Some rare and remarkable spider species from Hungary (Arachnida: Araneae)

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Italy (including Sardinia), Macedonia, Portugal, Russia (southern European part), Spain, Turkey (European part) and Ukraine (van Helsdingen 2017). It is also present in, e.g., Azerbaijan, Georgia, Iran, Israel, Lebanon, Syria and Turkey (Asian part) (Levy 1997, Kashefi et al. 2013, Komnenov 2013, Uyar et al. 2014).

Remarks. Until now, two representatives of the genus Cyclosa were known from Hungary: C. conica (Pallas, 1772) and C. oculata (Walckenaer, 1802) (Samu & Szentetár 1999). Here we report C. sierrae as the third member of this genus in Hungary.

This Mediterranean species usually occurs in steppe-like or shrub vegetation, but also occurs in Pinus forests (Komnenov 2013, Polchaninova & Prokopenko 2013, Íjland & van Helsdingen 2014, Uyar et al. 2014). Cyclosa spiders are easy to recognise by their habit of placing their prey remains and egg sacs in a vertical line crossing the center of their orb webs (Levy 1997). Furthermore, Cyclosa species can usually be easily distinguished from their relatives by, among other features, the posterior-dorsal extended opisthosoma which bears various humps (Levy 1997), but the identification of some species within the genus is difficult. In physical characteristics C. sierrae strongly resembles C. conica, but according to Mchedzé (2014) these two species can be distinguished on the basis of the sternum colouration: in case of C. sierrae the sternum is black (or dark brown) with yellow marks on the edge (one anterior transversal, one apical and two lateral marks), while in C. conica the sternum is entirely black, without yellow marks. Presumably the small-sized male specimen of this typically southern species reached the sampling site by ballooning. Spreading of this species in a northern direction has not been detected before in Europe.

Dictynidae O. P.-Cambridge, 1871

Brigittea vicina (Simon, 1873) (syn. Dictyna vicina) (Fig. 2)

Determination. Loksa 1969

Material examined. 1♂, Budapest: 1♀ 26.05.2016, 2♀ 23.06.2016 – Haller park (47°28′29″N, 19°04′48″E, 107 m a.s.l., urban green area); 1♀ 23.06.2016 – Róbert Károly körút (47°32′09″N, 19°03′48″E, 106 m a.s.l., urban green area); 1♀ 19.07.2016, 1♂ 13.09.2016 – Margit Island (47°31′19″N, 19°02′43″E, 103 m a.s.l., urban green area with floodplain-like forest vegetation); 1♀ 19.07.2016 – Vérmező (47°29′60″N, 19°01′43″E, 127 m a.s.l., urban green area). All the specimens (leg. D. Korányi, det. L. Mezőfi) were collected by beating mainly in urban environments, from canopies of Acer campestre trees.

Distribution. Mediterranean to Central Asia (WSC 2017). In Europe it is present in Bulgaria, Croatia, Czech Republic, France (including Corsica), Greece (including Crete), Hungary, Italy, Macedonia, Moldova, Romania, probably in Russia (north-western European part), Slovakia, Ukraine and former Yugoslavia (van Helsdingen 2017).

Remarks. A very rare mesophilic species (Havranek & Molnár 1965, Bryja et al. 2005b), which is critically endangered in, for example, the Czech Republic (Rezač et al. 2015). However, B. vicina is not considered to be very rare in Hungary and it can be characterised as a species with a rather sporadic occurrence (Szentetár pers. comm.). It occurs in the herb layer of downy oak forests (Bryja et al. 2005b) or at forest edges (Havranek & Molnár 1965), although B. vicina was reported from urban areas (from Picea abies trees) as well (Szentetár 1992). In spite of the limited data on this species our results indicate that urban green ecosystems can provide appropriate habitats for B. vicina.

Dysderidae C. L. Koch, 1837

Dysdera lata Reuss, 1834 (Fig. 3)


Material examined. 1♀, Budapest: 27.07.2016 – Budai Arborétum (47°28′49″N, 19°02′24″E, 120 m a.s.l., urban green area). The specimen (leg. & det. L. Mezőfi) was collected by hand on a pavement near a rockery in the Botanical Garden of the Szent István University.

