Zoogeography and Faunistics
Research Article

ACTA ZOOLOGICA BULGARICA
Acta zool. bulg., 68 (4), 2016: 503-511

Spiders (Arachnida: Araneae) from Prespa National Park, Albania

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Abstract: The aim of this study is to present the spider species composition from the Prespa National Park in Albania. Spiders were collected mainly by pitfall trapping during a short field trip in 2013. A total of 461 specimens were found, belonging to 79 species, 47 genera and 15 families. Records of five genera and 22 species new to the fauna of Albania are presented. Additionally, *Dysdera andreini* Caporiacco, 1928 and *Eresus moravicus* Rezác, 2008 are first records for the Balkan Peninsula. Taxonomic remarks and illustration of the spermathecae of *Brachythele media* Kulczyński, 1897 are presented. With this study, the number of known spider species in Albania has increased to 461.

Key words: Araneae, fauna, new records, taxonomy, *Brachythele media*, *Harpactea* sp.

Introduction

Studies on the araneofauna of Albania started in the late 19th century; until now, over 30 original articles have been published. The only generalisation of the data for the Albanian spiders was done by Deltshev *et al*. (2011). Subsequently, new species for the country were recorded and older data were commented in a number of papers (Komnenov 2011, Vrenozi 2012, Vrenozi & Jager 2012, 2013, Vrenozi & Deltshev 2012a, b, Vrenozi & Dunlop 2013, Blick 2014, Ribera *et al.* 2014, van Helsdingen & Ijland 2015). Until our study, 439 species of spiders were known for the territory of Albania. The spatial distribution of the available data on spiders of Albania is uneven and there are large areas that are completely unexamined.

The Prespa National Park in Albania is a part of the transboundary park complex, which includes the eponymous national park in Greece, as well as the Galichitsa National Park in F.Y.R. Macedonia. Although the territory of Galichitsa NP is relatively well studied, with 294 recorded spider species (Deltshev *et al*. 2013), only three species were reported from the Prespa National Park, Albania (Deltshev *et al*. 2011): *Harpactea nausicaae* Brignoli, 1976, *H. saeva* (Herman, 1879) and *Heliophanus auratus* Kulczyński, 1898.

The aim of the present study is to summarise faunistic data for the spiders in the Prespa National Park, Albania. In addition, during the survey we found a species of the genus *Harpactea* Bristowe, 1939, which so far could not be matched with any of the known species, and we discuss it in this article.

Material and Methods

The Prespa National Park is situated in the southeast of Albania and its northern and eastern boundaries coincide with the national border (with F.Y.R. Macedonia and Greece, respectively). The park covers large parts of the Mali i Thate and Mali i Ivanit Mountains, as well as the Albanian parts of both Prespa Lakes. The altitude varies from 850 m (at the lake surface) to 2288 m a.s.l. (Pllaja e Pusit Peak).

The field studies were conducted between 24 May and 25 June 2013. The spiders were obtained mainly by pitfall trapping in different habitats. The traps were made of 4 dcl plastic cups, with an opening with diameter 9 cm and height 11 cm, half filled with formalin (4-6% H_2CO). Each sample consisted of a group of 10 traps, set up in a line, about 10 meters apart from each other. In total 100 pitfall traps were installed at 10 localities. In another three localities, the spiders were collected only by hand. The characteristics of the studied localities and their geographical coordinates (decimal) are as follows (Fig. 1):

1: NW of Gorice e Madhe (N40.90886˚ E20.84936˚, 1645 m a.s.l.), 24.05.2013, only hand collecting, leg. G. Hristov and D. Chobanov.

2: NW of Gorice e Madhe (N40.89835˚ E20.86455˚, 1314 m a.s.l.), *Calamintho grandiflorae-Fagetum* (Montane beech forest), 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

3: 1 km SW of the border pass (N40.90999˚ E20.89431˚, 978 m a.s.l.), *Quercetum frainetto-cerris* (Italian and Turkey oak forest), 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

4: 1 km SW of the border pass (N40.91026˚ E20.89585˚, 958 m a.s.l.), ruderal limestone meadow between forests of *Quercus frainetto* Ten. and *Quercus cerris* L., 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

5: W of Kallamas (Tuminec) (N40.89768˚ E20.93342˚, 847 m a.s.l.), agricultural land, 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

6: S of Kallamas (Tuminec) (N40.89277˚ E20.94029˚, 878 m a.s.l.), *Pruno webbii-Juniperetum excelsae*, 24.05-25 .06.2013, pitfall traps, leg. G. Hristov and S. Hristovski.

7: S of Kallamas (Tuminec) (N40.89225˚ E20.93944˚, 855 m a.s.l.), 25.05.2013, only hand collecting, leg. G. Hristov and D. Chobanov.

8: N of Gorice e Vogël (Dolna Gorica) (N40.88187˚ E20.92068˚, 863 m a.s.l.), 25.06.2013, only hand collecting, leg. G. Hristov and D. Chobanov.

9: S of Gorice e Vogël (Dolna Gorica) (N40.87215˚ E20.93262˚, 845 m a.s.l.), meadow, 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

10: E of Zaroshkë (Zrnosko) (N40.76663˚ E20.92515˚, 845 m a.s.l.), ruderal vegetation, 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

11: SE of Zaroshkë (Zrnosko) (N40.75757˚ E20.91926˚, 916 m a.s.l.), *Querco-Carpinetum orientalis buxetosum* (*Buxus* thicket), 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

12: N of Rakicko (N40.72417˚ E20.9772˚, 1108 m a.s.l.), hill pasture, 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

13: S of Shuec (N40.68483˚ E20.99798˚, 863 m a.s.l.), *Querco-Carpinetum orientalis buxetosum* (*Buxus* thicket), 24.05-25.06.2013, pitfall traps, leg. S. Hristovski and G. Hristov.

