

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный Научный Центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre

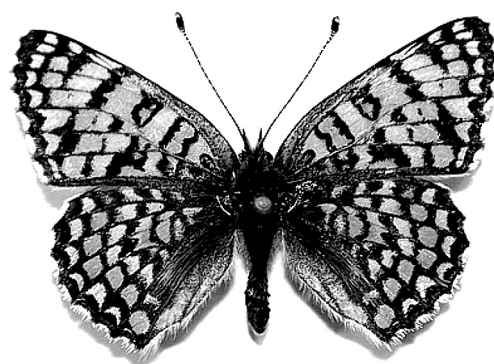


Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 7. Вып. 1

Vol. 7. No. 1



Ростов-на-Дону
2011

**Spiders (Aranei) new to the fauna of Turkey.
9. Two new family records (Mysmenidae and Synphridae)
and one species record of Mimetidae**

**Пауки (Aranei), новые для фауны Турции.
9. Два новых семейства (Mysmenidae и Synphridae)
и один вид семейства Mimetidae**

**Yu.M. Marusik¹, Kadir Boğaç Kunt²
Ю.М. Марусик¹, К.Б. Кунт²**

¹Institute for Biological Problems of the North RAS, Portovaya str., 18, Magadan 685000 Russia. E-mail: yurmar@mail.ru

²Poligon Sitesi 71/27-B TR-06810 Dodurga, Çayyolu, Ankara, Turkey. E-mail: chaetopelma@gmail.com

¹ИБПС ДВО РАН, ул. Портовая, 18, Магадан 685000 Россия

²Poligon Sitesi 71/27-B TR-06810 Dodurga, Çayyolu, Ankara, Турция

Key words: spiders, Turkey, new record, *Synphris*, *Mysmena*, *Mysmenella*, *Ero*.

Ключевые слова: пауки, Турция, новая находка, *Synphris*, *Mysmena*, *Mysmenella*, *Ero*.

Abstract. Two spider families (Mysmenidae and Synphridae) are reported from Turkey for the first time. Mysmenidae are represented by two species and two genera: *Mysmena leucoplagiata* (Simon, 1879) and *Mysmenella jobi* (Kraus, 1967). Synphridae are represented by only one unidentified *Synphris* species. In addition, one species of Mimetidae, *Ero furcata* (Villers, 1789), is reported from Turkey for the first time. Both mysmenid species and *Ero furcata* are illustrated. These new records increase the number of spider families recorded from Turkey to 50, although this is still an underestimation of the expected total.

Резюме. В Турции впервые отмечены два семейства пауков: Mysmenidae и Synphridae. Первое представлено двумя видами и двумя родами: *Mysmena leucoplagiata* (Simon, 1879) и *Mysmenella jobi* (Kraus, 1967). Второе семейство – только одним видом *Synphris* sp. Кроме этого, впервые для страны отмечен *Ero furcata* (Villers, 1789). Оба вида Mysmenidae и *Ero furcata* проиллюстрированы. Новые находки увеличили общее число семейств в Турции до 50, хотя, по нашим оценкам, это не предел.

Introduction

This paper is the ninth in a series on new spider records from Turkey and is devoted to three families: Mysmenidae, Synphridae and Mimetidae. 48 spider families are known to occur in Turkey [Bayram et al., 2010], but we expect more to be discovered in the future. A brief Turkish-Russian arachnological expedition in Turkey during 2009 resulted in two new family records for the country (Mysmenidae and Synphridae) and more than 60 species new species records for the fauna of Turkey. The main aim of this paper is to present data about new family, genus and species records from Turkey.

Material and methods

All specimens were collected during the Turkish-

Russian arachnological expedition from May 27 – June 14, 2009 (Color plate 1: fig. 1). The specimens were collected by sweeping, hand picking, litter sifting and tree branch beating with the help of an aspirator and preserved in 70% ethanol. Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX12 stereomicroscope. The images were montaged using “CombineZM” image stacking software. Photographs were taken in dishes of different sizes with paraffin in the bottom. Different sized holes were made in the bottom to keep the specimens in the correct position. Each species is supplied with the most appropriate identification references (chiefly well known identification books).

The material treated herein is deposited in the personal collection of Kadir Boğaç Kunt and in the Zoological Museum of the Moscow State University.