Distribution. Mediterranean to Georgia (WSC 2017). In Europe this species occurs in Bulgaria, Cyprus, France (exclusively on Corsica), Greece (including North Aegean Islands, Cyclades and Crete), Moldova, Portugal, Romania, Russia (southern European part), Slovakia, Spain (exclusively on the Balearic Islands) and Ukraine (Otto 2015, Bosmans et al. 2017, van Helsdingen 2017, Lissner 2017).
Interesting Hungarian spiders

Remarks. Deeleman-Reinhold & Deeleman (1988) and Řežáč et al. (2008) suggested that some of the characteristics of the spider suggest subterranean habitat use and Růžička & Dolanský (2016) consider *I. microphthalmalma* as a 'soil spider'. Nonetheless, its occurrence in the canopy of apple trees (at a height of approximately 1.5 m above the ground) suggests that besides the soil layer or the ground level *I. microphthalmalma* can sometimes also occur on plants.

**Linyphiidae Blackwall, 1859**

*Mermessus trilobatus* (Emerton, 1882)

**Determination.** Nentwig et al. 2017, Šestáková et al. 2017

**Material examined.** 2♂♂, 3♀♀. 15.12.2015 – Monorierdő (47°19′13″N, 19°31′12″E, 158 m a.s.l., organic apple orchard); 1♂ 05.02.2016 – Újfehértó (47°49′13″N, 21°39′58″E, 121 m a.s.l., organic apple orchard); 1♂, 1♀ 09.12.2016 – Sükösd (46°17′59″N, 19°00′21″E, 100 m a.s.l., organic apple orchard). The specimens (leg. & det. L. Mezőfi) were collected by litter sampling.

**Distribution.** North America. Introduced to Azores, Europe (WSC 2017). In Europe it is present in Austria, Belgium, Croatia, Czech Republic, France, Germany, Great Britain, Hungary, Italy, Netherlands, Poland, Portugal (exclusively on Azores), Slovakia, Slovenia, Switzerland and Ukraine (Dolanský et al. 2009, Katušić 2009, Kovács et al. 2015b, Szinetár et al. 2015, van Helsdingen 2017, Hirna 2017).

Remarks. This North American linyphiid spider was first found in Germany in the early 1980s and *M. trilobatus* is probably now the most frequently occurring alien spider in Europe (Nentwig & Kobelt 2010). This invasive ground-living species is probably spreading primarily by ballooning (Košulič et al. 2013, Blandenier et al. 2014) and its high colonization ability may relate to this, although the exact reasons for the success of *M. trilobatus* are still unclear (Eichenberger et al. 2009). In Hungary the first specimen was collected in 2012 (Kovács et al. 2015b), and since then it was found in several locations, especially in the western part of the country (e.g. pipe traps which were designed to catch subterranean invertebrates. Snazell & Duffey (1980) propose that some of the characteristics of the spider suggest subterranean habitat use and Růžička & Dolanský (2016) consider *I. microphthalmalma* as a 'soil spider'. Nonetheless, its occurrence in the canopy of apple trees (at a height of approximately 1.5 m above the ground) suggests that besides the soil layer or the ground level *I. microphthalmalma* can sometimes also occur on plants.

**Hahniidae Bertkau, 1878**

*Iberina microphthalmalma* (Snazell & Duffey, 1980)

(syn. *Hahnia microphthalmalma*) (Fig. 4)

**Determination.** Snazell & Duffey 1980, Szita et al. 1998

**Material examined.** 2♂♂, Madocsa: 27.09.2016 – (46°40′50″N, 18°58′32″E, 92 m a.s.l., commercial apple orchard treated with pesticides). The specimens (leg. & det. L. Mezőfi) were collected by litter sampling.