The collected material contained 459 spiders: 266 adult males and 122 adult females identified to species level, 69 juveniles tentatively identified according to adults at the locality, and two specimens identified at the generic level only (two adult males). Identification of the species was largely based on

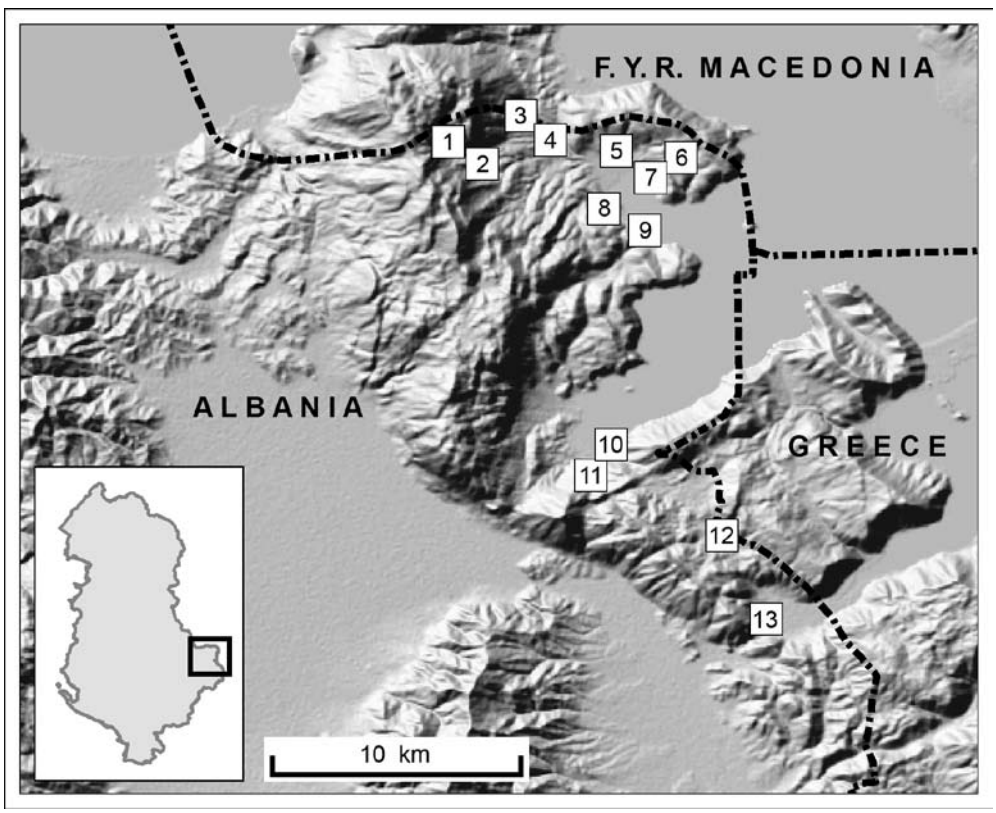

Fig. 1. Geographic position of the studied localities (numbers follow descriptions in the text)

the website *Araneae – Spiders of Europe* (Nentwig *et al*. 2016) but, in some cases, additional literature was also used. The nomenclature followed the World Spider Catalogue (2016). Families, genera and species are listed alphabetically. The specimens were fixed in 70% ethanol and deposited in the collection of the IBER-BAS, Sofia, Bulgaria.

For descriptions, drawings and photos of the genital structures (Figs. 2-4), the following material was used:

Brachythele media Kulczyński, 1897: one ♀ from locality 6. For the determination of this species we used the somatic traits as proposed by Kulczyński, with all of the traits being in complete accordance with those from the original species description. Only this species of the genus *Brachythele* is known for Albania.

Brachythele langourovi Lazarov, 2005: one ♀, Bulgaria, Slavyanka Mts., near Govedarnika place (N41.41583˚ E23.61383˚, 1560 m a.s.l.), mixed coniferous forest, 07 June – 04 July 2006, pitfall traps, leg. N. Simov and M. Langourov.

Harpactea sp.: one ♂ from locality 2.

Digital photographs were made with a Panasonic DMC-FS62 and an Axiocam ERc 5s camera attached to a Zeiss Discovery V8 stereomicroscope, and prepared with Helicon Focus 6 image stacking software. Photographs were taken with the specimens secured in dishes with fine quartz sand on the bottom in 70% ethanol.

Abbreviations and symbols used in the text: ♂ – male(s); ♀ – female(s); juv. – juvenile(s) (for spiderlings in different stages); imm. – immature(s) (for specimens in the last age before the maturation).

