

## NEW DATA ON THE SPIDERS (ARANEAE) IN THE CAVES OF BALKAN PENINSULA

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**Abstract** - New faunistic and taxonomic data for the species: *Sulcia oculata* Kratochvil, 1938, *Thyphlonesticus absoloni* (Kratochvil, 1934), *Centromerus serbicus* Deltshv, 2003, *Palliduphantes spelaeorum* (Kulczyński, 1914) and *Porrhomma convexum* (Westring, 1851), found in the caves of Bosnia, Montenegro and Serbia are presented. Photos of the male palps and epigynes of the species *S. oculata*, *T. absoloni* and *C. serbicus*, are published for first time.

**Key words:** Cave fauna, spiders, photos, Serbia, Croatia, Bosnia and Herzegovina, Balkan Peninsulax

### INTRODUCTION

The spider fauna of Balkan Peninsula has been comparatively well studied due to the efforts of many araneologists from different countries. Deltshv (2008) comprised all information about this fauna and announced 326 species from 31 families. The present contribution is due to material collected in some caves on the territories of Bosnia and Herzegovina, Montenegro, Serbia and Croatia.

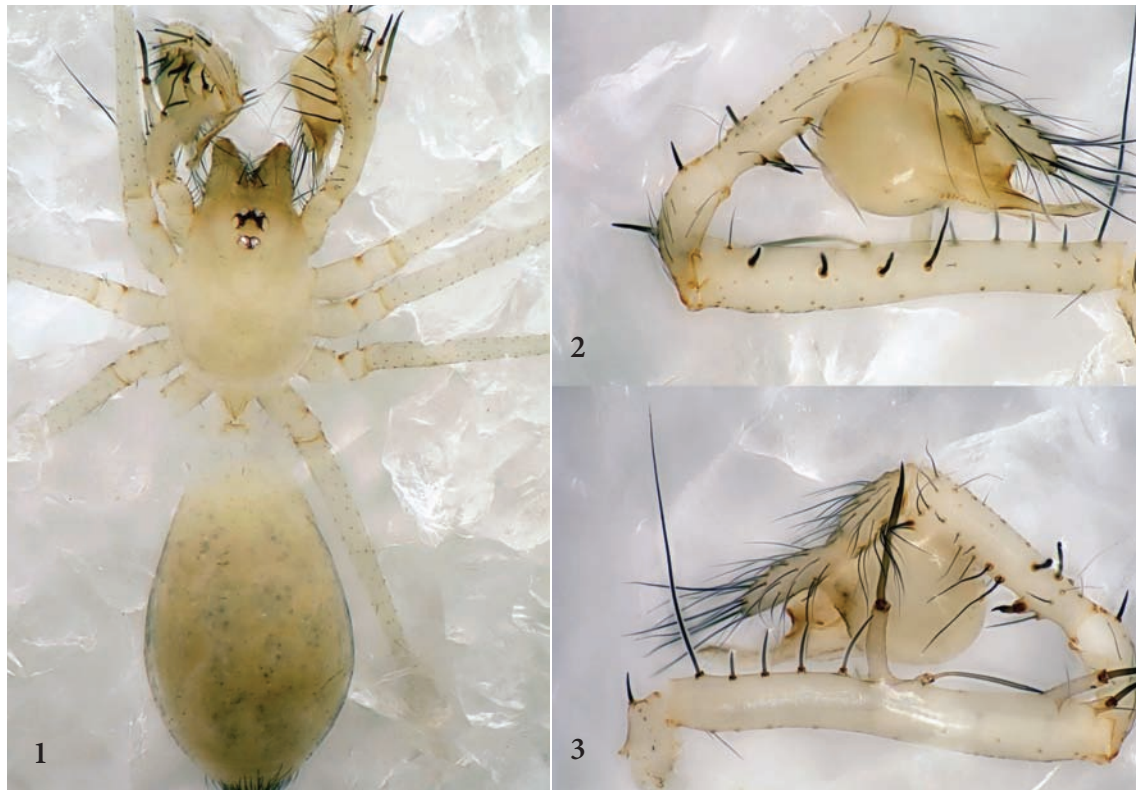
### MATERIAL AND METHODS

The material treated herein originates from 10 caves: 7 in Serbia, 1 in Bosnia and 1 in Montenegro, Croatia, collected during the last 2 years (2012-2013). The spiders have been collected by hand from the walls,