Species survey

Family Mysmenidae Petrunkevitch, 1928

Comments. This is a small, globally distributed family with 123 species assigned to 23 genera [Platnick, 2011]. Only three genera and seven species of mysmenids are known from the Palaearctic: *Mysmena* Simon, 1894, *Mysmenella* Brignoli, 1980 and *Trogloneta* Simon, 1922 [Platnick, 2011]. Most of the records originate from south of 50°N. Interestingly, Mysmenidae are unknown from some countries adjacent to Turkey, such as Bulgaria and Greece [Helsdingen, 2010], but two species and two genera are known from the Caucasus [Marusik, Guseinov, 2003; Marusik, 2005] and Crimea [Kovblyuk et al., 2008].

Genus *Mysmena* Simon, 1894

Comments. This is the most species rich genus in the family, with 22 species distributed all over the world except for Australia. The taxonomic delimitation of this genus is not very clear because it was never been thoroughly revised.

Thus, it is highly likely that some species are misplaced. Only two species of *Mysmena* are known to occur in the Palaearctic, and both occur in the Mediterranean region [Platnick, 2011; Helsdingen, 2010].

Mysmena leucoplagiata (Simon, 1879)
(Color plate 1: fig. 2–6)

Mysmena leucoplagiata: Kraus, 1967: 388, fig. 1–11 (♂, ♀); Wunderlich, 1980: 267, fig. 24–26 (♂, ♀); Trotta, 2005: 170, fig. 362–363 (♂, ♀).

Material. 126 ♂, ♀ and juv. [T-03], Ankara prov., Kızılcahamam, Çamlidere, 40°32.709'N / 32°30.547'E, 964 m, under flat stones in pine forest, 28.05.2009 (Yu.M.Marusik); 1♂ [T-13], İzmir prov., Kemalpaşa, Vişneli, 38°20.777'N / 27°25.271'E, 311 m, 5.06.2009 (Yu.M.Marusik).

Comments. Habitus and pattern of this species is identical to those in *Mysmenella jobi*. The two mysmenid species occurring in Turkey can be distinguished by the digitiform extension of the cymbium in *M. leucoplagiata* (lacking in *M. jobi*) and the presence of a metatarsal spur on leg I in the male (*M. jobi* has both metatarsal and tarsal spurs).

This species is distributed from Spain to Azerbaijan [Helsdingen, 2010; Marusik, Guseinov, 2003].

M. leucoplagiata was collected in large numbers from under flat stones in pine forest near Çamlidere. Under some stones it was possible to find numerous (5+) specimens. In other places *M. leucoplagiata* was collected by sifting leaf-litter.

Genus *Mysmenella* Brignoli, 1980

Comments. *Mysmenella* is a small genus with 10 species distributed in the Old World. The most distant records are from Hawaii and New Guinea [Platnick, 2011]. Only two species of this genus are known to occur in the Palaearctic: *M. jobi* (Kraus, 1967) and *M. pseudojobi* Lin et Li, 2008. Both species represent the most northerly distributed species of the family in the West and East Palaearctic respectively.

Mysmenella jobi (Kraus, 1967)
(Color plate 2: fig. 7–13)

Mysmena j. Kraus, 1967: 392, fig. 12–28 (♂, ♀); Wunderlich, 1980: 267, fig. 19–23 (♂, ♀); Thaler, Noflatscher, 1990: 174, fig. 31–34 (♂); Heimer, Nentwig, 1991: 306, fig. 822 (♂, ♀); Trotta, 2005: 170, fig. 360–361 (♂, ♀).

Material. 1♂ [T-19], Artvin prov., Şavşat, Meydancık, Erikli village, 41°24.302'N / 42°17.809'E, 1141 m, 12.06.2009 (Yu.M.Marusik); 2♀ [T-20], Artvin prov., 9 km NW of Artvin, 41°15.642'N / 41°46.365'E, 225 m, 13.06.2009 (Yu.M.Marusik).

Comments. *Mysmena leucoplagiata* can be easily distinguished from the other Turkish mysmenid, *M. jobi*, by its larger size (about 1.5 mm), having spines on both the tibia and metatarsus of leg I in the male (only on the metatarsus in *M. leucoplagiata*), the lack of a digitiform extension of the cymbium.