Results and Discussion

A total of 79 species of 47 genera and 15 families were recorded on the territory of Prespa National Park, Albania. The localities and the number of collected specimens are given in the species list, as well as all known previous records for the respective species from Albania or (when are new for the country) their global distribution according to Nentwig *et al*. (2016). Division of the species per families was as follows: Araneidae – one; Dysderidae – seven; Eresidae – one; Gnaphosidae – 25; Linyphiidae – three; Liocranidae – two; Lycosidae – 17; Miturgidae – one; Nemesiidae – one; Philodromidae – two; Salticidae – 11; Theridiidae – two; Thomisidae – four; Titanoecidae – one; Zodariidae – one. Four of the families contain more than 78% from the total number of recorded species – Gnaphosidae (31.7%), Lycosidae (21.5%), Salticidae (13.9%) and Dysderidae (8.9%). The genera with the highest numbers of species are *Pardosa* (six species), *Zelotes* (six species) and *Alopecosa* (five species). Only three species out of the 79 were recorded earlier for the study area: *Harpactea nausicae*, *H. saeva* and *Heliophanus auratus*, while 22 were new to Albania (marked with an asterisk in the list), and two of them – *Dysdera andreini* and *Eresus moravicus*, are new for the Balkan Peninsula (for boundaries of the peninsula we accept the definition of Deltshev 2004). The species that were new to Albania belonged to 18 genera, five of which (*Agroeca* Westring, 1861, *Civizelotes* Senglet, 2012, *Liocranum* L. Koch, 1866, *Pocadicnemis* Simon, 1884 and *Sauron* Eskov, 1995) were new to the country.

Taxonomic notes

Nemesidae: *Brachythele media* has been described from Bakar (Croatia) (Kulczyński, in Chyzer & Kulczyński 1897). Kulczyński's descriptions are elaborate and accurate with respect to the somatic characteristics but lack any information on the morphology of the spermathecae (which is of high diagnostic importance). Only supplementary information on this aspect is provided here, as well as a figure and photographs that are considered to be of diagnostic value.

Description of the spermathecae (Figs. 2 A; 3): Two long, separated lobes, more or less parallel, tripartite, about twice narrower (at the basis) than long. Posterior part of each lobe conical, tapering before connecting by narrow medial part to globular anterior part. Length of each lobe about half of the distance between the basis of spermathecae, and almost equal to the distance between the basis and the anterior edge of the epigastric furrow. Evenly covered with glandular tissue. Easily distinguished from *Brachythele langourovi* (Fig. 2 B) by the larger size of the genital structures, the larger distance between lobes of the spermathecae and the remoteness of the spermathecae from the epigastric furrow.

Dysderidae: *Harpactea* sp.: two males that could not be matched to any of the described species. Their habitus correspond well to that of *H. zoiai* Gasparo, 1999 (described from Greece) and their palpal organs are similar, but there are some important differences: our specimens with a more elongated bulbus (this may be due to deformation caused by the reduced amount of fluid), a hook-shaped conductor and a significantly longer embolus, strongly undulated around its first half, ending with pointed tip (Fig. 4). The genus *Harpactea* has a high level of endemism on the Balkan Peninsula

and in the Mediterranean in general. The males of 19 species (out of 175 valid *Harpactea* species) are still unknown (see World Spider Catalogue 2016), and five of them are described from the Balkans: *H. albanica* Caporiacco, 1949 (Albania), *H. persephone* Gasparo, 2011 (Crete), *H. digiovannii* Gasparo, 2014 (Greece), *H. incerta* Brignoli, 1979 (Greece and Serbia) and *H. johannitica* Brignoli, 1976 (Greece). After careful review and evaluation of the taxonomic features given in the literature, such as length of the carapace, reduction of the eyes and especially leg spination, we assume that our specimens probably belong to *H. albanica*, but the simultaneous capture of both sexes is needed in order to be certain.

List of spider species recorded in Prespa National Park, Albania

ARANEIDAE

1. *Araneus angulatus* Clerck, 1757: Locality 2 (one ♂). Previous records: Vrenozi & Haxhiu 2008 (Apoloni), Deltshev *et al*. 2011 (Vlorë, Llogora Pass, Sarandë), Vrenozi 2012 (Sarandë, Fieri).

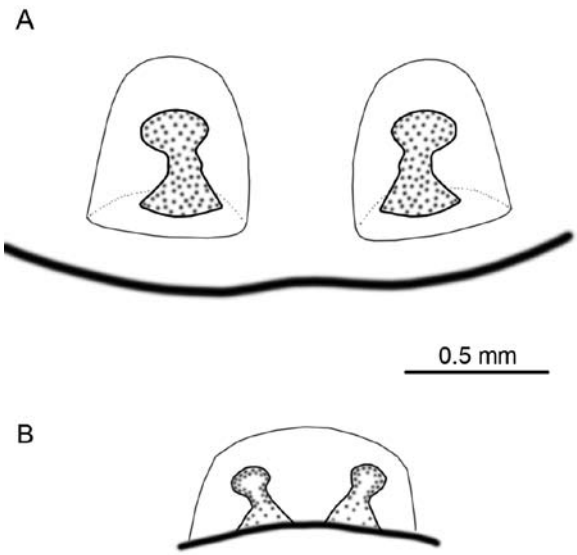

Fig. 2. Spermathecae, dorsal view: A – *Brachythele media*; B – *B. langourovi*. (Drawn by M. Naumova)

DYSDERIDAE

2. **Dysdera andreini* Caporiacco, 1928: Localities: 3 (one ♂) and 11 (one ♂). Until now was known only from Italy (Central and Northern Apennines, and the Tuscan Archipelago according to Pantini & Isaia 2015), therefore the new records greatly extend the knowledge for the species' range.

3. **Dysdera longirostris* Doblika, 1853 is distributed from Eastern Europe to Ukraine. Localities: 2 (one ♂, two ♀) and 3 (one ♀).

4. *Dysdera pandazisi* Hadjissarantos, 1940: Localities: 2 (one ♀) and 11 (three ♂). Previous record: Vrenozi & Deltshev 2012b (Vora Hills).

5. *Dysderocrates storkani* (Kratochvíl, 1935): Locality 2 (eight ♂, 11 ♀, one juv.). Previous records: Deeleman-Reinhold & Deeleman 1988 (Gjallian), Deltshev *et al*. 2011 (Dajti Mts.).

