

New records of wolf spiders (Araneae: Lycosidae) in the Mediterranean

Nové nálezy slíd'áků (Araneae: Lycosidae) z Mediteránu

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Abstract. During 1995–2005, a faunistic survey of wolf spiders (Lycosidae) was carried out in the Mediterranean. Twenty species are recorded, and their presence there is discussed. Two species (*Arctosa tbilisiensis* Mcheidze, 1947 and *Pardosa tasevi* Buchar, 1968) are new for Turkey.

INTRODUCTION

Although wolf spiders (Lycosidae) are an abundant and highly successful group of spiders, little is known about their taxonomy and biogeography.

Over the past 250 years the descriptions of new lycosid species from the Mediterranean have been scattered throughout the literature and little work has been done on Mediterranean species as a whole, except for Tongiorgi (1966b) who revised the European *Pardosa monticola* group.

One of the greatest difficulties in reconstructing a reliable picture of Mediterranean lycosid distribution arises from the impossibility of checking the numerous records. Most of the collections are lost, or their present location unknown. Other collections revealed a very high number of errors or identifications based on juvenile specimens. The same specific name was sometimes used for different species.

Therefore, further studies on Mediterranean lycosids should include new data for revision. The present paper summarizes data on the occurrence of 20 species in the European and Turkish Mediterranean.

MATERIAL AND METHODS

Material was collected by the junior author (JD), if not indicated otherwise. Abbreviations used in the text: Jan Buchar (JB), Jan Dolanský (JD), Zdeněk Košťál (ZK), Antonín Kůrka (AK), Milan Šárovec (MS), Petr Petrás (PP), Kateřina Hilleová (KH), Vladimír Lemberk (VL).

Determination of the species: JB. Depository: Specimens are mostly kept in the collection of JD; some specimens are deposited in reference collections of JB and AK.

RESULTS

Alopecosa accentuata (Latreille, 1817)

Identification. According to Cordes & von Helversen (1990).

Material examined. Greece: Thessaly, Mount Olympus, 20.–28.v.1999, 1 ♂, PP leg.

Distribution. The spider is widespread in the Palearctic, but apparently absent in Greece to the south of the Olympus (Bosmans & Chatzaki 2005), and has not been recorded from Britain (Harvey et al. 2002) or Portugal (Cardoso 2000).

Alopecosa albofasciata (Brullé, 1832)

Identification. According to Lugetti & Tongiorgi (1969), Fuhn & Niculescu-Burlacu (1971).

Material examined. Greece: Thrakia, west of Komotini, 29.vi.1997, 1 ♂, ZK leg.; Thessaly, Nei-Pori, Platamonas, 7.vi.1996, 1 ♀; Turkey: Hatay, Belen, north of Antakya, 12.iv.1997, 1 ♂, ZK leg.; Antalya, Akseki, Irmasan Gecidi (pass), 25.v.2001, 1 ♀, MS leg.; Murtiçi, 35 km of Alanya, pasture land, 23.v.2005, 1 ♀; Adana, Küçükgezbeli, 10 km of Tufanbeyli, 3.vi.2001, 1 ♀, MS leg.

Distribution. This is one of the most common holomediterranean wolf spiders (Thaler et al. 2000).

Alopecosa pentheri (Nosek, 1905)

Identification. According to Thaler et al. (2000).

Material examined. Turkey: Tokat, 10 km east by north of Tokat, 16.iv.1997, 1 ♀, ZK leg.

Distribution. The mountain regions of Greece, Bulgaria, Macedonia (Thaler et al. 2000). Locus typicus in Turkey.

Alopecosa taeniopus (Kulczyński, 1895)

Identification. According to Lugetti & Tongiorgi (1969), Fuhn & Niculescu-Burlacu (1971).

Material examined. Turkey: Sinop, Tarsuli, 10 km of Gerze, 19.iv.1997, 1 ♀, ZK leg.

Distribution. From Bulgaria and East Romania to West Siberia. Known from southern Turkey (Topçu et al. 2005), but it has not been recorded from Greece (Bosmans & Chatzaki 2005).

Arctosa lacustris (Simon, 1876)

Identification. According to Lugetti & Tongiorgi (1965).