**Distribution.** Only known from Czech Republic, Germany, Great Britain, Hungary and Switzerland (WSC 2017).

Remarks. Little is known about the biology of this rare species. Only a few records are available (Růžička & Dolanský 2016) and the male is still unknown. According to Snazell & Duffey (1980) the posterior median eyes are reduced, but various stages of eye reduction are possible and there may be differences in the form of the translucent copulatory ducts as well (Szita et al. 1998, Hänggi & Stäubli 2012). Růžička & Dolanský (2016) summarised earlier records and found that all previous specimens were collected on the ground surface or in the grass layer by various methods (e.g. by pitfall traps, sweeping), except some specimens that were collected using pipe traps which were designed to catch subterranean invertebrates. Snazell & Duffey (1980) propose that some of the characteristics of the spider suggest subterranean habitat use and Růžička & Dolanský (2016) consider *I. microphthalmalma* as a 'soil spider'. Nonetheless, its occurrence in the canopy of apple trees (at a height of approximately 1.5 m above the ground) suggests that besides the soil layer or the ground level *I. microphthalmalma* can sometimes also occur on plants.
Kovács & Szinetár 2015, Kovács et al. 2015b, Szinetár et al. 2015). Our results indicate that in recent years this species colonized almost the entire country, the central (Monorierdő), the southern (Sükösd) and the eastern (Újfehértó) parts equally. The species can also be expected to reach Serbia and Romania in the near future.

**Porrhomma oblitum** (O. P.-Cambridge, 1871) (Fig. 5)  
Determination. Merrett 1994, Russell-Smith 2009

**Material examined.** 19, Nagykálló: 05.02.2016 – (47°53’17”N, 21°48’57”E, 116 m a.s.l., organic apple orchard). The specimen (leg. & det. L. Mezőfi) was collected from a cardboard band.

**Distribution.** Europe (WSC 2017): Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Iceland, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Romania, Russia (Eastern European part), Slovakia and Switzerland (van Helsdingen 2017).

**Remarks.** Samu & Szinetár (1999) listed seven *Porrhomma* species from Hungary: *P. convexum* (Westring, 1851), *P. errans* (Blackwall, 1841), *P. microphthalmum* (O. P.-Cambridge, 1871), *P. montanum* Jackson, 1913, *P. profundum* Dahl, 1939, *P. pygmaeum* (Blackwall, 1834) and *P. rosenbaueri* (L. Koch, 1872), however the presence of *P. errans* and *P. rosenbaueri*, are uncertain (Samu & Szinetár 1999). Szinetár & Horváth (2006) cited the unpublished M.Sc. thesis of Kovács (2002) for *P. oblitum*, suggesting that the species also occurs in Hungary, but in this thesis *P. oblitum* was not mentioned. Consequently, to the best of our knowledge we report *P. oblitum* for the first time in Hungary, making it the eighth member of its genus in the country.

This species is a facultative bark-dweller and it may occur in arable lands or various open and forest habitats, especially in semi-humid and humid ones (Blick et al. 2000, Szinetár & Horváth 2006). Identification of *Porrhomma* species is quite difficult. Both *P. oblitum* and *P. montanum* belong to the *Porrhomma* group, where the metatarsi are spineless, femur I has only one prolateral spine and the dorsal spines are lacking, and tibia I has a prolateral spine. *Porrhomma oblitum* and *P. montanum* can be distinguished from each other only by small details of the dissected and cleared genitalia (Russell-Smith 2009, Štastková 2011).

**Philodromidae Thorell, 1870**  
**Philodromus marmoratus** Kulczyński, 1891  
(syn. *P. buddenbrocki* Braun, 1965) (Fig. 6)  
Determination. Kubcová 2004, Muster & Thaler 2004

**Material examined.** 2♂♂, 2♀♀ Budapest: 1♂ (leg. V. Hoffmann, det. L. Mezőfi) 20.04.2016, 1♂, 1♀ (leg. D. Győri, det. L. Mezőfi) 29.07.2016 – Margit Island (47°31’19”N, 19°02’43”E, 103 m a.s.l., urban green area with floodplain-like forest vegetation) (The male is a reared specimen, reached maturity after the ninth moult on 29.05.2017.). All specimens were collected by beating from shrubs. 1♀ (det. L. Mezőfi) an additional individual, an offspring of the female collected on 29.07.2016 was also examined. This reared specimen emerged from the egg on 10.08.2016 and reached maturity after the ninth moult on 19.05.2017.

**Distribution.** Only in Austria, Bulgaria, Czech Republic, Hungary, Slovakia, Ukraine and former Yugoslavia (with newer data from Serbia) (Grbić & Savić 2010, van Helsdingen 2017).