6. *Harpactea nausicaae* Brignoli, 1976: Locality 2 (two ♂). Previous records: Deltshev *et al*. 2011 (Prespa Lake, Dajti Mts., Dhërmi, Dukati, Ersekë), Vrenozi & Deltshev 2012b (Vora Hills), van Helsdingen & Ijland 2015 (Bredhi i Hotovës, Këlcyrë).

7. *Harpactea saeva* (Herman, 1879): Localities: 2 (two ♂, one ♀), 3 (seven ♂) and 11 (three ♂, one juv.). Previous records: Deltshev *et al*. 2011 (Prespa Lake, Botanical Garden-Tiranë, Vlorë).

8. *Harpactea* sp. Locality 2 (two ♂). Previous records of *H. albanica*: Caporiacco 1949 (Dukat).

ERESIDAE

9. **Eresus moravicu*s Rezác, 2008: till now was known from Austria, Hungary, the Czech Republic, Slovakia and Serbia (outside the Balkan Peninsula, see Grbić *et al.* 2015). This species was identified according to Kovács *et al*. (2015). Localities: 6 (one ♂), 10 (three ♂) and 13 (one ♂). Based on Nentwig *et al*. (2016) these would represent the most southern records of the species and extend its distribution inside the Balkan Peninsula. According to historical records, the genus *Eresus* was marked in Albania as nomen dubium *E. niger* (Giltay 1932) and as *E. kollari* (Deltshev *et al*. 2011, Vrenozi 2012). Because the revision study of the European *Eresus*, (Rezač *et al*. 2008) did not include specimens from Albania, and old original materials are not available, it could be possible that some of the previous data also refer to *E. moravicus*.

GNAPHOSIDAE

10. **Callilepis schuszteri* (Herman, 1879) has a Palaearctic distribution and is well represented in Central and Southern Europe. Locality 3 (two ♂). The only earlier indication of the occurrence of this species in Albania was unpublished pers. comm. (see page on this species in Nentwig *et al*. 2016).

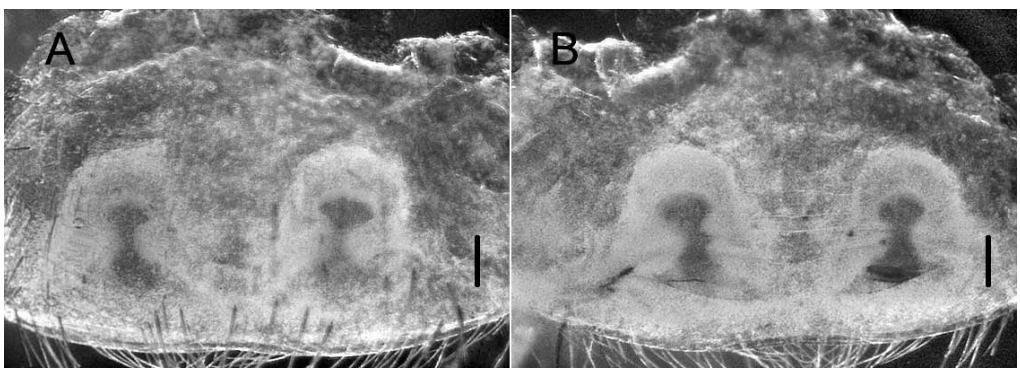

Fig. 3. *Brachythele media*, spermathecae: A – ventral view, B – dorsal view. Scale line = 0.2 mm