Although according to Platnick [2011] this species has a Palaearctic distribution, in fact it is restricted to the West Palaearctic region and is known from France [Helsdingen, 2010] to Azerbaijan [Marusik, Guseinov, 2003]. In the East Palaearctic, *M. jobi* is replaced by the sibling species *M.*

pseudojobi and all records of *M. jobi* from China, Korea, Japan and the Russian Far East refer to *M. pseudojobi*.

Family Synaphridae Wunderlich, 1986

Synaphridae is a small family with 12 species assigned to three genera distributed in the Mediterranean region and Madagascar [cf. Platnick, 2011]. This group was elevated to family rank by Marusik and Lehtinen [2003]. Within the Eastern Mediterranean region Synaphridae have been recorded from Crimea, Egypt, Israel and Turkmenistan [Marusik, Zonstein, 2011].

Genus *Synaphris* Simon, 1894

Synaphris occurs in the Mediterranean region and Madagascar. 10 species are known in this genus, with all except those from Madagascar, known only from a single locality.

Synaphris sp.

Material. 2 juv. (♂ and ♀) [T-03], Ankara prov., Kızılcahamam, Çamlidere, 40°32.709'N / 32°30.547'E, 964 m, under flat stones in pine forest, 28.05.2009 (Yu.M.Marusik).

Comments. Only one pair of subadult specimens has been collected in Turkey, from under stones in a pine forest. Additional attempts to collect adult material in the same locality were unsuccessful. The subadult male has a palp typical of *Synaphris*. However, identification of *Synaphris* species from juvenile specimens is impossible. It is likely that our specimens belong to an undescribed species.

Family Mimetidae Simon, 1881

This is a relatively small, globally distributed family with 156 species assigned to 13 genera. Three of these genera occur in the Western Palaearctic, and two of them are known from Turkey. Each of them was previously known from a single species: *Ero aphana* (Walckenaer, 1802) and *Mimetis laevigatus* (Keyserling, 1863). During our expedition we collected one additional species.

Ero furcata (Villers, 1789)
(Color plate 2: fig. 14–15)

Ero furcata: Roberts, 1985: 170, fig. 75b (♂, ♀); Roberts, 1995: 259, fig. (♂, ♀); Roberts, 1998: 274, fig. (♂, ♀); Thaler et al., 2004: 363, fig. 3, 15–16, 22, 30, 36, 44, 59 (♂, ♀).

Material. 1♀ [T-06], Kastamonu prov., Azdavay, 41°40.100'N / 33°22.446'E, 878 m, 30.05.2009 (Yu.M.Marusik).

Comments. This species can be easily separated from *E. aphana* by having only one pair of tubercles on the abdomen (two pairs in *E. aphana*). *E. furcata* occurs throughout the Palaearctic, including countries adjacent to Turkey, such as Bulgaria, Greece, Crimea and the Caucasus.

Conclusions

Finds of additional species of Mysmenidae in Turkey are highly unlikely. In contrast, additional species of Synaphridae and Mimetidae most probably occur in Turkey. All *Synaphris* species have a very localized distribution and

