

NEW FAUNISTIC RECORDS OF SPIDERS (ARACHNIDA: ARANEAE) FROM DOBRUJA (ROMANIA AND BULGARIA)

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Abstract. A number of spider species were collected in 2011 and 2012 in various microhabitats in and around the village Letea (the Danube Delta, Romania) and on the Bulgarian Dobruja Black Sea coast. The results are the start of a proposed longer survey of the spider fauna in the area. The genus *Spermophora* Hentz, 1841 (with the species *senoculata*), *Xysticus laetus* Thorell, 1875 and *Trochosa hispanica* Simon, 1870 are mentioned in the Romanian fauna for the first time. *Floronia bucculenta* (Clerck, 1757) is at the first record for the Bulgarian fauna. Diagnostic drawings and photographs are presented.

Résumé. En 2011 et 2012, on recueille des espèces d'araignées dans des microhabitats différents autour du village de Letea (le delta du Danube) et le long de la côte de la Mer Noire dans la Dobroudja bulgare. Les résultats sont le début d'une enquête proposée de la faune d'araignée dans la région. Le genre *Spermophora* Hentz, 1841 (avec l'espèce *senoculata*), *Xysticus laetus* Thorell, 1875 et *Trochosa hispanica* Simon, 1870 sont mentionnés pour la première fois dans la faune de Roumanie. *Floronia bucculenta* (Clerck, 1757) est au premier enregistrement pour la faune bulgare. Aussi on présente les dessins de diagnose et des photographies.

Key words: *Spermophora senoculata*, *Xysticus laetus*, *Trochosa hispanica*, *Floronia bucculenta*, first record, spiders, fauna, Romania, Bulgaria.

INTRODUCTION

The results of this paper come from the author's regular field work. Collecting campaigns were made in the historical region of Dobruja (Dobrogea) with a concentrated effort in the Danube Delta, Romania (RO). Other collecting points, non-exhaustive, were at: Kavarna, Kaliakra – Bulgaria (BG), Fântânița, Murfatlar, Babadag forest, Histria, Adamclisi – RO. The region was selected as one of a special interest because of its climatic particularities that are influencing the local zoogeography. In particular, the Romanian Dobruja has a continental climate with hot summers, cold winters, low precipitation and Mediterranean influences in the southeast. From a geobotanical view, Dobruja is characterized by thermophilic oak forests that form themselves in mild climates and have also a shrub layer with Mediterranean species, and dry Pontic steppe with patches of xerophilous shrubs and rare patches of forest. In the Danube Delta, around Letea, apart from the oak forest developed on sand, the vegetation consists of *Phragmites* and *Typha* communities and plant communities on salty marshes (see map: Șerbănescu et al., 1975). Compared with the rest of Romania, here, but also in Banat, Oltenia and the southernmost part of the country along the Danube, there are Mediterranean influences with infiltrations (on the background of central-European vegetation) of floristic and faunistic sub-Mediterranean and Mediterranean (also pan Mediterranean) elements (many from the Balkans and Asia Minor) (Călinescu & Doniță, 1969).

MATERIAL AND METHODS

So far, most of the material was collected in various microhabitats in and

around the village of Letea, Romania (Fig. 1). Of 18 families, 71 species were identified while around 50 different species, represented by juveniles or adults, could not be interpreted in keys. The time periods in which the species: *Spermophora senoculata* (Duges, 1836), *Xysticus laetus* Thorell, 1875 and *Trochosa hispanica* Simon, 1870, subject of this paper, were captured are 8th-15th of April, 22nd-29th of September 2011 and 1st-6th of May 2012. *Floronia bucculenta* (Clerck, 1757) individuals were captured in August 2011. The methods used for specimen collection (Letea, Romania) were as follows: active searching and collecting with an aspirator in wood piles, house interiors, house walls and natural surfaces like tree trunks, sweep netting in grassy vegetation on packed sandy soil with a high organic debris component. *Floronia bucculenta* (Clerck, 1757) was captured with a sweep net in a patch of damp forest near the road, immediately south of Albena, Bulgaria (Fig. 1).



Fig. 1 - Collecting points, the Black Sea coast. Upper dot: Letea (RO), lower dot: Albena (BG).

