



## Two new species of *Harpactea* from the island of Chios, Greece (Araneae Dysderidae)

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### Abstract

Two new species of the genus *Harpactea* are described from the island of Chios, *Harpactea spirembolus* Russell-Smith sp. n. (male) and *Harpactea cruriformis* Bosmans sp. n. (male). Diagnoses are provided for the new species together with distribution and notes on habitats in which they were collected. The presence of a third harpactirine dysderid on Chios, *Stalagtia christoi* Van Keer & Bosmans, 2009, is noted for the first time.

**Keywords** : *Harpactea*, *Stalagtia*, new species, Greece, distribution, habitats

### Introduction

*Harpactea* is a large genus of some 150 described species (PLATNICK, 2010). It is characterised by highly uniform somatic characters but extremely variable genitalia, particularly in the male. The genus is confined to the Palaearctic and has its major centre of diversity in the Mediterranean and Caucasus regions but with a few species extending eastwards as far as Ukraine and Russia and one species, *H. hombergi*, found as far north as Sweden and Britain. At present, 27 species have been cited from Greece, reviewed in VAN KEER & BOSMANS (2009) who described three new species from the island of Lesbos.

In this paper, we describe two new species of *Harpactea* from the island of Chios, in the eastern Aegean approximately 48 km south of Lesbos. The specimens were collected in pitfall traps by Mike Taylor, as part of a survey of spiders of the island conducted by a group of arachnologists from the British Arachnological Society during visits in 2006 and 2008. We also note the presence on Chios of another dysderid, *Stalagtia christoi* Van Keer & Bosmans, 2009, also originally described from Lesbos.

### Materials and methods

All of the spider material described here was collected in pitfall traps. The traps were plastic jars (7 cm height, 14 cm diameter) with saturated salt solution as a killing fluid. They were emptied at approximately two week intervals between 24 March and 7 May 2009. All specimens were preserved in 70% ethanol for identification.

Measurements of the legs are taken from the dorsal side, measurements used in descriptions are given in millimetres.

Type material is deposited in the World Museum, Liverpool with representative specimens of each species retained in the private collection of the first author.

Abbreviations used. Legs: Ta: tarsus; Mt: Metatarsus; Pa: patella; Fe: femur; d: dorsal; v: ventral; pl: prolateral; rl: retrolateral. Male palpus: E: Embolus, C: Conductor.

### Systematics

*Harpactea cruriformis* Bosmans sp. n.  
(Figs 1-3)

Type Material: Holotype ♂, together with one paratype ♂, GREECE, Chios, Mt. Pelenion (650

m), pitfall traps in herb-rich phrygana in fractured limestone pavement. 12.-29.IV.2009.

Other material examined: 1♂, Chios, Mt. Pelenion (650 m), pitfall traps, same site as holotype 25.III.-12.IV.2009. 1♂, same site, 29.IV.-7.V.2009.

**Etymology:** The specific name is derived from Latin *crus* (a leg) and *formis* (shape) and refers to the leg-like appearance of the conductor in retro-lateral view.

**Diagnosis:** *H. cruriformis* sp. n. seems most closely related in the structure of the male palp to *H. terveli* Lazarov, 2009 and *H. strandjica* (Dimitrov, 1997) both described from Bulgaria (LAZAROV, 2009). All three species have a similar form of bulb and relative proportion of the embolus and conductor. The palps of *H. terveli* and *H. strandjica* differ from that of *H. cruriformis* in that the distal part of the embolus is less swollen and the distal portion of the conductor is narrower and slightly more elongated.

