

Two interesting species of the genus *Harpactea* from Crimea (Aranei: Dysderidae)

Два интересных вида рода *Harpactea* из Крыма (Aranei: Dysderidae)

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КЛЮЧЕВЫЕ СЛОВА: пауки, *Harpactea*, новые находки, переописания, Крым.

ABSTRACT. *Harpactea alexandrae* Lazarov, 2006 and *H. longobarda* Pesarini, 2001 are found in the Opuk Nature Reserve in Crimea, which represents the easternmost limit of their distribution. Both are recorded from Crimea, Ukraine and the former Soviet Union for the first time. The illustrated redescrptions of both species are provided. An updated checklist of the Crimean dysderids is presented.

РЕЗЮМЕ. *Harpactea alexandrae* Lazarov, 2006 и *H. longobarda* Pesarini, 2001 обнаружены в Опукском заповеднике в Крыму, который является самой восточной точкой их распространения. Они впервые отмечены для Крыма, Украины и бывшего Советского Союза. Для обоих видов даны иллюстрированные переописания. Представлен обновлённый список дисдерид Крыма.

Introduction

This paper is a continuation of our studies of the Crimean dysderid spiders [Kovblyuk, 2002; Kovblyuk & Nadolny, 2007; Nadolny & Kovblyuk, 2007; Kovblyuk *et al.*, 2008]. So far, nine dysderid species belonging to two genera (*Dysdera* Latreille, 1804 and *Harpactea* Bristowe, 1939) have been reported from Crimea. Two additional, poorly-known species were found in the Opuk Nature Reserve, and both are re-described in this paper.

Material and methods

The specimens treated in this study are housed in the collections of Zoology Department, V.I. Vernadsky Taurida National University, Simferopol, Ukraine, curator M.M. Kovblyuk (TNU) and the Zoological Museum of the Moscow State University, Moscow, Russia, curator K.G. Mikhailov (ZMMU). In the material

reported below the name of the collector V.A. Gnelitsa is abbreviated as V.G.

Leg segments were measured after their separation from the cephalothorax. All measurements are in mm: minimum-maximum; figures in brackets represent mean values.

Drawings were made by means of both dissecting and compound microscopes using a grid method. All scale bars are 0.1 mm. The illustrations of endogyne were made after their maceration in the 20% water solution of KOH.

The morphological terminology and abbreviations follows Dunin [1992]: *AD* — anterior diverticulum; *C* — conductor; *Ch* — ventral medial endochondrite; *E* — embolus; *PD* — posterior diverticulum; *PSP* — paraspermatheca; *Sp* — spermatheca; *T* — terminal apophysis of conductor. Positions of leg spines: *d* — dorsal; *p* — prolateral; *r* — retrolateral; *v* — ventral.

Species survey

Harpactea Bristowe, 1939

Harpactea alexandrae Lazarov, 2006
Figs 1–3, 8.