Material examined. Spain: Catalonia, delta del Ebro, la Tancada camp, 11.vi.1999, 2 ♂♂.

Distribution. West Mediterranean species, from Portugal to Italy (Lugetti & Tongiorgi 1965).

Arctosa leopardus (Sundevall, 1833)

Identification. According to Lugetti & Tongiorgi (1965); Fuhn & Niculescu-Burlacu (1971).

Material examined. Greece: Rhodos, Epta Piges (near Colymbia), 24.v.2002, 1 ♀; Turkey: Mersin, Arslanli, 10 km of Erdemli, 31.v.2001, 1 ♀, MS leg.

Distribution. Europe, holomediterranean, expansive (Buchar & Thaler 1995), but the spider has not been recorded from Portugal (Cardoso 2000).

Arctosa similis Schenkel, 1938

Identification. According to Buchar et al. (2006); *A. similis* is very close to *A. cinerea* (Fabricius, 1777) and they can be regarded as sibling species.

Material examined. Spain: Catalonia, delta del Ebro, la Tancada camp, 11.vi.1999, 1 ♀.

Distribution. West Mediterranean species, from Portugal to Dalmatia (Buchar et al. 2006).

Note. Misidentified as *Arctosa variana* (C. L. Koch, 1847) by Lugetti & Tongiorgi (1965).

Arctosa tbilisiensis Mcheidze, 1947

Identification. According to Thaler et al. (2000); Alderweireldt (2002).

Material examined. Turkey: Antalya, Manavgat, reed-bed in vicinity of canal, 5.vi.2002, 2 ♂♂, JB leg. et coll.; Konakli, 10 km west of Alanya, 14.–26.v.2005, 53 ♂♂, 7 ♀♀.

Distribution. From Azerbaijan to Greece and southern Bulgaria (Buchar 2009: 326). First record from Turkey.

Arctosa variana (C. L. Koch, 1847)

[Syn.: *Arctosa perita latithorax* Lugetti et Tongiorgi, 1965; *A. latithorax* Wunderlich, 1984]

Identification. According to Buchar et al. (2006).

Material examined. Greece: Rhodos, Kolymbia, 4.vi.2002, 1 ♂; Turkey: Tuz Gölü, east waterside of the lake, 13.v.1992, 1 ♂, 3 ♀♀, AK leg. et coll.

Distribution. East Mediterranean species, from Sardinia (Lugetti & Tongiorgi 1965) to Turkey (Buchar 2009). Locus typicus Naflpio, Peloponnese.

Note. *Arctosa variana* (C. L. Koch, 1847) sensu Lugetti & Tongiorgi (1965) = *Arctosa similis* Schenkel, 1938 (locus typicus Odivelas, Portugal); see the revision of the *Arctosa cinerea* group (Buchar et al. 2006).

Aulonia kratochvili Dunin, Buchar et Absolon, 1986

Identification. According to Thaler et al. (2000).

Material examined. Turkey: Antalya, Manavgat, in shady river bed, 2.vi.2002, 1 ♀, JB leg. et coll.; Konakli, 10 km west of Alanya, wet pastureland, pitfall traps, 14.–26.v.2005, 7 ♂♂, 3 ♀♀.

Distribution. From Azerbaijan to Turkey (Varol et al. 2007) and Greece (Thaler et al. 2000).

Geolycosa vultuosa (C. L. Koch, 1839)

Identification. According to Thaler et al. (2000); Fuhn & Niculescu-Burlacu (1971); Zyuzin & Logunov (2000).

Material examined. Greece: Thessaly, Leptokaria, 10.vi.1996, 3 ♀♀.

Distribution. From Greece to southern Slovakia and to Crimea (Zyuzin & Logunov 2000).

Lycosa narbonensis Walckenaer, 1806

Identification. According to Simon (1937: 1090, fig. 1696, 1697), Zyuzin & Logunov (2000: fig. 3, 3A).

Material examined. Spain: Andalusia, Suspiro del Moro, 7.v.1995, 4 juveniles (collected as juv. specimens, matured in captivity 1 ♂, 3 ♀♀).

