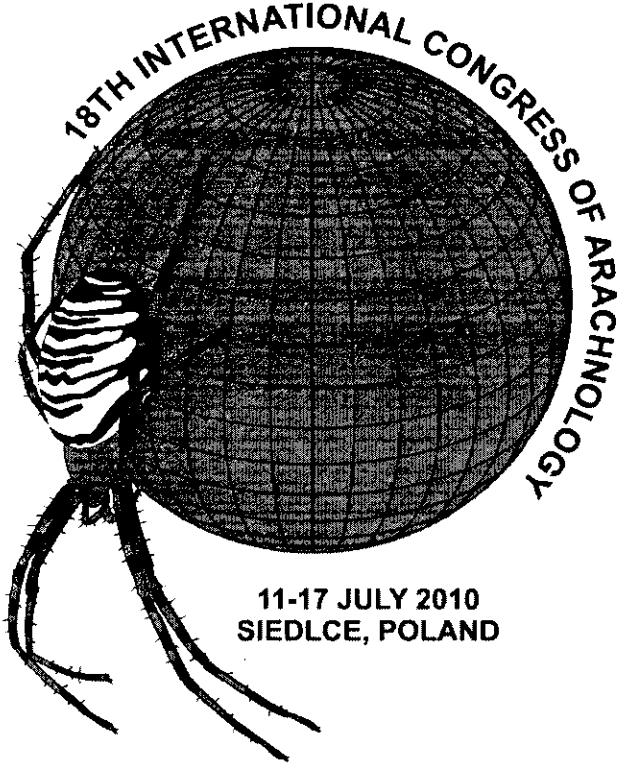
University of Podlasie
&
International Society of Arachnology



Book of Abstracts

Editor: Marek Żabka

Siedlce 2010

ISBN: 978-83-7051-575-1

The publication co-financed by the Polish Ministry for Science and Higher Education (grant for the University of Podlasie), the International Society of Arachnology and the City of Siedlce

Akademia Podlaska
ul. Konarskiego 2, 08-110 Siedlce
Format B-5
Druk: ELPIL, Siedlce

Diversity and endemism of spiders (Arachnida: Araneae) of the Crimean Peninsula, Ukraine

Mykola M. Kovblyuk

Zoology Department, V.I. Vernadsky Taurida National University, Ukraine, kovblyuk@mail.ru

Introduction

The Crimean Peninsula is the mountainous highly isolated region, surrounded by Black and Azov seas and connected with the mainland only by the narrow Perekop isthmus.

The first spider record from Crimea was published by Falk (1786) while the first description of spider species was published by Doblika (1853).

In 1875 Thorell published his two significant works (1875 a,b), describing about 50 new species; many of them synonymised or found also in other regions (Bulgaria, continental part of Ukraine, Rostov Area of Russia, Caucasus and Turkey). These species were analyzed by the author (Kovblyuk 2002), who also published Catalogue of Crimean spiders (Kovblyuk 2004). During the last years more species and data on their distribution were found.

List of Crimean endemic spider taxa and their distribution (from published and personal unpublished data):

Genera

Deliriosa Kovblyuk, 2009 (Lycosidae)
Spinestis Saaristo, Marusik, 2009 (Oonopidae)

Species

Agelenidae
Malthonica podoprygorai Kovblyuk, 2006 – all the mountainous part of Crimea
Tegenaria taurica Charitonov, 1947 (also recorded from Caucasus by Mkheidze (1997), probably misidentified) – south part of the Crimean Mountains, in caves and buildings.

Clubionidae
Clubiona mykolai Michailov, 2003 – all the mountainous part of Crimea.

Dysderidae
Harpactea doblikae (Thorell, 1875) – all the mountainous part of Crimea.

Gnaphosidae
Berlandina shumskyi Kovblyuk, 2003 – steppe in the plain part of Crimea.
Micaria blicki Kovblyuk, Nadolny, 2008 – all the mountainous part of Crimea.
M. bosmansi Kovblyuk, Nadolny, 2008 – saline lands in the plain part of Crimea, southern coast with sub-Mediterranean vegetation.
Parasyrisca marusiki Kovblyuk, 2003 – mountain plateaus at 1000-1200 m a.s.l., in the rocky mountain steppes.

Linyphiidae
Diplocephalus pseudocrassilobus Gnelitsa, 2006 – south slope of the Crimean Mountains.
Incestophantes australis Gnelitsa, 2009 – south slope of the Crimean Mountains.
Typhochrestus longisulcus Gnelitsa, 2006 – north slope of the Crimean Mountains.