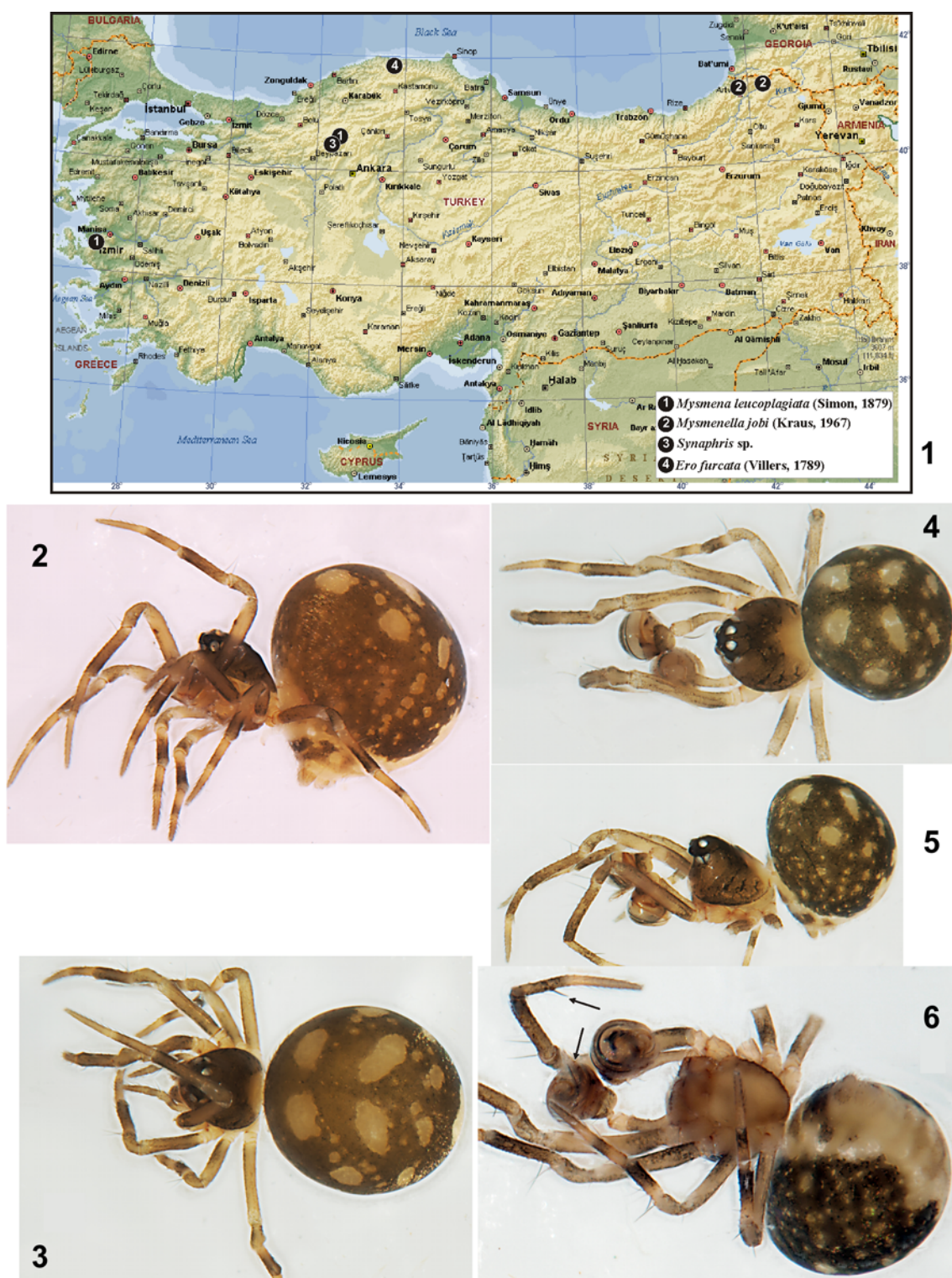


Fig. 1. Records of *Mysmena leucoplagiata* (Simon, 1879), *Mysmenella jobi* (Kraus, 1967), *Synaphris* sp. and *Ero furcata* (Villers, 1789) in Turkey.
Рис. 1. Нахождения *Mysmena leucoplagiata* (Simon, 1879), *Mysmenella jobi* (Kraus, 1967), *Synaphris* sp. и *Ero furcata* (Villers, 1789) в Турции.

Fig. 2-6. Habitus and pattern of *Mysmena leucoplagiata* (Simon, 1879).

2-3 – female, lateral and dorsal; 4-6 – male, dorsal, lateral and latero-ventral. Arrows indicate mating spur in male and diftiform extension of the cymbium.

Рис. 2-6. Внешний вид *Mysmena leucoplagiata* (Simon, 1879).

2-3 – самка, сбоку и сверху; 4-6 – самец, сверху, сбоку и сбоку-снизу. Стрелками показаны копулятивный шип самца и пальцевидный отросток цимбиума.