Distribution. Southern France (Le Peru 2007) and Iberian Peninsula (Zyuzin & Logunov 2000).

Pardosa atomaria (C. L. Koch, 1848)

[Syn.: *P. tatarica* (Thorell, 1875), *P. strigillata* (Simon, 1937)]

Identification. According to Buchar & Thaler (2002); Simon (1937); Tongiorgi (1966a).

Material examined. Greece: Thessaly, Leptokaria, 10.vi.1996, 2 ♂♂, 1 ♀; Mount Olympos, 20.–28.v.1999, 1 ♂, PP leg.; Rhodos, Monolithos, 29.v.2002, 3 ♀♀; Turkey: Antalya, Taskesigi, 35 km west by north of Alanya, wetland, 23.v.2005, 3 ♂♂, 3 ♀♀; Murtici (35 km of Alanya), stony river basin and grass near stream, 23.v.2005, 1 ♂, 5 ♀♀.

Distribution. Holomediterranean on gravel banks (see Buchar & Thaler 2002: map 1).

Pardosa hortensis (Thorell, 1872)

Identification. According to Tongiorgi (1966a).

Material examined. Greece: Thessaly, Leptokaria, 13.vi.1996, 1 ♀.

Distribution. Holomediterranean, expansive (Buchar & Thaler 1997, Buchar 2009: 326).

Pardosa incerta Nosek, 1905

Identification. According to Tongiorgi (1966b); Zyuzin & Ovtsharenko (1979).

Material examined. Turkey: Rize, Kaçkar mountains, near Olgunlar, Gölü lake, 11.viii.2004, 1 ♂, KH leg.; Isparta: Davraz mountains, 26.v.2001, 1 ♀, MS leg.

Distribution. Mountain species from Caucasus (Buchar & Thaler 1998) throughout Asia Minor to Bulgaria (Deltshev & Blagoev 1995). Locus typicus in Asia Minor.

Pardosa proxima (C. L. Koch, 1848)

Identification. According to Tongiorgi (1966a).

Material examined. Spain: Catalonia, delta del Ebro, la Tancada, 11.vi.1999, 2 ♂♂, 3 ♀♀; Sant Pere Pescador, 9.vi.1999, 1 ♂; Greece: Rhodos, Kolymbia, 4.vi.2002, 1 ♂.

Distribution. This is one of the most common holomediterranean wolf spiders. The northern boundary in Europe: southwestern Scotland, northern Germany, southern Slovakia and Ukraine, but the species is not recorded from the Czech Republic, Poland or Scandinavia (Almqvist 2005).

Pardosa tasevi Buchar, 1968

Identification. According to Holm & Kronestedt (1970); Ovtsharenko (1979).

Material examined. Turkey: Adana, Küçük Gezbeli, 10 km of Tufanbeyli, 3.vi.2001, 1 ♀, MS leg.

Distribution. From Caucasus throughout Asia Minor (first record from Turkey) to southeastern Europe: Greece (Wolf 2003), Bulgaria and Romania (locus typicus in Bulgaria).

Trabea paradoxa (Simon, 1876)

Identification. According to Tongiorgi (1968); Snazell (1983).

Material examined. Spain: Catalonia, Roses, 14.vi.1999, 1 ♀.

Distribution. West Mediterranean: from Iberian Peninsula to Dalmatia (Tongiorgi 1968).

Trochosa hispanica Simon, 1870

Identification. According to Simon (1937); Thaler & Noflatscher (1990).

Material examined. Greece: Thessaly, Leptokaria, 13.vi.1996, 2 ♀♀.

Distribution. Holomediterranean species (Thaler et al. 2000).

Xerolycosa nemoralis (Westring, 1861)

Identification. According to Heimerl & Nentwig (1991).

Material examined. Slovenia: Bovec, 12.viii.1995, 1 ♀, VL leg.

Distribution. From Portugal (Cardoso 2000) to northern Scandinavia (Almquist 2005) and Kamchatka (Mikhailov 1997). New records are very scattered in Mediterranean. Two species of genus *Xerolycosa* Dahl, 1908 represent the subfamily Evippinae in Europe (Zyuzin 1985).