Lycosidae
Lycosidae
Deliriosa karadagensis Kovblyuk, 2009 – sub-Mediterranean steppes in the east part of the southern coast of Crimea.
Oonopidae
Spinestis nikita Saaristo, Marusik, 2009 – southern coast of the Crimean Mountains.
Salticidae
Neon kovblyuki Logunov, 2004 – southern coast of the Crimean Mountains.
Synaphridae
Synaphris lehtineni Marusik, Gnelitsa, Kovblyuk, 2005 – southern coast of the Crimean Mountains.
Theridiidae
"Crustulina" albovittata (Thorell, 1875) (species with unclear generic status) – the habitat and distribution is unknown
"Dipoena" lindholmi (Strand, 1910) (the species with the unknown generic position) – southern part of the Crimean Mountains

Discussion

In total, 525 valid species from 225 genera and 38 families were recorded, of them 17 endemic species (3.2%) and 2 endemic genera (0.8%). Most endemic species live in the mountainous part, especially on southern slopes, except for *Berlandina shumskyi*, which inhabits the steppe plains.

Endemism in Crimea is much lower than at the Balkan Peninsula (25% species from ~ 1500) (Deltshev 2000) and Caucasus (~22% species from ~1022) (Marusik et al. 2006). Low endemism is probably caused by the smaller area, land age and geographical isolation. Nevertheless, total species diversity of Crimean spiders is only twice lower than in Caucasus and 3 times lower than in the Balkans.

With the area of about 27,000 km^2 and maximum elevation of 1,545 m a.s.l., Crimea is similar to Sardinia (about 24,000 km^2; 1,834 m) and Corsica (about 9000 km^2; 2710 m). Also the number of spider species (500 from each island) is similarly, while endemism on Sardinia (27-29 species, ~6%) and Corsica (43-51 endemic species, ~10%) it is much higher (Wunderlich 1995). It is probably the result of stronger isolation of both islands (190 km and for Corsica respectively).

Another distinctive feature of Crimean spider fauna is the absence of endemic adaptive radiation. The phenomenon is well known in some genera from Sardinia (*Harpactea*, *Leptoneta*, *Tegenaria*) and from Corsica (*Nemesia*, *Lepthyphantes sensu lato*) (Wunderlich 1995); from the Balkans (*Troglohyphantes*, *Dysdera*, *Lepthyphantes sensu lato*, *Tegenaria*) (Deltshev 2000); and from Caucasus (*Dysdera*, *Harpactea*) (Dunin 1992).

Karst topography is very well developed in the Crimean Mountains, with

many caves. However, cave spider fauna is very poor (5 species only), and no endemic spiders are found. In this aspect, Crimea is very different from adjacent Balkans, Turkey and Caucasus.

Conclusions

1. Crimean spider species diversity is large, but endemism is low.
2. Adaptive radiation in endemic spider groups does not occur.
3. Crimean cave species diversity is low, and cave endemics are lacking.

References

Deltshev Ch. 2000. The endemic spiders (Araneae) of the Balkan Peninsula. In: Gajdos P., Pekar S. (eds), Proceedings of the 18th European Colloquium of Arachnology, Stara Lesna, 1999. Ecologia (Bratislava), Supplement 3, 19: 59-65.

Doblika K. 1853. Beitrag zur Monographie der Spinnengeschlechts *Dysdera*. Verhandlungen der zoologisch-botanischen Vereins in Wien, 3: 115-124.

Dunin P.M. 1992. The spider family Dysderidae of the Caucasian fauna (Arachnida, Aranei, Haplogynae). Arthropoda Selecta, 1(3): 35-76 [in Russian with English summary].

Falk J.P. 1789. Beiträge zur topographischen Kenntnis des Russischen Reiches. Bd. 3. Beitrage zur Thierkunde und Volkerbeschreibung, pp. 283-584, 1-25 (spiders on 443-444).

Kovblyuk M.M. 2002. To question about endemism of Crimean spiders (Arachnida, Aranei). Zapovedniki Krima. Materialy II nauchnoi konferencii (25-26 April 2002). Simferopol, pp. 103-109 [in Russian].

Kovblyuk M.M. 2004. Catalogue of the spiders (Arachnida: Aranei) of the Crimea, South Ukraine. Points on the development of the Crimea. Analytical, scientific and practical collected articles open to discussion. 15-th issue: Problems of the ecology in the Crimea. Inventory animals and plants species in the Crimea. Simferopol: Tavriya-Plus, pp. 211-262 [in Russian].

Marusik Yu.M., Mikhailov K.G. & Guseinov E.F. 2006. Advance in the study of biodiversity of Caucasian spiders (Araneae). Acta zoologica bulgarica, Supplement 1, pp. 259-268.

Mkheidze T.S. 1997. Spiders of Georgia (taxonomy, ecology, zoogeoraphical review). Tbilisi, University Publishing House, 384 pp. [in Georgian].

Thorell T. 1875a. Verzeichniss Südrussischer Spinnen. Horae Societatis Entomologicae Rossicae, 11: 39-122.

Thorell T. 1875b. Descriptions of several European and North-African spiders. Kungl Svenska Vetenskaps-Akademiens Handlingar, 13(5): 1-204.

Wunderlich J. 1995. Zur Kenntnis der Endemiten, zur Evolution und Biogeographie der Spinnen Korsikas und Sardiniens, mit neubeschreibungen (Arachnida: Araneae). Beiträge zur Araneologie, 4: 353-383.