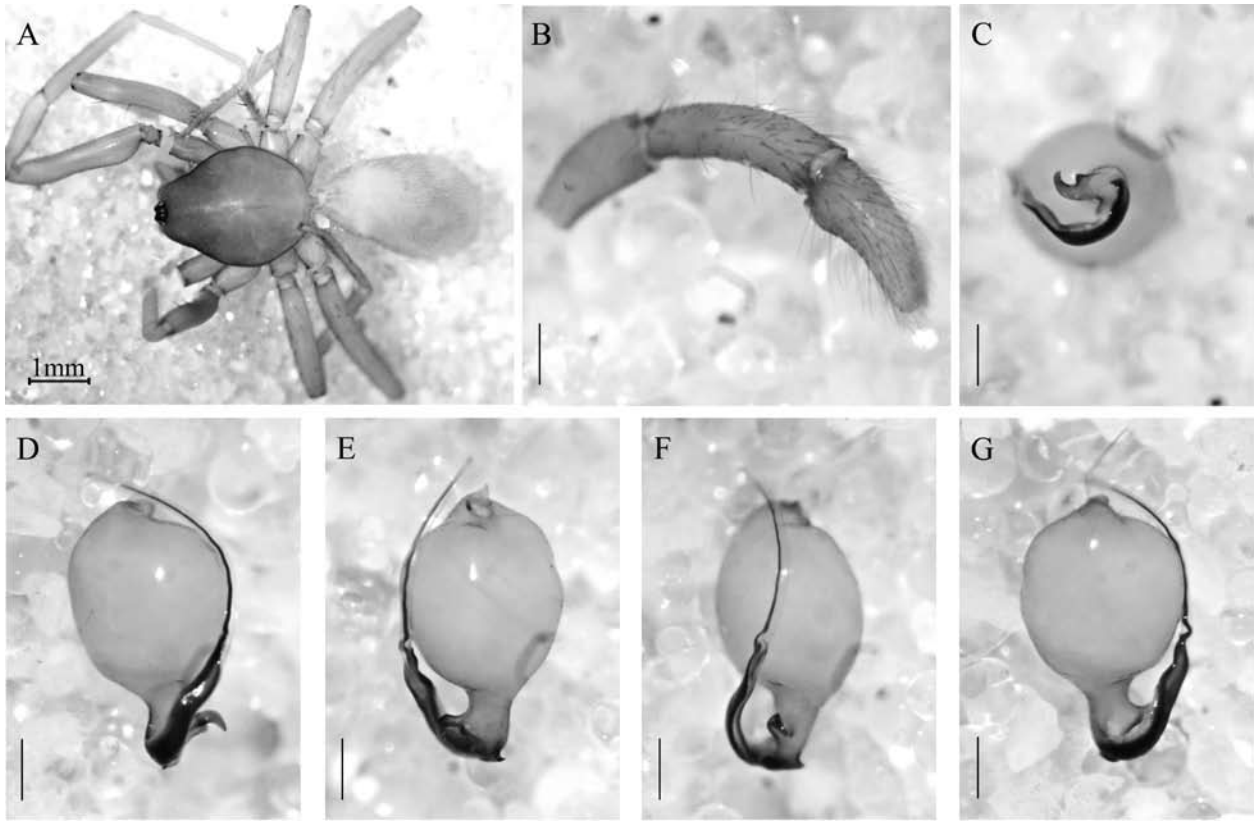

Fig. 4. *Harpactea* sp.: male: A – habitus (dorsal view); B – left palp (segments, prolateral view); C–G: left bulbus (C – distal part, ventral view; D – frontal view; E – aboral view; F – retrolateral view; G – prolateral view). Scale line = 0.2 mm. (Photo by C. Deltshev)

11. **Civizelotes caucasius* (L. Koch, 1866) is distributed over Europe to Central Asia. Locality 3 (four ♂).

12. **Civizelotes gracilis* (Canestrini, 1868) is distributed in Europe and Russia. Locality 10 (three ♂, one ♀).

13. *Drassodes lapidosus* (Walckenaer, 1802): Localities: 3 (one ♂, one ♀), 6 (one ♂), 9 (one ♂) and 10 (22 ♂). Previous records: Deltshev *et al*. 2011 (Alpet Mts. Radohimës, Bogë, Cave near Kurbnesh, Durrës, Vlorë, Dhërmi, Llogora Pass, Lukovë, Sarandë, Butrinti, Jorgucati, Tepelenë, Drin River, Këri Defile), Vrenozi & Jager 2012 (Vora Hills, Tiranë city), Vrenozi & Jager 2013 (Korab Mts.), van Helsdingen & Ijland 2015 (Përmet, Bënje).

14. *Drassodes lutescens* (C. L. Koch, 1839): Locality 6 (one ♂). Previous records: Caporiacco 1932 (Durrës as Durazzo), Vrenozi & Jager 2013 (Kulla e Lumës).

15. *Drassyllus praeficus* (L. Koch, 1866): Localities: 3 (one ♂, one ♀) and 5 (two ♂, two ♀). Previous records: Vrenozi & Haxhiu 2008 (Vorë), Deltshev *et al*. 2011 (Bogë, Vlorë), Vrenozi 2012 (Tiranë), Vrenozi & Jager 2012 (Vora Hills).

16. **Drassyllus pusillus* (C. L. Koch, 1833) has a Palaearctic distribution and is well represented in Europe. Locality 10 (one ♂).

17. *Drassyllus villicus* (Thorell, 1875): Localities: 2 (three ♂), 3 (two ♂, one ♀) and 11 (two ♂, four ♀). Previous record: Vrenozi & Jager 2012 (Vora Hills).

18. *Echemus angustifrons* (Westring, 1861): Locality 11 (one ♂). Previous record: Vrenozi & Jager 2012 (Dajti Mts.).

19. **Gnaphosa bicolor* (Hahn, 1833) is distributed in Europe to Ukraine and Georgia. Localities: 2 (one ♂) and 10 (two ♂).

20. *Gnaphosa lucifuga* (Walckenaer, 1802): Locality 3 (four ♂, one ♀). Previous records: Caporiacco 1932 (Durrës as Durazzo), Deltshev *et al*. 2011 (Tepelenë, Hadzhii Malit Cave near Steblevë).

21. **Gnaphosa opaca* Herman, 1879 is distributed in Europe to Central Asia. Localities: 6 (four ♂) and 9 (one ♂).

22. *Haplodrassus dalmatensis* (L. Koch, 1866): Localities: 5 (three ♂) and 10 (two ♂, one juv.). Previous records: Deltshev *et al*. 2011 (Durrës, Lukovë).

23. *Haplodrassus signifer* (C. L. Koch, 1839): Localities: 3 (one ♂), 5 (one ♂), 6 (two ♂, three ♀) and 10 (two ♀). Previous records: Deltshev *et al*. 2011 (Bogë, Llogora Pass, Librazd, Golobordë near Steblevë), Vrenozi & Jager 2012 (Vora Hills, Tiranë city), van Helsdingen & Ijland 2015 (Bënje).

24. **Haplodrassus silvestris* (Blackwall, 1833) is widely spread in the Palaearctic region. Localities: 2 (six ♂, two imm. ♀) and 3 (one ♂).

25. *Micaria albovittata* (Lucas, 1846): Localities: 3 (five ♂, one ♀, one juv.), 5 (one ♂), 10 (two ♀) and 12 (one ♀). Previous records: Deltshev *et al*. 2011 (Dajti Mts., Golobordë near Steblevë).