**Description:** Holotype male: Total length 6.75. **Prosoma:** Length 2.92, width 2.08. Medium sized. Carapace dark chestnut-brown with faint paler striae radiating from fovea, smooth. Fovea very shallow and indistinct. **Eyes:** All eyes closely set, AME separated by approximately 0.5 x their own diameter. **Chelicerae:** Coloured as carapace. Long, dorsal surface with scattered setiferous granulations. Cheliceral groove with dense, long setae. Retromargin with 2 well separated minute teeth, promargin with 2 larger teeth, distal tooth level with proximal tooth of promargin. **Labium:** Coloured as chelicerae, 2.3 x longer than wide, clothed in dark setae. **Sternum:** Pale brown, oval and strongly produced between hind coxae, with a scattering of strong black setae over all but central portion. **Opisthosoma:** Pale grey, dorsal surface densely and regularly clothed in short, black adpressed setae. **Legs:** All segments orange-brown.

**Male palpus:** All segments orange-brown. Conductor and embolus both shining black. Bulb length 1.00, width 0.54, embolus length 0.32. Embolus straight with a swollen club-like terminal portion. Conductor running parallel to shaft of embolus but with a sharp bend of ca 45° about half way along its length. Terminal portion curving around end of the embolus and with a broad, rounded tip.

*Harpactea cruriformis* Bosmans sp. n. Leg measurements of holotype.

Leg.	Co	Fe	Pa	Ti	Mt	Ta	Total
I	1.33	2.50	1.50	2.08	2.00	0.75	10.16
II	1.17	2.17	1.33	1.92	1.92	0.67	9.18
III	0.83	1.75	0.83	1.33	1.75	0.67	7.16
IV	0.75	2.50	1.00	2.17	2.50	0.75	9.67

*Harpactea cruriformis* Bosmans sp. n. Leg spination of holotype.

Leg.	Co	Fe	Pa	Ti	Mt	Ta
I	-	2 pl	-	-	-	-
II	-	2-3 pl	-	-	-	-
III	2 rl	7-8 d	1pl	> 10	> 10	-
IV	2 d	4d, 3-4 pl	1 pl, 1 rl	> 10	> 10	-

**Ecology:** *H. cruriformis* was collected from a single site in montane phrygana on limestone pavement, Mt Pelenion at ca 650 m. As is the case with the next species, specimens were only collected in the spring period, in April and May.

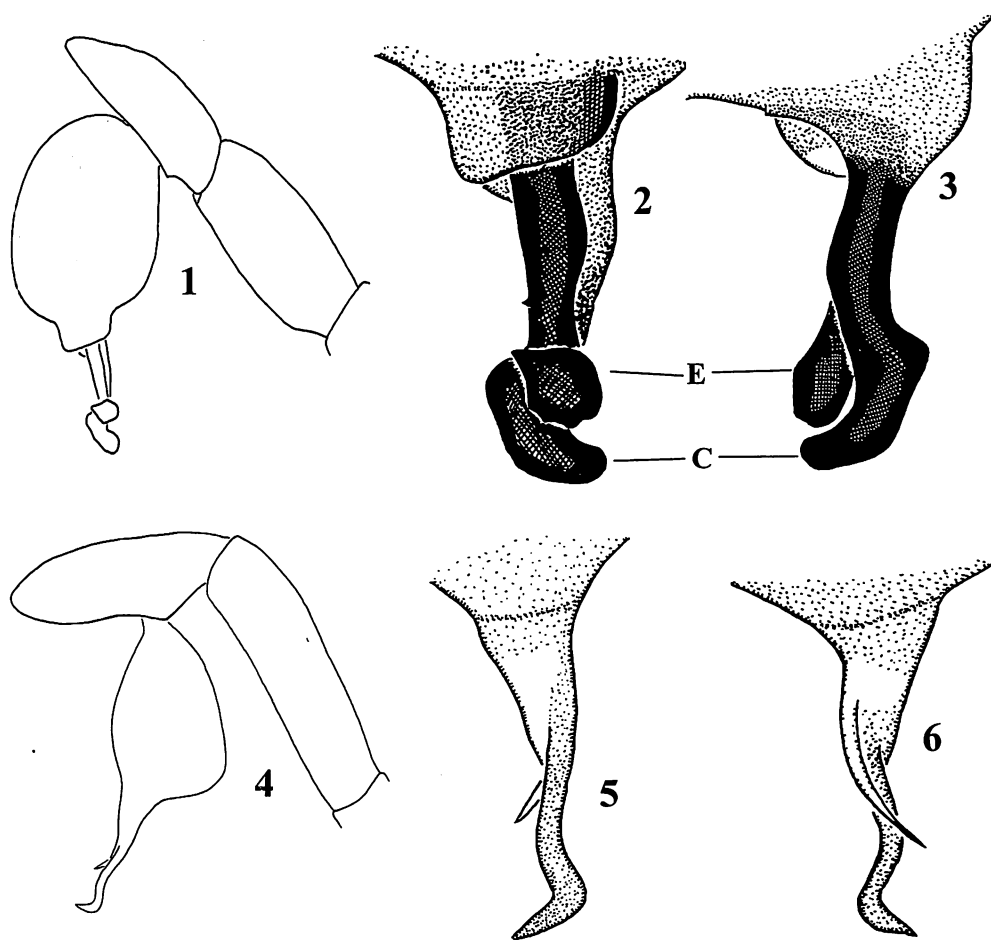
*Harpactea spirembolus* Russell-Smith sp. n.  
(Figs 4-6)