**Remarks.** A very rare species (Bryja et al. 2005a, 2005b), which is endangered in, e.g., the Czech Republic (Rézác et al. 2015) and occurs near wetlands or floodplain forests (Jäger 1995, Bryja et al. 2005b). This species belongs to the *Philodromus aureolus* group (Segers 1992) and was originally described as *P. aureolusssp. marmoratus* (in Chyzer & Kulczyński 1891). Segers (1992) firstly mentioned that *P. buddenbrocki* is possibly a synonym of *P. aureolus marmoratus* and later Kubcová (2004) clarified the situation and established *P. buddenbrocki* as a junior synonym of *P. marmoratus*. Although Chyzer & Kulczyński (1918), in their spider checklist reported several *P. aureolus marmoratus* records from the present territory of Hungary, surprisingly *P. marmoratus* was not included in the Hungarian checklist of spiders (Samu & Szinetár 1999), probably because of its uncertain taxonomic status. Our data provide further evidence for the occurrence of *P. marmoratus* in Hungary. Furthermore, one individual (♀) was successfully reared from the egg. After the spider had emerged, it moulted nine times until maturity was reached. The other reared specimen (♂) which had been collected as a small nymph also moulted nine times until it reached adult stage. These observations indicate that *P. marmoratus* may have nine or more instars before maturity.

**Pulchellodromus ruficapillus** (Simon, 1885)  
(syn. *Philodromus ruficapillus*) (Fig. 7)  
Determination. Muster et al. 2007, Kastrygina & Kobljuk 2014

**Material examined.** 2♀♀, Nagykálló: 09.05.2016 – (47°53’17”N, 21°48’57”E, 116 m a.s.l., organic apple orchard) (reared specimens, final mouling reached on 25.07.2016). The specimens (leg. & det. L. Mezőfi) were collected by beating method from canopy of apple trees.

**Distribution.** Mediterranean to Kazakhstan (WSC 2017). In Europe it was found in Albania, Austria, France, Greece (including North Aegean Islands and Crete), Hungary, Italy, Portugal, Romania, Spain and Ukraine (van Helsdingen 2017).

**Remarks.** In 2012 the genus *Pulchellodromus* was separated from the genus *Philodromus* by Wunderlich (2012), and the genus now contains 13 cryptic species (WSC 2017), mostly from the Mediterranean region (Muster et al. 2007, Wunderlich 2012). Two of them have data from Hungary: *P. pulchellus* (Lucas, 1846) (Déry et al. 2007, Kancsl et al. 2010) and *P. ruficapillus*, the latter of which seems to have the largest distribution area among the other species of the genus (Duma...
Until now, in Hungary *P. ruficapillus* has been found in Fertő-Hanság (Northwestern Hungary) (Muster et al. 2007) and in the Balaton Upland (Szinetár et al. 2016), but our data (Nagykálló, Northeastern Hungary) suggest that it is widespread throughout Hungary. Furthermore, all the records of *P. pulchellus* from Hungary need to be re-checked, because they probably all belong to *P. ruficapillus* (Szinetár et al. 2016).

*Pulchellodromus ruficapillus* occurs usually in wetlands or along riverbanks and also on seashores (Muster et al. 2007, Duma 2008, Szinetár et al. 2016).

**Fig. 6:** *Philodromus marmoratus* specimens from Hungary; *a.* male, general appearance, dorsal view; *b.* female, general appearance, dorsal view; *c.* male’s left palp, ventral view; *d.* epigyne, ventral view; *e.* epigyne/vulva, dorsal view

**Fig. 7:** *Pulchellodromus ruficapillus* female from Hungary; *a.* general appearance, dorsal view; *b.* epigyne/vulva, dorsal view

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**Theridiidae Sundevall, 1833**

*Lasaeola prona* (Menge, 1868) (syn. *Dipoena prona*)