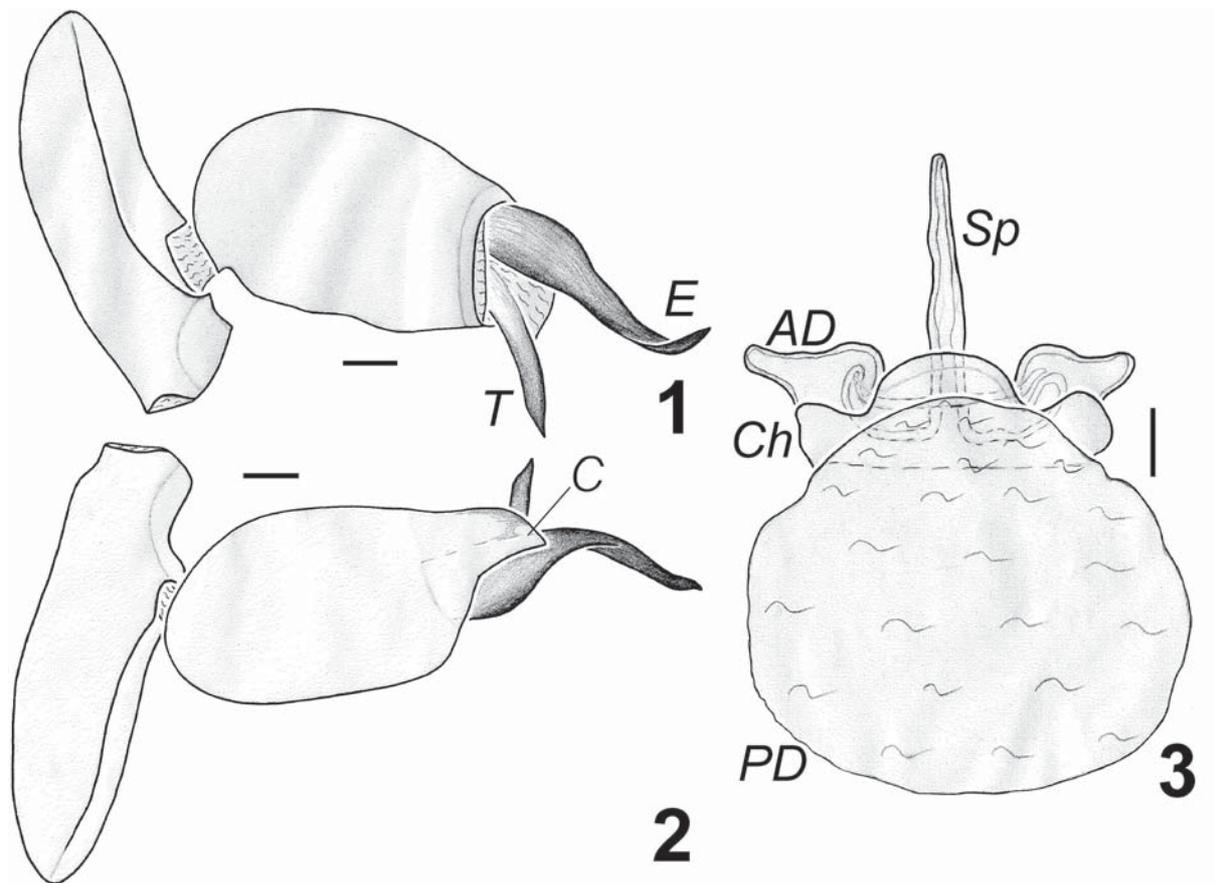
H. a. Lazarov, 2006: 13, figs 2–4 (♂).

H. a.: Spiegelaere & Bosmans, 2009: 8, figs 1A–B, 2, 3A–C (♂♀).

H. a.: Le Peru, 2011: 192, 263, fig. 378 (♂).

MATERIAL. UKRAINE. **Crimea**, Lenino District, Kerch Peninsula, Opuk Nature Reserve: 1 ♂, 4 ♀♀ (TNU-3091/5), stones, Rosa, 24.04.2005, V.G.; 1 ♀ (TNU-3088/4), same locality, 24.04.2005, V.G.; 2 ♀♀ (ZMMU from TNU-3083/3), N slope of Opuk Mt., 27.04.2005, V.G.

DIAGNOSIS. Similar to *Harpactea doblikae* (Thorell, 1875) and *H. rubicunda* (C.L. Koch, 1838) [Kovblyuk *et al.*, 2008: figs 88–91 and 107–110; Le Peru, 2011: figs 399 and 437], but differs in the shape of copulatory organs (Figs 1–3).



Figs 1–3. Copulatory organs of *Harpactea alexandrae*: 1 — palp, retrolateral view; 2 — palp, prolateral view; 3 — endogyne, dorsal view. Scale 0.1 mm. Abbreviations: AD — anterior diverticulum; C — conductor; Ch — ventral medial endochondrite; E — embolus; PD — posterior diverticulum; Sp — spermatheca; T — terminal apophysis of conductor.

Рис. 1–3. Копулятивные органы *Harpactea alexandrae*: 1 — пальпа, ретролатерально; 2 — пальпа, пролатерально; 3 — эндогина, дорсально. Масштаб 0,1 мм. Обозначения: AD — передний дивертикул; C — кондуктор; Ch — вентральный медиальный эндохондрит; E — эмболюс; PD — задний дивертикул; Sp — сперматека; T — терминальный апофиз кондуктора.

DESCRIPTION. Male ($n = 1$) and females ($n = 2$) measurements (σ^7 / f): total length 5.9 / 6.2–10.5 (8.4); carapace 3.0 / 2.8–3.4 (3.1) long, 2.3 / 2.2–2.8 (2.5) wide. Chelicerae length 1.4 / 1.2–1.5 (1.3). Lengths of female leg segments as in Table 1.