26. *Nomisia exornata* (C. L. Koch, 1839): Localities: 6 (six ♂, five ♀), 9 (one ♂), 10 (five ♂, one ♀), 11 (one imm. ♀) and 13 (one ♂). Previous records: Strand 1917 (Vlorë), Deltshev *et al*. 2011 (Durrës, Dhërmi, Lukovë, Butrinti, Leskovik, Këri Defile).

27. **Trachyzelotes malkini* Platnick *et* Murphy, 1984 is distributed in Greece, Turkey, Bulgaria, Macedonia, Romania, Ukraine and Kazakhstan. Locality 10 (nine ♂, 18 ♀).

28. *Trachyzelotes pedestris* (C. L. Koch, 1837): Localities: 3 (six ♂, two ♀), 10 (one ♂) and 11 (one ♂, one ♀). Previous records: Deltshev *et al*. 2011 (Durrës), Vrenozi & Jager 2012 (Vora Hills, Tiranë city), Vrenozi & Deltshev 2012b (Vora hills), Vrenozi & Jager 2013 (Korab Mts.).

29. *Zelotes apricorum* (L. Koch, 1876): Locality 3 (one ♂). Previous records: Deltshev *et al*. 2011 (Bogë), Vrenozi & Jager 2012 (Dajti Mts.), Vrenozi & Jager 2013 (Kulla e Lumës).

30. *Zelotes atrocaeruleus* (Simon, 1878): Locality 6 (two ♂, two ♀). Previous record: Vrenozi & Jager 2012 (Vora Hills).

31. *Zelotes balcanicus* Deltshev, 2006: Localities: 3 (one ♂, one ♀) and 11 (one ♂). Previous records: Deltshev *et al*. 2011 (Botanical Garden-Tiranë, Divjaka National Park), van Helsdingen & Ijland 2015 (Strëmbec).

32. **Zelotes metellus* (Roewer, 1928) is distributed from Greece to Iran, Israel, Ukraine and Southern European Russia. This species was identified by C. Deltshev according to Senglet (2011). Locality 4 (one ♂).

33. *Zelotes segrex* (Simon, 1878): Localities: 6 (five ♂, one ♀), 9 (one ♂), 10 (four ♂, one imm. ♀) and 13 (one ♂, one imm. ♀). Previous record: Deltshev *et al*. 2011 (Këri Defile).

34. *Zelotes tenuis* (L. Koch, 1866): Locality 10 (one ♂). Previous records: Deltshev *et al*. 2011 (Drugomiri, Botanical Garden-Tiranë, Dajti Mts.), Vrenozi & Jager 2012 (Tiranë city).

LINYPHIIDAE

35. *Neriene peltata* (Wider, 1834): Locality 2 (two ♀). Previous record: van Helsdingen & Ijland 2015 (Reserve Bredhi i Hotovës).

36. **Pocadicnemis juncea* Locket *et* Millidge, 1953 has a European distribution. Locality 12 (one ♀), det. C. Deltshev.

37. **Sauron rayi* (Simon, 1881) is a rare European spider species reported from 17 countries. On the Balkan Peninsula, according to Milasowszky, Hepner (2014) the species is known from Croatia (Bakar, Dalmatia), Greece (Nestos Delta), Macedonia (Osogovo Mts.), Slovenia (Podgorje vill., Istria) and Bulgaria (Sashtinska Sredna Gora Mts.), where is found also in Western Rhodopes Mts. (Deltshev *et al*. 2012). Locality 11 (one ♀).

LIOCRANIDAE

38. **Agroeca cuprea* Menge, 1873 is widely distributed from Europe to Central Asia. Localities: 3 (three ♀) and 11 (one ♀).

39. **Liocranum rupicola* (Walckenaer, 1830) is distributed in Europe and Russia. Locality 3 (one ♂).

LYCOSIDAE

40. *Alopecosa accentuata* (Latreille, 1817): Locality 10 (four ♂). Previous records: Caporiacco 1932 (Durrës as Durazzo), Blagoev 2005 (Alpet Mts. Radohimës, Mal Tarabosh Mts.), Deltshev *et al*. 2011 (Dajti Mts.), van Helsdingen & Ijland 2015 (Reserve Bredhi i Hotovës).

41. *Alopecosa albofasciata* (Brullé, 1832): Localities: 2 (one ♂), 3 (one ♂), 8 (one ♂) and 10 (five ♂). Previous records: Blagoev 2005 (Durrës, Dukati, Këri Defile), Deltshev *et al*. 2011 (Vlorë, Durrës, Sarandë, Gjirokastër), Vrenozi & Jager 2012 (Vora Hills), Vrenozi & Deltshev 2012b (Vora Hills), van Helsdingen & Ijland 2015 (Bënje, Strëmbec, Këlcyrë, Përmet, Korcës, Gjirokastër).

42. **Alopecosa fabrilis* (Clerck, 1757) has a Palaearctic distribution. Locality 10 (one ♂).

43. **Alopecosa sulzeri* (Pavesi, 1873) is distributed in Europe. Locality 3 (one ♂).

44. *Alopecosa trabalis* (Clerck, 1757): Locality 10 (one ♂). Previous records: Blagoev 2005 (Alpet Mts. Radohimës, Drugomiri).

45. *Arctosa leopardus* (Sundevall, 1833): Locality 12 (19 ♂, 16 f, one imm. ♂). Previous records: Caporiacco 1932 (Maliq Lake, Ochrid Lake, Grabovicë), Blagoev 2005 (Sarandë, Ersekë).