**Determination.** Roberts 1985, Le Peru 2011

**Material examined.** 1♂, 2♀, 3 sub ♀♀, 4 sub ♂♂, 1 nymph: 2♀ (leg. C. Nagy, det. L. Mezőfi) 28.04.2014 (The specimens were collected from their webs, at the base of apple trees), 1♂ (leg. & det. L. Mezőfi) 09.07.2014 (This specimen was consumed by a *Carrhotus xanthogramma* (Latreille, 1819) nymph (det. L. Mezőfi) on an apple tree.) – Újfehértó (47°49’13”N, 21°39’58”E, 121 m a.s.l., organic apple orchard). The spi-
ders were collected by hand. 1 sub 01.12.2013 – Zsurk (48°23'30"N, 22°12'52"E, 105 m a.s.l., commercial apple orchard). These specimens (leg. M. Paróczai, det. L. Mezőfi) were collected by the cardboard band method. 1 nymph 22.09.2015 – Nyírcsaholy (47°55'17"N, 22°18'43"E, 126 m a.s.l., organic apple orchard); 1 sub 27.04.2016, 1 nymph 14.09.2016, 1 nymph 14.10.2016 – Budapest, Hűvösvölgy (47°32'31"N, 18°58'31"E, 228 m a.s.l., urban green area).

Distribution. North America, Europe, Caucasus, Japan (WSC 2017). In Europe it is widely distributed: Albania, Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Russia (eastern European, northern European and Kalingrad Region), Slovakia, Slovenia, Spain, Sweden, Switzerland and Ukraine (van Helsdingen 2017).

Remarks. Although widely distributed in Europe, this is quite a rare species and its biology is partly unknown (Nentwig et al. 2017). Lasaeola prona was classified as near threatened in the Carpathian Red List (Gajdoš et al. 2016), but this rate will surely increase in future. Therefore, it is important to continue the arachnological exploration of Hungary because, as in the case of Europe in general, many new species are expected to emerge in this country and also not all species that supposedly occur in Hungary have been found and listed yet.

Conclusions

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References


Horváth R & Szinetár C 2002 Ecofunctional study of bark-dwelling spiders (Araneae) on black pine (*Pinus nigra*) in urban and forest habitats. – Acta Biologica Debrecina 24: 87–101


Ijland S & Heldings Bj van 2014 On some spiders (Arachnida, Araneae) from the surroundings of Castellabate, Italy. – Nieuwsbrief SPINED 34: 16–33


Kancsal B, Szinetár C, Bognár V & Angyal D 2010 Data to the spider fauna (Araneae) of Lake Velence. – Natura Somogyiensis 17: 133–140


Kostanjšek R & Gorjan A 2013 A contribution to the Slovenian spider fauna (Arachnida, Araneae) on the Fruška Gora Mt. – Arthropoda Selecta 23: 279–283


Kostanjev R & Gorjan A 2013 A contribution to the Slovenian spider fauna – II. – Natura Sloveniae 15: 5–12

Košulić O, Nováková L & Strštná P 2013 Epigeic spiders (Araneae) from the Malá Dohoda Quarry (Moravian Karst Protected Lands-
Interesting Hungarian spiders


Szinetár C, Rákóczi AM, Bleicher K, Botos E, Kovács P & Samu F 2012 A Sas-hegy pokfaunája II. A Sas-hegy faunakutatásának 80 éve – A hegyről kimutatott pokfajok kommentált listája. [Spider fauna of Mt Sas-hegy II. 80 years of fauna research on Mt Sas-hegy, with the annotated list of spiders]. – Rosalia 8: 333-362

Szinetár C, Szita É & Kovács P 2016 Pókfaunisztikai vizsgálatai a szigligeti Kongó-réten. [Arachnofaunistical studies in the Kongó meadow (Szigliget)]. – Folia Musei Historico-Naturalis Bako nyiensis 33: 75-86

Szinezár C, Török T & Szűts T 2014 Zoropsis spinimana, mint új épületlakó pokfaj Magyarországon. [Zoropsis spinimana (Dufour, 1820) new synanthrop spider species in Hungary]. – A NyME Savaria Egyetemi Központ Tudományos Közleményei XX. Természettudományok 15: 105-113


Wunderlich J 2012 Contribution to taxonomy and evolution of the European genera of the spider family Philodromidae (Araneae). – Beiträge zur Araneologie 7: 25-56