under the stones or from the clayish layers of the caves. Male palpi and female genitalia were examined and illustrated after they were dissected from the spiders' bodies. Photos were taken with an Olympus C7070 wide zoom digital camera mounted on an Olympus SZX12 microscope. The images were montaged using Helicon Focus image stacking software. The material is deposited in the collections of Institute of Zoology (Sofia). The full names of the 4 collectors and their abbreviations sorted in alphabetical order are as follows : Dragan Antić (D.A.), Srećko Ćurčić (S.Ć.), Tonći Rađa (T.R.).

### RESULTS AND DISCUSSION

The results concern new faunistic and taxonomic data about the species:



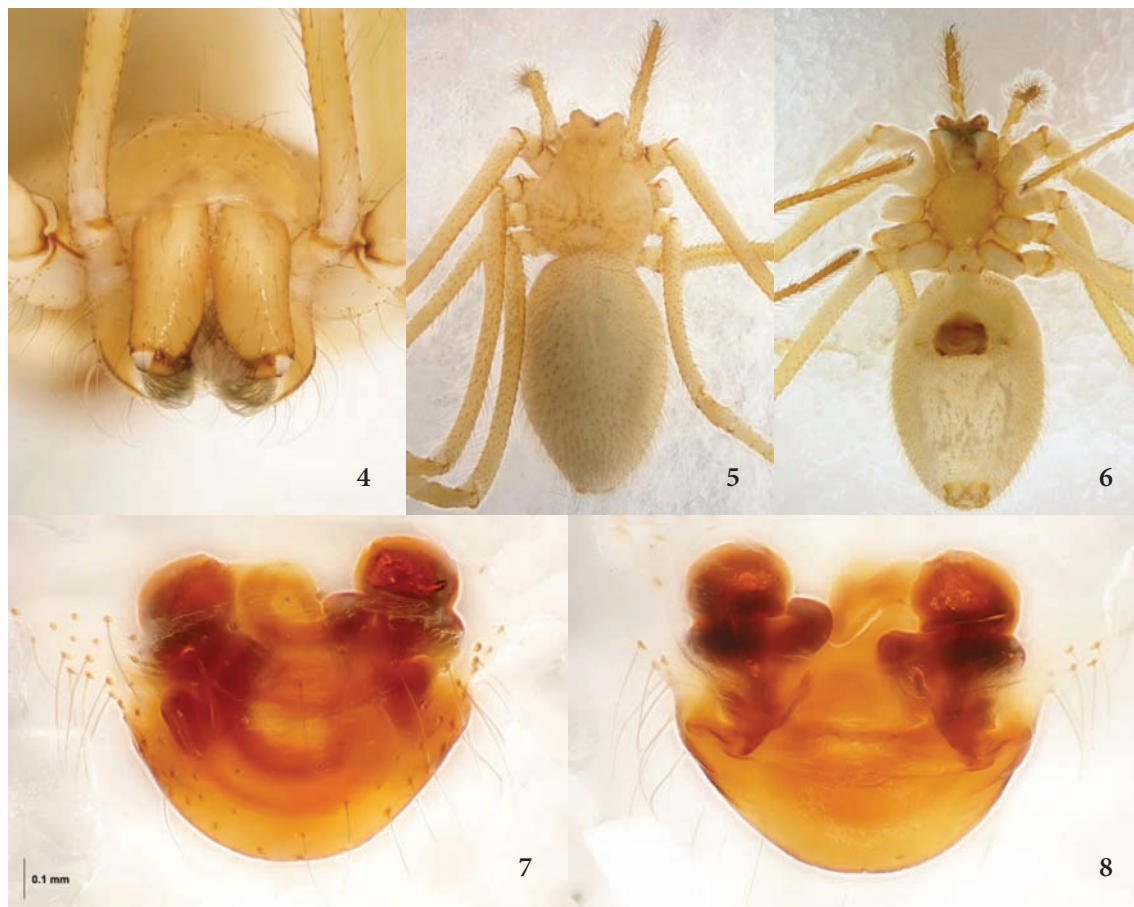
**Figs 1-3** *Sulcia oculata* Kratochvil, 1938 – 1. Habitus, dorsal view; 2, 3. Male palp, prolateral and retrolateral view. Scales lines: 0.2 mm.