Chelicerae with 2 promarginal and 2 retromarginal teeth in both sexes. Male leg spination as in Table 2.

Female leg spination as in Table 3.

DISTRIBUTION. This species is known from the Black Sea coast of Romania (Constanca), north-eastern Bulgaria [Lazarov, 2006; Spiegelaere & Bosmans, 2009] and Crimea [present data] (Fig. 8).

COMMENTS. This species is recorded from Crimea, Ukraine and the former Soviet Union for the first time. Crimea is the easternmost locality of the *H. alexandrae* distribution (Fig. 8).

HABITATS. In Crimea, *H. alexandrae* was found in the steppe with *Rosa* bushes. In Bulgaria this species was also found in dry stony areas with bushes [Lazarov, 2006], contrary to Romania where it was record-

ed from the dune grasslands [Spiegelaere & Bosmans, 2009].

PHENOLOGY. In Crimea: $\sigma^7 \text{f}$ — IV. In Romania: $\sigma^7 \text{f}$ — V–VI [Spiegelaere & Bosmans, 2009], one month later than in Crimea. In Bulgaria: $\sigma^7 \sigma^7$ — VI–VII, XI [Lazarov, 2006], two months later than in Crimea.

Harpactea longobarda Pesarini, 2001
Figs 4–7, 8.

H. l. Pesarini, 2001: 300, figs 18–19 ($\sigma^7 \text{f}$).

H. l.: Le Peru, 2011: 199, 274, figs 423 ($\sigma^7 \text{f}$).

MATERIAL. UKRAINE. **Crimea, Lenino District, Kerch Peninsula, Opuk Nature Reserve:** 1 σ^7 , 1 f (ZMMU from TNU-3079/2), S slope Opuk Mt., near the stream, 18.04.2005, V.G.; 1 σ^7 , 2 f (TNU-3082/8), S slope Opuk Mt., stones, 19.04.2005, V.G.; 2 $\sigma^7 \sigma^7$, 1 f (TNU-3104/2), same reserve, 20.04.2005, V.G.; 2 $\sigma^7 \sigma^7$, 1 f (TNU-3072/1), steppe, 21.04.2005, V.G.; 1 f (TNU-3076/4), Opuk Mt., *Celtis glabrata*, *Rosa*, *Prunus stepposa*, under moss, 22.04.2005, V.G.; 2 $\sigma^7 \sigma^7$, 3 f (TNU-3096/4), Opuk Mt., ravine, meadow, 23.04.2005, V.G.; 1 σ^7 , 1 f

Table 1. Lengths of female leg segments of *Harpactea alexandrae*.
Таблица 1. Длина члеников ног самок *Harpactea alexandrae*.

	femur	patella	tibia	metatarsus	tarsus	Total
I	2.5–3.0 (2.7)	1.6–1.8 (1.7)	2.1–2.5 (2.3)	2.0–2.4 (2.2)	0.6	8.8–10.4 (9.6)
II	2.3–2.6 (2.4)	1.4–1.7 (1.6)	2.0–2.3 (2.1)	1.9–2.4 (2.1)	0.5–0.6 (0.6)	8.1–9.6 (8.8)
III	1.9–2.1 (2.0)	1.0–1.2 (1.1)	1.4–1.5 (1.4)	1.9–2.0 (2.0)	0.5–0.6 (0.6)	6.7–7.4 (7.0)
IV	2.7–3.0 (2.8)	1.3–1.6 (1.4)	2.3–2.4 (2.4)	2.8–2.9 (2.8)	0.6–0.7 (0.7)	9.7–10.6 (10.1)

Table 2. Male leg spination of *Harpactea alexandrae*.
Таблица 2. Вооружение самца *Harpactea alexandrae*.

	femur	patella	tibia	metatarsus	tarsus
Leg I	p 1–2	0	0	0	0
Leg II	p 1–1–2	0	0	0	0
Leg III	d 1; p 1–1–1; r 1–1–1–1	p 1	p 2–1–1–1; r 2–1–1–1; v 2–2–2	p 1–1–1; r 1–1; v 1–1–1–1–2	0
Leg IV	d 1–1–2–1; p 1–1; r 1–1–1–1	p 1	p 2–1–2; r 2–2–1–1–1; v 3–1–1–2–2	p 1–1–1–1; r 1–1–1; v 1–2–1–1–2–2	0