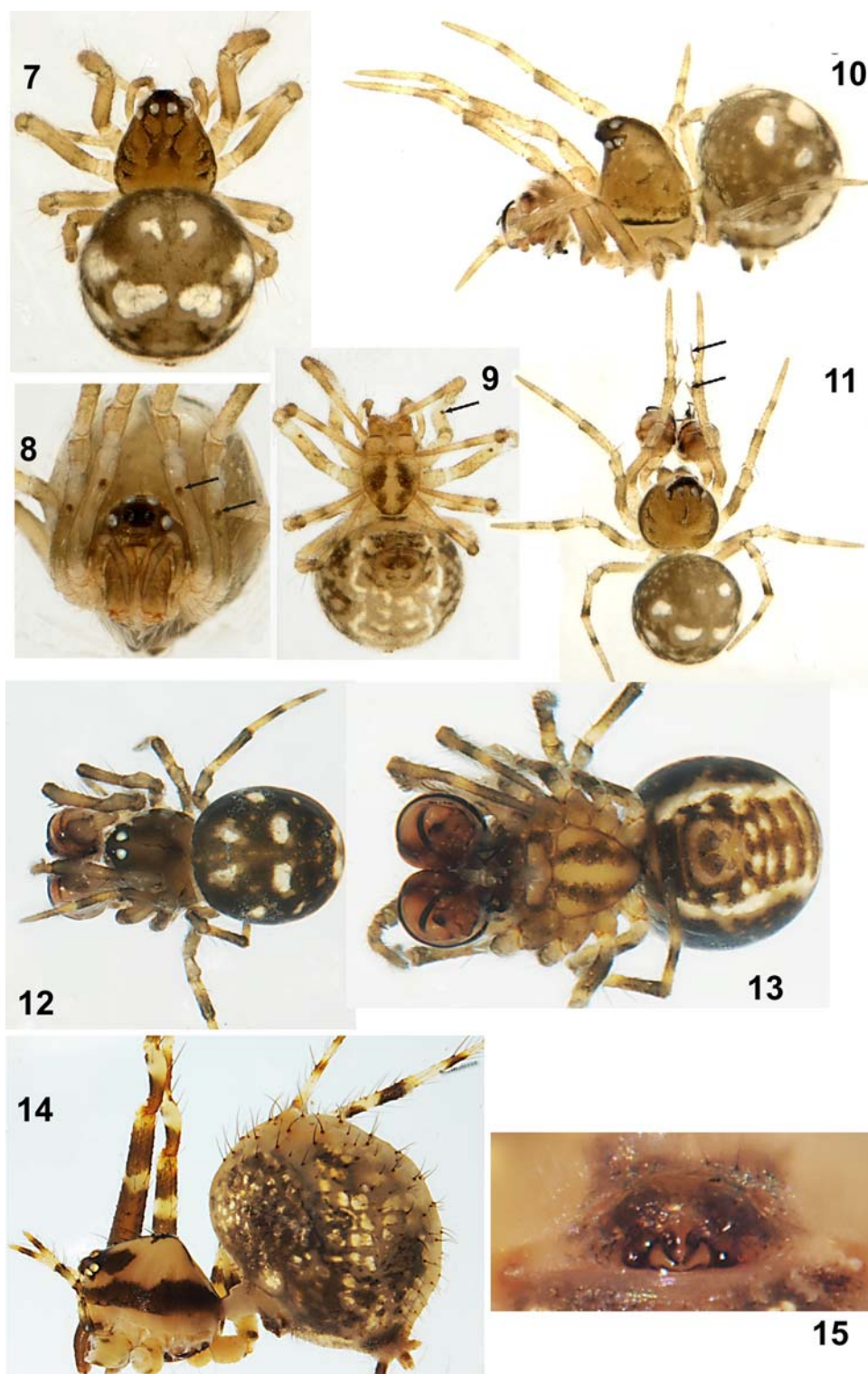


Fig. 7–13. Habitus and pattern of *Mysmenella jobi* (Kraus, 1967).

7–9 – female, dorsal, frontal and ventral; 10 – male, lateral; 11–12 – male, dorsal; 13 – male, ventral. 7–11 – specimens from Azerbaijan, 12–13 – specimen from Artvin prov., Turkey. Arrows indicate chitinized spots on female femora and mating spurs in male.

Рис. 7–13. Внешний вид *Mysmenella jobi* (Kraus, 1967).

7–9 – самка, сверху, спереди и снизу; 9 – самец, сбоку; 11–12 – самец, сверху; 13 – самец, снизу. 7–11 – экземпляры из Азербайджана, 12–13 – экземпляр из провинции Артвин, Турция. Стрелками показаны хитинизированные бляшки на бедрах у самки и копулятивные шипы.

Fig. 14–15. Female of *Ero furcata* (Villers, 1789).

14 – habitus, lateral; 15 – epigyne, ventral.

Рис. 14–15. Самка *Ero furcata* (Villers, 1789).