RESULTS AND DISCUSSIONS

Out of the four species mentioned above, *Xysticus laetus* Thorell, 1875 and *Trochosa hispanica* Simon, 1870 are new Mediterranean elements in the Romanian fauna, both being found at their current northern limit (Logunov, 2006; Helsdingen, 2012). Along with them, *Spermophora senoculata* (Duges, 1836) represents a genus and a species that are new records for the Romanian fauna (Weiss & Petrișor, 1999; Weiss & Urák, 2000; Fetyko & Urák, 2004; Urák, 2005; Nae, 2008; Spiegelaere & Bosmans, 2009). *Floronia bucculenta* (Clerck, 1757) is a newly recorded species for the Bulgarian fauna (Helsdingen, 2012).

Family Pholcidae C. L. Koch, 1850
 Genus *Spermophora* Hentz, 1841
Spermophora senoculata (Duges, 1836)
 (Fig. 2)

Material examined: 1 adult ♀; Letea, Tulcea County, 45°16.610'N, 29°31.548'E, found inside a house, under window ledge, the 9th of April 2011, leg. Liviu Moscaliuc, deposited in the collection of “Grigore Antipa” National Museum of Natural History, București (Bucharest).

Remarks: It was identified by the number of eyes (6) and their grouping (2 groups of 3) (Fig. 2), epigyne shape (Platnick, 2011; Nentwig et al., 2011) and overall body dimensions (1.3 mm) well within the species limits of 1.1-1.5 mm (Huber, 2005). Smallest European pholcid.

No male was found yet. The species presence in Romania was to be expected based on the literature data available for neighboring countries and its European distribution. The most abundant pholcid species in the site was *Hoplopholcus forskali* (Thorell, 1871).

European distribution: Bulgaria, Switzerland, Spain, France, Greece, Croatia, Hungary, Italy, Macedonia, Malta, Portugal, Slovenia, Slovakia, Ukraine (Helsdingen, 2012). *First record for the Romanian fauna*.



Fig. 2 - *Spermophora senoculata*: one adult female (Photo: Ionuț Iorgu).

Family Linyphiidae Blackwall, 1859
 Genus *Floronia* Simon, 1887
Floronia bucculenta (Clerck, 1757)
 (Fig. 3)

Material examined: 7 adult ♂, 3 adult ♀; damp and dark forest patch immediately south of Albena, on the side of the road; 43°21.746'N, 28°3.606'E; sweep netting on grassy vegetation and shrubs; the 24th of August 2011, leg. Liviu Moscaliuc, deposited in the collection of “Grigore Antipa” National Museum of Natural History, București.

Remarks: prosoma yellow-brown, with broad dark brown margin; male head region elevated hemispherically; legs yellow-brown, sometimes vaguely annulated; opisthosoma highly elevated (length = height), with irregular pattern consisting of grey and white spots on white ground, ventrally with dark longitudinal band (Fig. 3). Cymbium with pointed protrusion at base; paracymbium huge; epigyne transverse oval with large scapus; sternum dark brown; chelicerae red-brown, with 4-5 short, robust teeth on anterior cheliceral furrow margin (not pictured) (Nentwig et al., 2011).

Although a fairly common species in Europe, it has only a concentrated occurrence in suitable habitats as on low plants in damp forest edges. In those habitats, the species can be abundant (Nentwig et al., 2011). Probably, that is why it has been so far overlooked in Bulgaria.

European distribution: Albania, Austria, Bosnia-Herzegovina, Belgium, Belarus, Switzerland, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Great Britain, Croatia, Hungary, Ireland, Italy, Liechtenstein, Lithuania, Latvia, Macedonia, Netherlands, Norway, Poland, Romania, Russia, Sweden, Slovenia, Slovakia, Ukraine (Helsdingen, 2012). *First record for the Bulgarian fauna.*



Fig. 3 - *Floronia bucculenta*. Left: female. Right: male (Photos: Ionuț Iorgu).

Family Lycosidae Sundevall, 1833

Genus *Trochosa* C. L. Koch, 1847

Trochosa hispanica Simon, 1870

(Figs 4, 5)

Material examined: 1 adult ♂, 1 adult ♀; Letea, Tulcea County, 45°16.565'N, 29°31.507'E; active search in grassy vegetation on a sand bank near a water canal; the 4th of May 2012, leg. Liviu Moscaliuc, deposited in the collection of the "Grigore Antipa" National Museum of Natural History, București.