Table 3. Female leg spination of *Harpactea alexandrae*.
Таблица 3. Вооружение ног самок *Harpactea alexandrae*.

	femur	patella	tibia	metatarsus	tarsus
Leg I	p 2 or 2–2	0	0	0	0
Leg II	p 1–2 or 1–1–2	0	0	0	0
Leg III	d 1 or 0; p 1–1 or 1–1–1; r 0 or 1–1	p 1	p 1–1–2 or 1–1–1–1; r 1–1 or 1–1–1; v 1–1–2 or 2–1–1–2	p 1–1–1; r 1–1 or 1–1–1; v 2–2 or 2–1–2	0
Leg IV	d 1 or 1–1–1; p 0 or 1–1; r 1–1–1 or 1–1–1–1	p 0 or 1	p 1–1 or 1–1–1; r 1–1–1 or 2–2–2; v 1–1–2 or 3–1–1–2–2	p 1–1–1–1; r 1–1–1 or 1–2–1–1; v 1–1–1–2 or 1–2–2	0

Table 4. Length of leg segments (♂ / ♀) of *Harpactea longobarda*.
Таблица 4. Длина члеников ног (♂ / ♀) *Harpactea longobarda*.

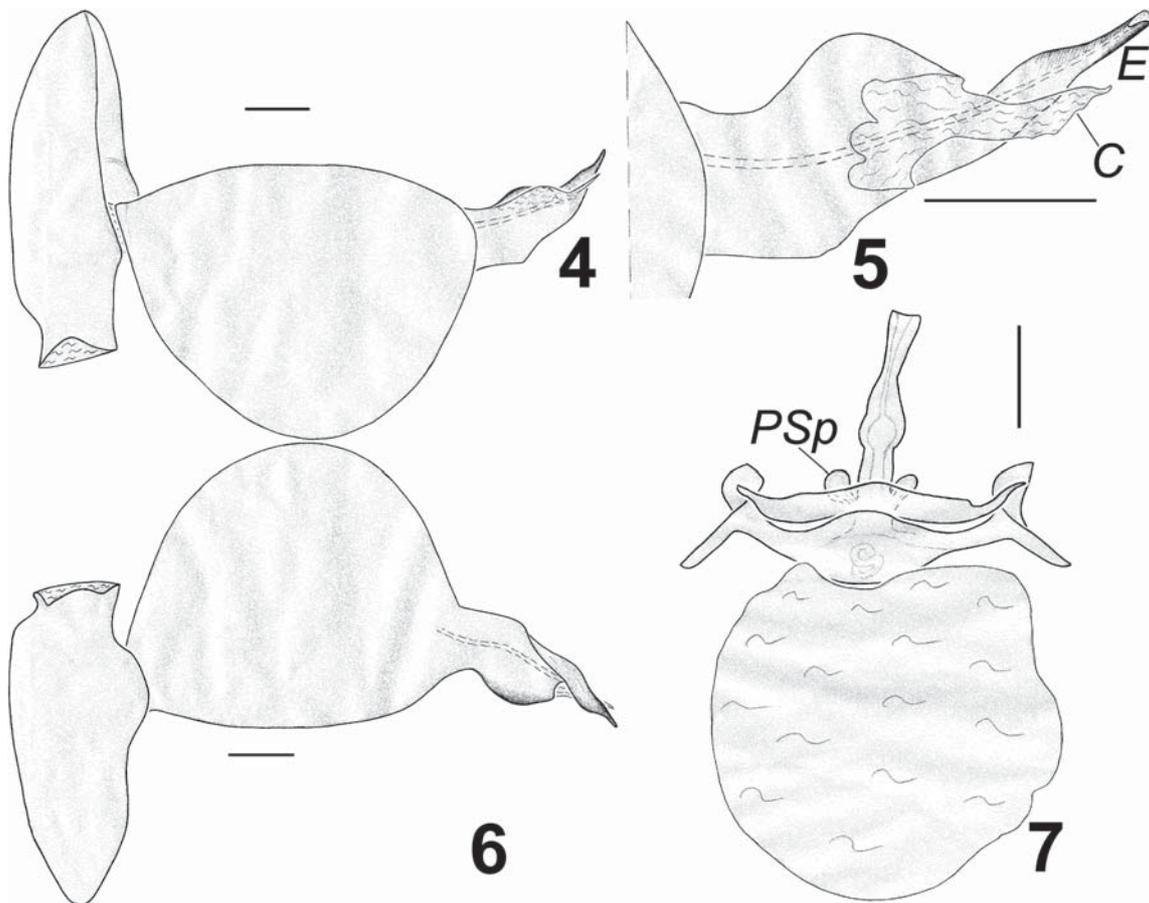
	femur	patella	tibia	metatarsus	tarsus	Total
I	1.5–1.9 (1.7) / 1.6–1.8 (1.7)	0.9–1.2 (1.0) / 1.0–1.2 (1.1)	1.3–1.6 (1.4) / 1.3–1.5 (1.4)	1.2–1.6 (1.4) / 1.2–1.5 (1.4)	0.4–0.5 (0.5) / 0.4 (0.4)	5.4–6.8 (6.1) / 5.5–6.5 (6.0)
II	1.4–1.8 (1.6) / 1.5–1.7 (1.6)	0.8–1.1 (0.9) / 0.9–1.1 (1.0)	1.2–1.5 (2.0) / 1.2–1.4 (1.3)	1.2–1.6 (1.4) / 1.2–1.5 (1.3)	0.4–0.5 (0.4) / 0.4–0.4 (0.4)	4.9–6.4 (5.6) / 5.3–6.2 (5.8)
III	1.1–1.4 (1.2) / 1.2–1.4 (1.3)	0.6–0.7 (0.6) / 0.6–0.8 (0.7)	0.8–1.0 (0.9) / 0.9–1.0 (1.0)	1.1–1.4 (1.3) / 1.2–1.4 (1.3)	0.4 (0.4) / 0.4 (0.4)	3.9–4.9 (4.4) / 4.3–5.1 (4.7)
IV	1.5–1.9 (1.7) / 1.7–2.0 (1.9)	0.7–0.9 (0.8) / 0.8–1.0 (0.9)	1.3–1.6 (1.4) / 1.5–1.7 (1.6)	1.5–2.0 (1.7) / 1.8–2.0 (1.9)	0.5 (0.5) / 0.5 (0.5)	5.5–6.9 (6.2) / 6.3–7.3 (6.8)