*Sulcia oculata* Kratochvil, 1938 – newly-established to the spider fauna of Serbia. The species has been described by Kratochvil (1938) and is known only from a cave on the territory of East Bosnia. The new record from Serbia shows, that the species has wider distribution on Balkan Peninsula. The presented photos, based on this material fit well with the pictures presented by Kratochvil (1938) and contribute to the better taxonomic characteristics of the species, showing quite well the structures of the bulb and the spination of the palp.

*Typhlonesticus absoloni* (Kratochvil, 1933) – described from a cave on the territory of Montenegro, a completely blind spider. The first record is not clear “a spelunka in Krivoshije” (Kulczynski, 1914). The second record is also not exact “une grotte du Monténégro méridional” (Kratochvil, 1939).

Deeleman-Reinhold (1978) published the first precise localities (Montenegro: Cetinjska Pećina iznad manastira, Cetinje; Grbočica pećina, Trnovo-Komarno, Virpazar), which are recently, the single. The presented photos, based on this material contribute to the better taxonomic characteristics of the species, showing quite well the ventral and dorsal view of the epigyne and vulva.

*Centromerus serbicus* Deltshv, 2002 – described and known only from 3 caves on the territory of Serbia (Bor district) (Deltshv et al., 2003). The new records concern 2 new caves situated in the same district. The presented photos based on this material contribute to the better taxonomic characteristics of the species, showing quite well all characteristic features of the bulb and the ventral and dorsal view of the epigyne and vulva.



**Figs 4-8** *Typhlonesticus absoloni* (Kratochvil, 1933) – 4, 5. Habitus, dorsal and ventral view; 6. Cephalic part, frontal view; 7, 8. Epigyne/vulva, dorsal and ventral view.

These species can be regarded as troglobites (sensu Sket, 2008). They occur in the zone of full darkness, inhabiting wall crevices and clayish accumulations.

#### SPECIES LIST AND EXPLORED CAVES

##### LEPTONETIDAE

*Sulcia oculata* Kratochvil, 1938

Serbia, Canyon of Rača River, Tara Mt., above Lađevac source, Bezimena Pećina 1 Cave, 1 m, 20.09.1913, leg S. C.