14 – габитус, сбоку; 15 – эпигина, снизу.

therefore each distant locality may yield a different species [Marusik, Zonstein, 2011].

Three additional *Ero* species are known from adjacent Greece [Helsdingen, 2010]: *E. cambridgei* Kulczyński, 1911, *E. flammeola* Simon, 1881 and *E. tuberculata* De Geer, 1778. All of them may potentially be discovered in Turkey. The occurrence of species new to science is also possible.

With the new family records of Mysmenidae and Synsphyridae, the total number of spider families known from Turkey now totals 50. Although it is rather high (cf. 49 families in Greece), the occurrence of a few additional families can still be expected. Indeed, we found another family, Oonopidae Simon, 1890, in several provinces. This family is represented by at least three genera: *Orchestina* Simon, 1882, *Silhouettella* Benoit, 1979 and "*Oonops*" Templeton, 1835. However, we were unable to identify our specimens to species level.

Another family that probably occurs in Turkey is Atypidae Thorell, 1870. It has been recorded from adjacent Bulgaria, Crimea, Greece and the Caucasus. Two other mygalomorph families can also be expected: Cyrtaucheniidae Simon, 1889 and Hexathelidae Simon, 1892, both of which are known from Crete [Helsdingen, 2010].

Acknowledgements

We would like to thank Altuğ Kızıltuğ, Dr. Ersen Aydın Yağmur, Dr. Hakan Durmuş and Dr. Tarık Danişman for their valuable help during field studies. This work was supported in part by the Russian Foundation for Basic Research grant No. 09–04–01365–a. The English of the final draft was kindly checked by Dr. David Penney (United Kingdom).

References

- Bayram A., Kunt K.B., Danişman T. 2010. The Checklist of the Spiders of Turkey. Version 10.1.0. Online at <http://www.spidersofturkey.com> (accessed 15 June 2011).
- Heimer S., Nentwig W. 1991. Spinnen Mitteleuropas: Ein Bestimmungsbuch. Berlin: Verlag Paul Parey. 543 p.
- Helsdingen P.J. 2010. Araneae. In: Fauna Europaea. Database European spiders and their distribution-Taxonomy-Version, 2010.1. Online at <http://www.europeanarachnology.org> (accessed 15 June 2011).
- Kovblyuk M.M., Nadolny A.A., Gnelitsa V.A., Zhukovets E.M. 2008. Spiders (Arachnida, Aranei) of the Martyan Cape Reserve (Crimea, Ukraine) // Caucasian Entomological Bull. 4(1): 3–40 (in Russian).
- Kraus O. 1967. Zur Spinnenfauna Deutschlands, II. *Mysmena jobi* n. sp., eine Symphytognathide in Mitteleuropa (Arachnida: Araneae: Symphytognathidae) // Senckenberg. biol. 48: 387–399.
- Marusik Yu.M. 2005. New family and new interesting records of spiders (Aranei) from the European part of Russia // Arthropoda Selecta. 14(1): 89–91.
- Marusik Yu.M., Guseinov E.F. 2003. Spiders (Arachnida: Aranei) of Azerbaijan. 1. New family and genus records // Arthropoda Selecta 12: 29–46.
- Marusik Yu.M., Zonstein S.L. 2011. A synopsis of East-Mediterranean *Synsphyris* Simon, 1894 (Araneae, Synsphyridae) with a description of a new species from Israel // ZooKeys. 82: 35–44.
- Marusik Y.M., Lehtinen P.T. 2003. Synsphyridae Wunderlich, 1986 (Aranei: Araneoidea), a new family status, with a description of a new species from Turkmenistan // Arthropoda Selecta. 11(2): 143–152.
- Platnick N.I. 2011. The world spider catalog, Version. 11.5. New York: American Museum of Natural History. Online at <http://research.amnh.org/iz/spiders/catalog>.
- Roberts M.J. 1985. The spiders of Great Britain and Ireland, Volume 1: Atypidae to Theridiidae. Colchester, England: Harley Books. 229 p.
- Roberts M.J. 1995. Collins Field Guide: Spiders of Britain & Northern Europe. London: HarperCollins. 383 p.
- Roberts M.J. 1998. Spinnengids. Baarn, Netherlands: Tirion. 397 p.
- Thaler K., Noflatscher M.T. 1990. Neue und bemerkenswerte Spinnenfunde in Südtirol (Arachnida: Aranei) // Veröff. Mus. Ferdinandeum Innsbr. 69: 169–190.
- Thaler K., Harten A. van, Knoflach B. 2004. Pirate spiders of the genus *Ero* C.L. Koch from southern Europe, Yemen, and Ivory Coast, with two new species (Arachnida, Araneae, Mimetidae) // Denisia. 13: 359–368.
- Trotta A. 2005. Introduzione al ragni italiani (Arachnida Araneae) // Memorie Soc. entomol. ital. 83: 3–178.
- Wunderlich J. 1980. Über europäische Symphytognathidae (Arach.: Araneae) // Verh. naturw. Ver. Hamb. (N.F.). 23: 259–273.