Table 5. Male leg spination of *Harpactea longobarda*.
Таблица 5. Вооружение ног самцов *Harpactea longobarda*.

	femur	patella	tibia	metatarsus	tarsus
Leg I	p 1–2	0	0	0	0
Leg II	p 1–1 or 1–1–1	0	0	0	0
Leg III	d 0 or 1 or 1–1–1; p 1–1–1; r 1–1 or 1–1–1–1	p 1	d 1; p 1–1–1; r 1–1; v 1–1–2	p 1–1–1; r 1–1; v 1–1–2	0
Leg IV	d 1–2–1 or 2–1–1–1	0	d 1 or 1–1 or 2–1–1; p 1–1–1; r 1–1–1; v 2–1–2	p 1–1–1–1; r 1–1–1; v 1–1–1–2	0

Table 6. Female leg spination of *Harpactea longobarda*.
Таблица 6. Вооружение ног самок *Harpactea longobarda*.

	femur	patella	tibia	metatarsus	tarsus
Leg I	p 1-1-1 or 1-2	0	0	0	0
Leg II	p 1-1-1	0	0	0	0
Leg III	d 0 or 1; p 1-1 or 1-1-1; r 1-1 or 1-1-1	p 1	d 1; p 1-1-1-1-1; r 1-1; v 1-1-2	p 1-1-1-1; r 1-1; v 1-1-2 or 1-1-1-2	0
Leg IV	d 1-1-1-1-1-1 or 1-2-1-1	0	d 1-1-1; p 1-1-1 or 2-1-1-1; r 1-1-1-1; v 1-1-2 or 2-1-1-2	p 1-1-1-1-1-1; r 1-1-1-1-1-1; v 1-1-1-1-2	0



Figs 4–7. Copulatory organs of *Harpactea longobarda*: 4 — palp, prolateral view; 5 — embolar division, prolateral view; 6 — palp, retrolateral view; 7 — endogyne, dorsal view. Scale 0.1 mm. Abbreviations: C — conductor; E — embolus; PSp — paraspermatheca.

