pa	Ti	Me	Ta
Leg I	1.63 / 1.63	1.13 / 1.00	1.43 / 1.18	1.24 / 1.10	0.48 / 0.38
Leg II	1.55 / 1.38	1.00 / 0.95	1.25 / 1.23	1.18 / 1.13	0.30 / 0.40
Leg III	1.24 / 1.20	0.43 / 0.60	0.96 / 0.85	1.05 / 1.02	0.30 / 0.29
Leg IV	1.75 / 1.68	0.93 / 0.92	1.58 / 1.57	1.48 / 1.71	0.50 / 0.48

Table 2. Leg spination of *Harpactea ballarini* sp. nov.

♂	Leg I	Leg II	Leg III	Leg IV
C	0	0	1 Pl	2 Pl
Fe	3 Pl	2 Pl	1, 1 D 1, 1 Rl	2, 1 D
Pa	0	0	1 D, 1 Rl	0
Ti	0	0	1, 1 Pl 1 D 1, 1, 1 Rl 1, 1, 2 V	1, 1, 1 Pl 1, 1, 1 D 1, 1, 1 Rl 2, 1, 2 V
Me	0	0	1, 1 Pl 1, 1 Rl 1, 2 V	1, 1, 1 Pl 1, 1 D 1, 1, 1, 1 Rl 1, 1, 2 V
♀				
C	0	0	1 Pl	2 Pl
Fe	2 Pl	2 Pl	1, 1 D 1, 1 Rl	2 Pl 1–2 D
Pa	0	0	1 D, 1 Rl	0
Ti	0	0	1, 1 Pl 1 D 1, 1, 1 Rl 1, 1, 2 V	1, 1, 1 Pl 1, 1 D 1, 1, 1 Rl 1, 1, 2 V
Me	0	0	1, 1 Pl 1, 1 Rl 1, 2 V	1, 1, 1 Pl 1, 1 D 1, 1, 1, 1 Rl 1, 1, 2 V

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*H. abantia* specimens belonging to Brignoli's collection (MCSNV, pot number 517) and presenting them for our use. The English of the text was kindly checked by Dr David Penney (United Kingdom).

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