##### NESTICIDAE

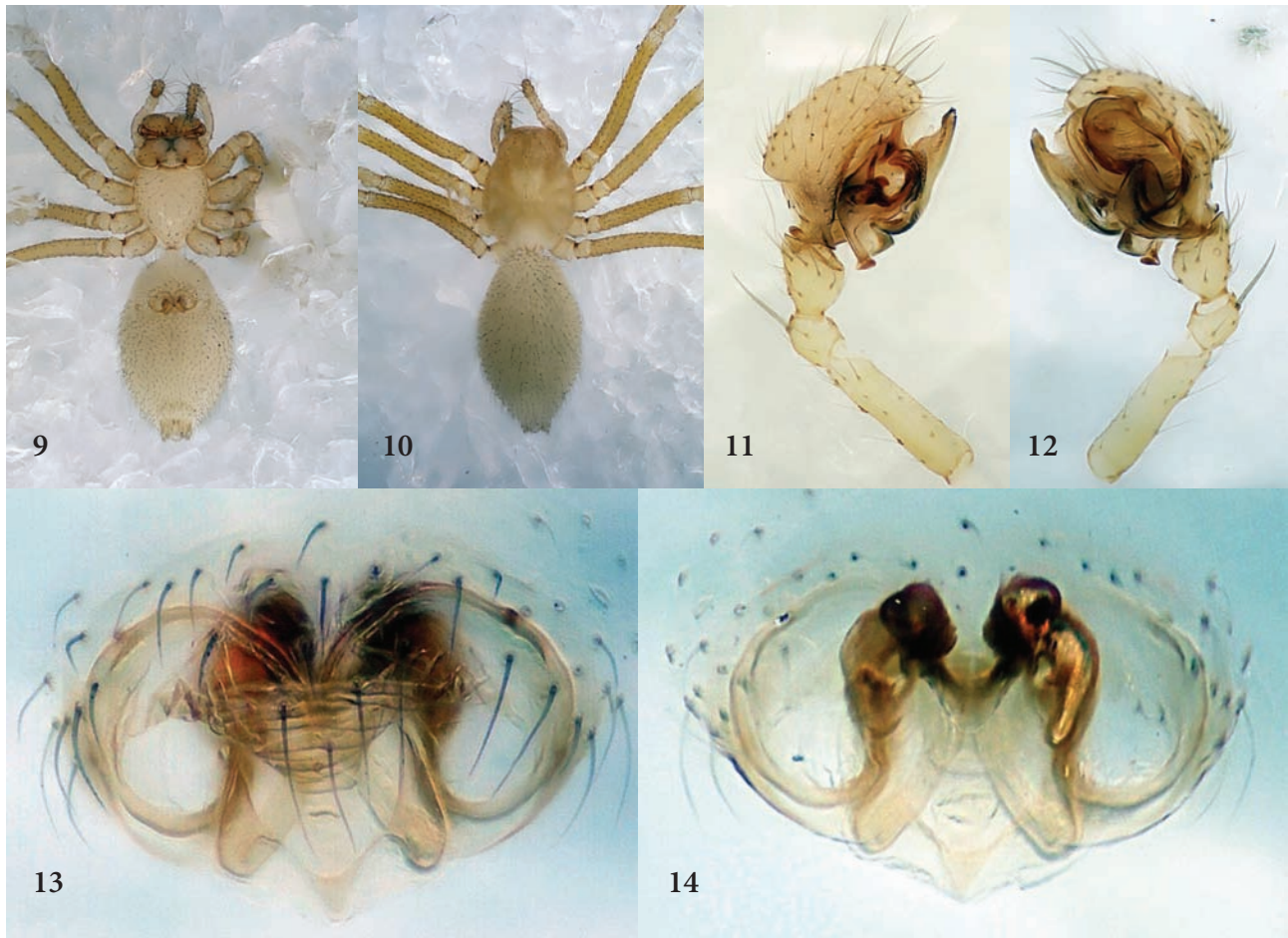
*Typhlonesticus absoloni* (Kratochvil, 1933)

Montenegro, Cetinje, Cetinjska Pećina Cave, 2f, 3 subad m, 22.08.2012, leg D. A.

##### FAMILY LINYPHIIDAE

*Centromerus serbicus* Deltshv, 2002

Serbia, Beljevina, near Zlot vill: Mandina Pećina Cave, 1 m, 2 f, 27.05. 2012 (new locality), Vernjikica Cave, 1 m, 29.05.2012; Jelovac vill., near Despotovac, Resavska Pećina Cave, 4 f, 30.05.2013; 1 m, 06.07.2013;



**Figs 9-14** *Centromerus serbicus* Deltshev, 2002 – 9, 10. Habitus, dorsal and ventral view; 11, 12 – Male palp, prolateral and retrolateral view; 13, 14 – Epigyne/vulva, dorsal and ventral view.

Suvaja Gorge, Strmosten vill., Izviđačka Pećina Cave, 2 f, 06.07.2013 (new locality), leg D.A. & S.Ć.