Note on biology. Smola (2007) described the burrowing activity of *X. nemoralis*, which is very unusual in comparison to other Evippinae genera. The burrow of this species has three parts: entrance corridor, central room and cylindrical retreat for cocoon (Smola 2007).

CONCLUSION

Four species (*Alopecosa albofasciata*, *Arctosa leopardus*, *Pardosa proxima* and *Trochosa hispanica*) are widespread in most of the Mediterranean, four further species (*Alopecosa accentuata*, *Pardosa atomaria*, *P. hortensi* and *Xerolycosa nemoralis*) have a patchy distribution throughout this territory. Four species (*Arctosa similis*, *A. lacustris*, *Lycosa narbonensis* and *Trabea paradoxa*) have been recorded from the west Mediterranean; eight species (*Alopecosa pentheri*, *A. taeniopus*, *Arctosa variana*, *A. tbilisiensis*, *Aulonia kratochvili*, *Geolycosa vultuosa*, *Pardosa incerta* and *P. tasevi*) are restricted to east Mediterranean.

Most of the above mentioned species have only been recorded from Mediterranean, on the other hand one species (*Geolycosa vultuosa*) extends to southern Slovakia, three species (*Alopecosa accentuata*, *Pardosa proxima*, *P. hortensis*) extend to northern Germany, and two further species (*Arctosa leopardus*, *Xerolycosa nemoralis*) to northern Scandinavia (Almquist 2005, Bosmans & Chatzaki 2005, Buchar & Thaler 1995, 1997, 1998, 2002, Buchar et al. 2006, Buchar 2009, Cardoso 2000, Deltshv & Blagoev 1995, Le Peru 2007, Lugetti & Tongiorgi 1965, Mikhailov 1997, Platnick 2010, Thaler et al. 2000, Topçu et al. 2005, Varol et al. 2007, Wolf 2003 and Zyuzin & Logunov 2000)

Two species (*Arctosa tbilisiensis*, *Pardosa tasevi*) are new to Turkey.

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SOUHRN

Práce přináší faunistické údaje o dvaceti druzích slíďáků z území Mediteránu. Přestože zástupci této čeledi jsou velcí, nápadně pohybliví pavouci a popisy nových druhů jsou z území Mediteránu publikovány již 250 let, stále přetrvávají četné nejasnosti v používání jednotlivých druhových názvů. Týká se to například názvu *Arctosa variana* (C. L. Koch, 1847). Platný název, jak na to upozorňuje práce Buchar et al. (2006), náleží druhu, který byl popsán z řeckého poloostrova Peloponesos. Nesprávně začal být tento název používán v revizi rodu *Arctosa* (Lugetti & Tongiorgi 1965), a to pro druh *Arctosa similis* Schenkel, 1938, popsáný z Portugalska. Oba druhy žijí společně snad pouze na území Itálie.

Z uvedeného materiálu čtyři druhy (*Alopecosa albofasciata*, *Arctosa leopardus*, *Pardosa proxima* a *Trochosa hispanica*) jsou rozšířeny na většině evropského Mediteránu, další čtyři (*Alopecosa accentuata*, *Pardosa atomaria*, *P. hortensis* a *Xerolycosa nemoralis*) nemají na tomto území souvislé rozšíření. Druhy *Arctosa similis*, *A. lacustris*, *Lycosa narbonensis* a *Trabea paradoxa* obývají jen západní Mediterán, osm druhů (*Alopecosa pantheri*, *A. taeniopus*, *Arctosa variana*, *A. tbilisiensis*, *Aulonia kratochvili*, *Geolycosa vultuosa*, *Pardosa incerta* a *P. tasevi*) žije výhradně ve východním Mediteránu.

Většina zmíněných druhů nepřekračuje severní hranici Mediteránu, *Geolycosa vultuosa* ji překračuje jen na území jižního Slovenska, tři další druhy zasahují svými areály až do severního Německa (*Alopecosa accentuata*, *Pardosa proxima*, *P. hortensis*) a dva druhy (*Arctosa leopardus*, *Xerolycosa nemoralis*) jsou rozšířeny až do severní Skandinávie.

Arctosa tbilisiensis a *Pardosa tasevi* jsou nové druhy pro území Turecka.