**Type Material:** Holotype ♂, together with one paratype ♂, GREECE, Chios, Mt. Pelenion (650 m), pitfall traps in herb-rich phrygana in fractured limestone pavement, 25.III.-12.IV.2009.

Other material examined: 1♂, Chios, in rocky valley near Armolia, pitfall traps in undisturbed phrygana with scattered *Pinus brutia*. 24.III - 4.IV.2009. 2♂, same site, 4-25.IV.2009. 2♂, N of Gridia village, pitfall traps in edge of herb-rich field 24.III.- 4.IV.2009. 1♂, same site, 23.IV.- 5.V.2009.

**Etymology:** The specific name is derived from Latin *spira* (coiled) and *embolus* and refers to the twisted form of the embolus of the male palpus.

**Diagnosis:** Amongst species of *Harpactea* from the eastern Mediterranean, *H. spirembolus* appears to be closest in the form of the male palpus to *H. clementi* Bosmans, 2009 from Lesbos. Both species have a short conductor, approximately half the length of the embolus and a simple narrow embolus (VAN KEER & BOSMANS (2009), Figs 1-4). They differ in that the conductor is un-tapered with a rounded tip in *H. clementi* but tapered to a fine pointed tip in *H. spirembolus*. The embolus is curved and sickle-shaped in *H. clementi* but narrower and with a distal, corkscrew-like twist in *H. spirembolus*.



Figs 1-3. *Harpactea cruriformis* sp. n. 1: Male palp, retro-lateral. 2: Detail of embolus and conductor, retro-lateral. 3: Embolus and conductor, pro-lateral.  
 Figs 4-5. *Harpactea spirembolus* sp. n. 4: Male palp, retro-lateral. 5: Detail of embolus and conductor, retro-lateral. 6. Embolus and conductor, pro-lateral.

**Description:** Holotype male: Total length 4.00, prosoma length 1.60, width 1.28. **Carapace:** Pale chestnut-brown with narrow darker border in anterior half. Surface very faintly punctuate, fovea short and shallow. **Eyes:** Very close to each other, space between AME less than 0.5 their diameter. **Chelicerae:** Coloured as carapace. Basal segment with 7 transverse ridges on dorsal surface beset with sparse short setae. Cheliceral groove with long dense setae. Retromargin with two small teeth, promargin with two slightly longer teeth, situated proximally to those of retromargin. **Labium:** 2 x longer than wide and tapered at tip, coloured as chelicerae. **Sternum:** Oval and strongly produced between hind coxae, coloured as chelicerae, with marginal fringe of long dark setae. **Opisthosoma:** Pale grey, densely clothed in dark setae. **Legs:** Pale chestnut-brown with femora slightly darker. **Male palpus:** All segments pale chestnut-brown except pale yellow bulb. Bulb 0.46 long, 0.24 wide, embolus 0.16 long. Embolus

very slender and twisted, corkscrew shaped, with pointed tip. Conductor approximately half length of embolus, slender and gently curved, needle-like, tapering to sharp distal point.