References

- Bayram A., Kunt K.B., Danişman T. 2010. The Checklist of the Spiders of Turkey. Version 10.1.0. Available at: <http://www.spidersofturkey.com> (accessed 15 June 2011).
- Heimer S., Nentwig W. 1991. Spinnen Mitteleuropas: Ein Bestimmungsbuch. Berlin: Verlag Paul Parey. 543 p.
- Helsdingen P.J. 2010. Araneae. In: Fauna Europaea. Database European spiders and their distribution-Taxonomy-Version, 2010.1. Available at: <http://www.europeanarachnology.org> (accessed 15 June 2011).
- Kovblyuk M.M., Nadolny A.A., Gnelitsa V.A., Zhukovets E.M. 2008. Spiders (Arachnida, Aranei) of the Martyan Cape Reserve (Crimea, Ukraine). *Caucasian Entomological Bulletin*. 4(1): 3–40 (in Russian).
- Kraus O. 1967. Zur Spinnenfauna Deutschlands, II. *Mysmena jobi* n. sp., eine Symphytognathide in Mitteleuropa (Arachnida: Araneae: Symphytognathidae). *Senckenbergiana Biologica*. 48: 387–399.
- Marusik Y.M., Lehtinen P.T. 2003. Synphridae Wunderlich, 1986 (Aranei: Araneoidea), a new family status, with a description of a new species from Turkmenistan. *Arthropoda Selecta*. 11(2): 143–152.
- Marusik Yu.M. 2005. New family and new interesting records of spiders (Aranei) from the European part of Russia. *Arthropoda Selecta*. 14(1): 89–91.
- Marusik Yu.M., Guseinov E.F. 2003. Spiders (Arachnida: Aranei) of Azerbaijan. 1. New family and genus records. *Arthropoda Selecta*. 12: 29–46.
- Marusik Yu.M., Zonstein S.L. 2011. A synopsis of East-Mediterranean *Synaphris* Simon, 1894 (Araneae, Synphridae) with a description of a new species from Israel. *ZooKeys*. 82: 35–44.
- Platnick N.I. 2011. The world spider catalog, Version. 11.5. New York: American Museum of Natural History. Available at: <http://research.amnh.org/iz/spiders/catalog> (accessed 15 June 2011).
- Roberts M.J. 1985. The spiders of Great Britain and Ireland, Volume 1: Atypidae to Theridiosomatidae. Colchester, England: Harley Books. 229 p.
- Roberts M.J. 1995. Collins Field Guide: Spiders of Britain & Northern Europe. London: HarperCollins. 383 p.
- Roberts M.J. 1998. Spinnengids. Baarn, Netherlands: Tirion. 397 p.
- Thaler K., Harten A. van, Knoflach B. 2004. Pirate spiders of the genus *Ero* C.L. Koch from southern Europe, Yemen, and Ivory Coast, with two new species (Arachnida, Araneae, Mimetidae). *Denisia*. 13: 359–368.
- Thaler K., Noflatscher M.T. 1990. Neue und bemerkenswerte Spinnenfunde in Südtirol (Arachnida: Aranei). *Veröffentlichungen des Museums Ferdinandeum in Innsbruck*. 69: 169–190.
- Trotta A. 2005. Introduzione al ragni italiani (Arachnida Araneae). *Memorie della Società Entomologica Italiana*. 83: 3–178.
- Wunderlich J. 1980. Über europäische Symphytognathidae (Arach.: Araneae). *Verhandlungen des naturwissenschaftlichen Vereins in Hamburg*. (N.F.). 23: 259–273.