46. *Hogna radiata* (Latreille, 1817): Localities: 3 (three imm. ♀), 4 (one juv.), 6 (four juv.), 9 (one imm. ♀), 10 (one ♀, 37 juv.) and 12 (three juv.). Previous records: Caporiacco 1932 (Durrës as Durazzo), Blagoev 2005 (Vorrë, Lukovë, Butrinti, Jorgucati, Leskovik, Langatitsa river, Këri Defile, Hadzhii Massif), Deltshev *et al*. 2011 (Dajti Mts.), Vrenozi & Deltshev 2012b (Vora Hills).

47. *Pardosa alacris* (C. L. Koch, 1833): Localities: 2 (five ♂, one ♀) and 3 (one ♂). Previous records: Blagoev 2005 (Alpet Mts. Radohimës, Bogë, Maya Chardakut near Bogë), Vrenozi & Jager 2012 (Dajti Mts.), van Helsdingen & Ijland 2015 (Reserve Bredhi i Hotovës). The locality "Albania, Ipek", given by Wunderlich 1984, actually refers to Kosovo (town of Pejë).

48. **Pardosa bifasciata* (C. L. Koch, 1834) has a Palaearctic distribution. Locality 4 (one ♂).

49. *Pardosa hortensis* (Thorell, 1872): Locality 10 (two ♀). Previous records: Blagoev 2005 (Prërrenjas, Llogora Pass, Tepelenë, Leskovik, Langatitsa River, Këri Defile), Deltshev *et al*. 2011 (Dajti Mts., Golobordë near Steblevë), Vrenozi & Jager 2012 (Tiranë city), van Helsdingen & Ijland 2015 (Bënje, Reserve Bredhi i Hotovës, Strëmbec, Korcës).

50. *Pardosa lugubris* (Walckenaer, 1802): Locality 3 (one ♀). Previous records: Blagoev 2005 (Leskovik), Deltshev *et al*. 2011 (Golobordë near Steblevë). The locality "Albania, Ipek", given by Wunderlich (1984), actually refers to Kosovo (town of Pejë).

51. *Pardosa prativaga* (L. Koch, 1870): Locality 12 (one ♀). Previous record: Blagoev 2005 (Vlorë).

52. *Pardosa proxima* (C. L. Koch, 1847): Localities: 10 (one ♀) and 12 (two ♀, one juv.). Previous records: Caporiacco 1932 (Kavaja), Tongiorgi 1966 (Albania), Blagoev 2005 (Sarandë), Deltshev *et al*. 2011 (Dajti Mts.), Vrenozi, & Jager 2012 (Tiranë city), van Helsdingen & Ijland 2015 (Strëmbec, Përmet).

53. *Pirata piraticus* (Clerck, 1757): Locality 12 (three ♀). Previous record: Caporiacco 1932 (Durës as Durazzo).

54. *Trochosa hispanica* Simon, 1870: Locality 10 (one ♂, two ♀). Previous records: Deltshev *et al*. 2011 (Librazd), Vrenozi & Jager 2012 (Vora Hills, Tiranë city), Vrenozi & Deltshev 2012b (Vora Hills).

55. *Trochosa ruricola* (De Geer, 1778): Localities: 10 (one ♂) and 12 (two ♀). Previous records: Caporiacco 1932 (Maliq Lake), Caporiacco 1949 (Tartar Mts.), Vrenozi & Jager 2012 (Vora Hills).

56. *Xerolycosa miniata* (C. L. Koch, 1834): Localities: 6 (one ♂) and 13 (one ♂). Previous records: Deltshev *et al*. 2011 (Dajti Mts., Ochrid Lake).

MITURGIDAE

57. *Zora nemoralis* (Blackwall, 1861): Localities: 3 (10 ♂, one ♀), 4 (one ♂) and 11 (one ♂). Previous records: Deltshev *et al*. 2011 (Dajti Mts., Ersekë), van Helsdingen & Ijland 2015 (Reserve Bredhi i Hotovës).

NEMESIIDAE

58. *Brachythele media* Kulczyński, 1897: Localities: 6 (one ♀) and 13 (one juv.). Previous record: Vrenozi & Deltshev 2012b (Vora Hills).

PHILODROMIDAE

59. *Philodromus cespitum* (Walckenaer, 1802): Locality 7 (one ♀). Previous records: Deltshev *et al*. 2011 (Bogë), Vrenozi & Jager 2013 (Gjallica e Lumës Mts.).

60. *Thanatus atratus* Simon, 1875: Locality 10 (14 ♂, two ♀, one imm. ♂, one juv.). Previous records: Vrenozi & Jager 2012 (Vora Hills), Vrenozi & Jager 2013 (Kulla e Lumës).

SALTICIDAE

61. *Aelurillus v-insignitus* (Clerck, 1757): Locality 13 (one ♂). Previous records: Simon 1884 (Albania), Vrenozi & Haxhiu 2008 (Tiranë), Deltshev *et al*. 2011 (Pellumbat, Leskovik), Vrenozi 2012 (Tiranë, Sarandë), Vrenozi & Jager 2012 (Vora Hills), van Helsdingen & Ijland 2015 (Bënje, Përmet).

62. *Euophrys frontalis* (Walckenaer, 1802): Locality 2 (2 ♂). Previous records: Deltshev et al. 2011 (Durës, Vlorë, Dhërmi, Lukovë), Vrenozi , 2012 (Sarandë), Vrenozi & Jager 2012 (Tiranë).

63. *Euophrys herbigrada* (Simon, 1871): Locality 6 (1 ♀). Previous record: Vrenozi & Deltshev 2012b (Vora Hills).