**Ecology:** This species was collected in dry phrygana with scattered trees, on the edge of a small herb-rich field and in montane phrygana on limestone pavement. Although the pitfall traps were also operated at the same sites in the autumn from the end of August to the end of October, specimens were only collected in the spring.

*Harpactea spirembolus* Russell-Smith sp. n. Leg measurements of holotype.

Leg.	Co	Fe	Pa	Ti	Mt	Ta	Total
I	0.70	1.30	0.74	0.92	0.84	0.30	4.80
II	0.56	1.04	0.64	0.92	0.90	0.36	4.42
III	0.36	0.96	0.42	0.68	0.80	0.36	3.58
IV	0.44	1.90	0.56	1.14	1.30	0.38	5.52

*Harpactea spirembolus* Russell-Smith sp. n. Leg spination of holotype.

Leg.	Co	Fe	Pa	Ti	Mt	Ta
I	-	2 pl	-	-	-	-
II	-	3-4 pl	-	-	-	-
III	1-2 pl	6-9 d	1d	> 10	> 10	-
IV	2 rl	4-5 d	-	> 10	> 10	-

### New records for *Stalagtia christoi* Van Keer & Bosmans, 2009 from Chios

*Stalagtia christoi* was recently described from Lesbos where it was collected in pitfall traps in four locations in both *Pinus* forest and deciduous woodland and in grass in an olive grove. The species was collected in the pitfall traps in Chios as follows : 5♂♂, Chios, Mt. Pelenion (650 m), pitfall traps in herb-rich phrygana in fractured limestone pavement, 25.III.-12.IV.2009, 2♂♂, Mt. Pelenion, pitfall traps in herb-rich phrygana in fractured limestone pavement, 12-29.IV.2009.

Ecology: In Chios, the species has been recorded only from phrygana on limestone pavement but records from Lesbos include a range of different habitats suggesting that it is quite adaptable.

### Discussion

*Harpactea spirembolus* is most similar in terms of its palpal structure to a species recently described from Lesbos *Harpactea clementi* (Bosmans, 2009), although males of the new species are significantly smaller. The male palpus shows little obvious similarity to those of other species described from Greece. Its wider relationships seem to be with species described from the Caucasus and in particular *Harpactea zaitzevi* Charitonov, 1956 (DUNIN, 1992, Fig. 17). These two species share the simple structure of the narrow embolus and conductor, with the conductor approximately half the length of the embolus. However, the embolus of *H. zaitzevi* lacks the spiral twist of that in *H. spirembolus*.

The structure of the palpus of *Harpactea cruriformis* is most closely related to that of *H. terveli* and *H. strandjicola*, both recently described from Bulgaria (DIMITROV, 1997, LAZAROV, 2009). As with *H. spirembolus*, it does not appear

to be very closely related to other *Harpactea* species from Greece or from Turkey. However, as pointed out by DEELEMEN-REINHOLD (1993), current classification within the genus *Harpactea* relies heavily on the structure of the male palp and takes too little account of the important internal genital structures of the female. Until the females of these two species are discovered and properly described, relationships to other species will remain speculative.

Given that many species of *Harpactea* in the Mediterranean region are known to have relatively restricted areas of distribution, it would be tempting to suggest that the species described here are island endemics, confined to Chios. However, given the proximity of Chios to the Turkish coast (separated by only 7 kms at the nearest point) and our very limited knowledge of the Turkish spider fauna, there is a reasonable possibility that they will eventually be found there as well.

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