Рис. 4–7. Копулятивные органы *Harpactea longobarda*: 4 — палпа, пролатерально; 5 — эмболярный отдел, пролатерально; 6 — палпа, ретролатерально; 7 — эндогина, дорсально. Масштаб 0,1 мм. Обозначения: C — кондуктор; E — эмболус; PSp — парасперматека.

(ZMMU from TNU-3095/1), Opuk Mt., steppe, 23.04.2005, V.G.; 2 ♂♂, 1 ♀ (TNU-3103/2), meadow, 23.04.2005, V.G.

DIAGNOSIS. This species is similar to *H. aeoliensis* Alicata, 1973 [Le Peru, 2011: fig. 374], but differs in the shape of copulatory organs (Figs 4–7).

DESCRIPTION. Males (n = 3) and females (n = 2) measurements (♂ / ♀): total length 3.5–4.4 (3.9) / 4.6–5.8 (5.2); carapace 1.7–2.2 (2.0) / 2.0–2.4 (2.2) long, 1.4–1.8 (1.6) / 1.6–1.8 (1.7) wide. Chelicerae length 0.7–0.9 (0.8) / 0.8–1.0 (0.9).



Fig. 8. Distribution of *Harpactea alexandrae* (circles) and *H. longobarda* (squares) based on literature and examined material. Some symbols indicate more than one locality.

Рис. 8. Распространение *Harpactea alexandrae* (кружки) и *H. longobarda* (квадраты) по литературным и собственным данным. Некоторые из символов соответствуют более чем одному локалитету.

Length of leg segments (♂ / ♀) as in Table 4.

Chelicerae with 2 promarginal and 2 retromarginal teeth in both sexes.

Male leg spination as in Table 5.

Female leg spination as in Table 6.

DISTRIBUTION. This species is known from Italy (Lombardia) [Pesarini, 2001; Le Peru, 2011] and Crimea [present data] (Fig. 8).

COMMENTS. This species is recorded from Crimea, Ukraine and the former Soviet Union for the first time. Crimea is the easternmost locality of the *H. longobarda* distribution (Fig. 8).

HABITATS. In Crimea, this species was found in bushes, meadows and steppes.

PHENOLOGY. In Crimea: ♂♀ — IV. In Italy: ♂♀ — V, ♂♂ — III, X [Pesarini, 2001].

Discussion

Checklist of the Crimean Dysderidae

By now, 11 dysderid species have been recorded from Crimea [Kovblyuk, 2002; Kovblyuk & Nadolny, 2007; Nadolny & Kovblyuk, 2007; Kovblyuk *et al.*, 2008; present data]. An updated checklist of the Dysderidae of Crimea is as follows:

Dysdera Latreille, 1804

1. *D. crocata* C.L. Koch, 1838;
 2. *D. dunini* Deeleman-Reinhold, 1988;
 3. *D. hungarica* Kulczyński in Chyzer et Kulczyński, 1897;
 4. *D. lata* Wider in Reuss, 1834;
 5. *D. longirostris* Doblaka, 1853.
- Harpactea* Bristowe, 1939
6. *H. alexandrae* Lazarov, 2006;
 7. *H. azowensis* Charitonov, 1956;
 8. *H. doblakae* (Thorell, 1875);
 9. *H. longobarda* Pesarini, 2001;
 10. *H. rubicunda* (C.L. Koch, 1838);
 11. *H. spasskyi* Dunin, 1992.

The distribution data and identification drawings for all the aforementioned species can be found in Kovblyuk *et al.* [2008] and the present paper.

Zoogeography

H. alexandrae is the first dysderid species that seems to display a Crimean-Balkan disjunctive range. To date, only four spider species having the similar Crimean-Balkan disjunctive ranges have been known: *Amaurobius strandi* Charitonov, 1937 (Amaurobiidae), *Araeoncus tauricus* Gnelitsa, 2004 (Linyphiidae), *Zelotes*

eugenei Kovblyuk, 2009 (Gnaphosidae) and *Zoropsis lutea* (Thorell, 1875) (Zoropsidae).

H. longobarda has an unusual Crimean-Apennine disjunctive range. Such a distribution pattern has never been reported for a spider species to date. Actually, the species may have an Eastern Mediterranean range, however, it has not been found between Italy and Crimea yet.

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