64. *Evarcha falcata* (Clerck, 1757): Locality 3 (one ♂). Previous records: Deltshev *et al*. 2011 (Bogë, Dajti Mts.), Vrenozi 2012 (Sarandë).

65. *Heliophanus auritus* Kulczyński, 1898: Locality 4 (one ♀). Previous records: Deltshev *et al*. 2011 (Bogë, Dajti Mts., Tepelenë, Leskovik, Prespa Lake), Vrenozi & Jager 2012 (Dajti Mts.), van Helsdingen & Ijland 2015 (Reserve Bredhi i Hotovës).

66. *Heliophanus simplex* Simon, 1868: Locality 10 (one ♂). Previous records: Deltshev *et al*. 2011 (Tepelenë, Ersekë), van Helsdingen & Ijland 2015 (Strëmbec, Këlcyrë, Korcës).

67. *Philaeus chrysops* (Poda, 1761): Locality 1 (one ♀). Previous records: Vrenozi & Haxhiu 2008 (Vora Hills), Deltshev *et al*. 2011 (Bogë, Drugomiri, Durrës, Vlorë, Llogora Pass, Leskovik, Këri Defile, Ersekë), Vrenozi 2012 (Tiranë), van Helsdingen & Ijland 2015 (Bënje).

68. *Phlegra fasciata* (Hahn, 1826): Locality 10 (one ♂). Previous records: Caporiacco 1932 (Ochrid Lake), Deltshev *et al*. 2011 (Botanical Garden-Tiranë), Vrenozi & Deltshev 2012b (Vora Hills), van Helsdingen & Ijland 2015 (Bënje).

69. *Pseudeuophrys erratica* (Walckenaer, 1826): Locality 2 (one ♂, one ♀). Previous record: Vrenozi 2012 (Sarandë).

70. *Pseudeuophrys obsoleta* (Simon, 1868): Locality 10 (one ♂). Previous records: Deltshev *et al*. 2011 (Dajti Mts., Leskovik, Këri Defile),Vrenozi & Jager 2012 (Vora Hills), van Helsdingen & Ijland 2015 (Përmet, Këlcyrë, Bënje).

71. *Salticus zebraneus* (C. L. Koch, 1837): Locality 11 (one ♂). Previous record: Deltshev *et al*. 2011 (Lukovë).

THERIDIIDAE

72. *Asagena phalerata* (Panzer, 1801): Locality 10 (one ♂). Previous records: Knoflach 1996 (N Albania), Vrenozi & Haxhiu 2008 (Tiranë), Deltshev *et al*. 2011 (Dajti Mts., Durrës, Prërrenjas, Vlorë, Librazd, Hadzhii Malit Cave near Steblevë), Vrenozi & Jager 2012 (Tiranë city), Vrenozi & Jager 2013 (Gostil), van Helsdingen & Ijland 2015 (Bënje).

73. **Euryopis flavomaculata* (C. L. Koch, 1836) is well-represented in the Palaearctic region. Locality 3 (one ♂, one ♀).

THOMISIDAE

74. *Diaea livens* Simon, 1876: Locality 2 (one ♂). Previous record: Deltshev *et al*. 2011 (Botanical Garden-Tiranë).

75. *Ozyptila confluens* (C. L. Koch, 1845): Locality 6 (one ♀). Previous records: Deltshev *et al*. 2011 (Vlorë), Vrenozi & Deltshev 2012b (Vora hills), van Helsdingen & Ijland 2015 (Bënje).

76. *Xysticus caperatus* Simon, 1875: Locality 10 (eight ♂, four imm.). Previous records: Deltshev *et al*. 2011 (Lukovë, Jorgucati), Vrenozi & Deltshev 2012b (Vora Hills).

77. *Xysticus kochi* Thorell, 1872: Localities: 5 (one ♂, one ♀) and 10 (one ♂). Previous records: Giltay 1932 (Durrës), Deltshev *et al*. 2011 (Këri Defile), Vrenozi & Jager 2012 (Vora Hills), van Helsdingen & Ijland 2015 (along river Vjosa near Përmet, Këlcyrë).

TITANOECIDAE

78. **Titanoeca veteranica* Herman, 1879 is distributed in Eastern Europe to Central Asia. Locality: 4 (eight ♂).

ZODARIIDAE

79. **Zodarion morosum* Denis, 1935 has a restricted distribution in Macedonia, Bulgaria, Greece, Turkey, Ukraine and Russia. Localities: 3 (one ♂, one ♀) and 10 (five ♂, four ♀).

These results have been obtained by short-term field studies. Therefore, the number of recorded species is lower than in the well-examined neighbouring territory of Galichitsa Mts. The relatively large percentage (27.9% from total) of the newly recorded species for Albania, together with the significantly higher number of spider species known from the neighbouring countries shows that the Albanian araneofauna is still insufficiently studied. After this study, the list of the Albanian spiders reached 461 species.

Acknowledgements: We are grateful to Christo Deltschev, IBER – BAS, for providing photos and helpful discussion, and to Dragan Chobanov, IBER – BAS, for collecting specimens. We thank Gergin Blagoev, BIO, University of Guelph, for the valuable comments on earlier drafts of the manuscript. This study was performed with the valuable support of *Transboundary Biosphere Reserve Prespa – Support to the Albanian Prespa National Park, KfW Project, Albania*, Wolfgang Fremuth and the management of Prespa NP, Albania. The English of the final draft was kindly corrected by Simeon Lukanov.

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Received: 24.02.2016
Accepted: 29.04.2016