*Paliduphantes spelaeorum* (Kulczyński, 1914)

Bosnia, Studenci vill., Golubinka Cave, 1 f, 26.09.2013, leg T.R. (new locality).

*Porrhomma convexum* (Westring, 1851)

Serbia, Zlot vill., Vernjikica Cave, 2 f, 29.05.2012, leg D.A. & S.Ć (new locality).

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| CODE | Field1      | Species/ID Field                           | Country     | Region             | Nahodishte                              | North | East | Altitude | male | juvenile | day | month | year | Leg Det     | publicat | Banka |
|------|-------------|--|-------------|--------------------|---|-------|------|----------|------|----------|-----|-------|------|-------------|----------|-------|
| 63   | Linyphiidae | Linyphiidae sp                             | BOSNIA      | Botici             | Golubinka bz Botica                     |       |      |          | 1    | 2        | 04  | 8     | 2013 | T.R.        | C.D.     |       |
| 34   | Dysderidae  | Dysderidae sp.                             | CROATIA     | NP Paklenica       | Jamice kod Icanove kuce                 |       |      |          | 1    |          |     |       |      |             | C.D.     |       |
| 055  | Theridiidae | Theridiidae sp                             | SERBIA      | Sokobanja          | Ozren vill., Ozrenska pecina cave       |       |      |          | 1    | 07       | 7   | 2013  |      | D.A.        | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      | Zlot               | Beljavina vill., Mandina pecina cave    |       |      |          | 2    | 27       | 5   | 2012  |      | D.A., S.C.  | C.D.     |       |
| 063  | Linyphiidae | Sulcia oculata Kratochvil, 1938            | SERBIA      | Kanjon Race, Tara  | izvora Ladevac, Bezimena pecina cave,   |       |      |          | 1    | 20       | 9   | 2013  |      |             | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      | Kotlenice          | Kotlenice, Vranajaca                    |       |      |          | 1    | 09       | 12  | 2001  |      | T.R.        | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      |                    | Resavska pecina cave                    |       |      |          | 4    | 06       | 7   | 2013  |      | D.A., S.C.  | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      |                    | Resavska pecina cave                    |       |      |          | 1    | 30       | 5   | 2013  |      | S.C.        | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      | Klisura Suvaje     | Strmosten vill., Izvidachka pecina cave |       |      |          | 2    | 06       | 7   | 2013  |      |             | C.D.     |       |
| 063  | Linyphiidae | Centromerus serbicus Deltshv, 2002         | SERBIA      | Zlot               | Vernjicka pecina cave                   |       |      |          | 1    | 29       | 5   | 2012  |      | D.A., S.C.  | C.D.     |       |
| 063  | Linyphiidae | Porrhomma convexum (Westring, 1851)        | SERBIA      | Zlot               | Vernjicka pecina cave                   |       |      |          | 2    | 29       | 5   | 2012  |      | D.A. & S.C. | C.D.     |       |
| 063  | Linyphiidae | Linyphiidae sp                             | SERBIA      | West Stara Planina | Dojkinci vill., Pez Dupka cave          |       |      |          | 1    | 11       | 7   | 2013  |      | D.A.        | C.D.     |       |
| 063  | Linyphiidae | Palliduphantes spelaeorum Kulczyński, 1914 | BOSNIA      | Studenci           | Studenaca, Golubinka cave               |       |      |          | 1    | 26       | 9   | 2013  |      | T.R.        | C.D.     |       |
| 063  | Linyphiidae | Palliduphantes spelaeorum Kulczyński, 1914 | SERBIA      | Bolijevac          | Podgorac vill., Devojachka pecina cvae  |       |      |          | 1    | 17       | 5   | 2012  |      | S.C.        | C.D.     |       |
| 55   | Nesticidae  | Typhlonesticus absoloni Kratochvil, 1934   | MONTE-NEGRO | Cetinje            | Cetinska pecina                         |       |      |          | 2    | 3        |     |       |      |             | D.A.     | C.D.  |



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