Remarks: It was identified by yellowish tarsi of the male (Fig. 4), tarsal and metatarsal hairs - thin, long, irregular and male palpal organ - embolus with rolled-up tip (not pictured); female epigyne - with helmet-shaped broadenings of vulva chitinised arcs (at anterior margin of epigynal groove) touching each other (Fig. 5) (Locket & Millidge, 1951; Fuhn & Niculescu-Burlacu, 1971; Milasowszky et al., 1998; Thaler et al., 2000; Hepner & Milasowszky, 2006; Nentwig et al., 2011).

It is a widespread species in most of the Mediterranean (Buchar & Dolanský, 2011), ranging to the south border of the Alps.

European distribution: Albania, Bulgaria, Switzerland, Spain, France, Greece, Croatia, Italy, Macedonia, Portugal, Turkey (Helsdingen, 2012). *First record for the Romanian fauna.*



Fig. 4 - *Trochosa hispanica*. Male. Left: general aspect. Right: front leg - yellowish tarsus, half yellow metatarsus (Photos: Ionuț Iorgu).



Fig. 5 - *Trochosa hispanica*. Female. Left: general aspect. Right: epigyne (Photos: Ionuț Iorgu).

Family Thomisidae Sundevall, 1833

Genus *Xysticus* C. L. Koch, 1835

Xysticus laetus Thorell, 1875

(Fig. 6)

Material examined: 1 adult ♂, 1 juv. ♀; Letea, Tulcea County, 45°16.594'N, 29°31.555'E, from sweep netting in rather dry grassy vegetation on packed sandy soil thickly covered with grasses and with a high organic debris component, the 9th of April 2011, leg. Liviu Moscaliuc, deposited in the collection of "Grigore Antipa" National Museum of Natural History, București.

Remarks: the color pattern (Fig. 6, left): brown carapace with white veins and a yellow transverse line between the postero-lateral eyes, thoracic part with yellow longitudinal band and abdomen brown with thin cream-colored transverse lines and cream-colored stripe on the anterior margin, is similar to that described by Logunov in 2006; furthermore, a comparison of the male pedipalp structure (Fig. 6, right):

general shape, tibial apophyses (shape, curvature), position of tegular ridge (towards 6 o'clock on an imaginary watch) with taxonomic drawings from the same paper (Logunov, 2006) leaves little doubt about the spiders identity.

X. laetus appears to be a rather rare eastern Mediterranean species, closely related to *X. kempeleni* Thorell, 1872 although there are some clues that it may be in fact more widespread and possibly misidentified with *X. kempeleni* Thorell, 1872 in the latter's range (Logunov, 2006). Eastern Mediterranean species (Logunov, 2006), Italy to Central Asia (Yilmaz et al., 2009).

European distribution: Bulgaria, Greece, Croatia, Hungary, Italy, Macedonia, Ukraine (Helsdingen, 2012). *First record for the Romanian fauna.*



Fig. 6 - *Xysticus laetus*. Left: male (Photo: Ionuț Iorgu). Right: the left palpal organ (original drawing).

ACKNOWLEDGEMENTS

I would like to thank to my colleague Dr. Ionuț Iorgu for making the photos presented here, as well as to the anonymous reviewers for their comments that improved the paper.

NOUTĂȚI FAUNISTICE PRIVIND PĂIANJENII (ARACHNIDA: ARANEAE) DIN DOBROGEA (ROMÂNIA ȘI BULGARIA)

REZUMAT

În anii 2011 și 2012, au fost colectați păianjeni în microhabitate variate în satul Letea și în împrejurimile acestuia (Delta Dunării) și pe coasta Mării Negre în Dobrogea bulgară. Rezultatele sunt parte dintr-un plan de eșantionare pe o perioadă mai lungă a arahnofaunei din zonă. Genul *Spermophora* Hentz, 1841 (cu specia *senoculata*) și speciile *Xysticus laetus* Thorell, 1875, *Trochosa hispanica* Simon, 1870 sunt pentru prima dată menționate în fauna României. *Floronina bucculenta* (Clerck, 1757) este la prima menționare în fauna Bulgariei. Sunt prezentate fotografiile și desene de diagnoză.

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Received: June 19, 2012

Accepted: August 27, 2012

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