

*Original Article**Received: 02 July 2017**Revised: 18 August 2017**Accepted: 30 August 2017*

## A contribution to the knowledge of the Lepidoptera fauna of eastern Serbia

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### **Abstract:**

**Jakšić, P.: A contribution to the knowledge of the Lepidoptera fauna of Eastern Serbia. *Biologica Nyssana*, 8 (1), September 2017: 113-122.**

The faunistic review of Lepidoptera, Heterocera in the eastern Serbia area, with ecological characteristics and zoogeographical distribution is presented. Author gives details of Lepidoptera species collected in the years 1998, 2014 and 2016 respectively. In total, 44 species are registered, of which there were 1 Tineidae, 1 Limacodidae, 1 Cossidae, 1 Pterophoridae, 1 Thyrididae, 2 Lasiocampidae, 1 Sphingidae, 1 Drepanidae, 13 Geometridae, 4 Notodontidae, 8 Erebidae, 8 Noctuidae and 1 Nolidae species. Some of them show narrow distribution, of which 15 are recorded for the second, or third, time in Serbia. Illustration of some habitats, adults and genitalia slides are given.

**Key words:** Lepidoptera, Heterocera, eastern Serbia

### **Apstrakt:**

**Jakšić, P.: Prilog poznavanju faune Lepidoptera u istočnoj Srbiji. *Biologica Nyssana*, 8 (1), Septembar 2017: 113-122.**

Prikazani su rezultati faunističkih istraživanja Lepidoptera, Heterocera u istočnoj Srbiji, sa njihovim ekološkim i zoogeografskim osobenostima. Detalji se odnose na vrste Lepidoptera sakupljenih tokom 1998., 2014. i 2016. godine. Ukupno je prikazano prisustvo 44 vrste, među kojima su brojčano po familijama predstavnici 1 Tineidae, 1 Limacodidae, 1 Cossidae, 1 Pterophoridae, 1 Thyrididae, 2 Lasiocampidae, 1 Sphingidae, 1 Drepanidae, 13 Geometridae, 4 Notodontidae, 8 Erebidae, 8 Noctuidae i 1 Nolidae vrsta. Neke od utvrđenih vrsta pokazuju usku distribuciju, a 15 njih pronađeno je po drugi ili treći put u Srbiji. Date su i ilustracije staništa, pojedinih utvrđenih vrsta *in situ* i genitalne armature mužjaka.

**Ključne reči:** Lepidoptera, Heterocera, istočna Srbija

## **Introduction**

The basin of Nišava River in eastern Serbia, with the associated mountain ranges, is very interesting biogeographically. On the other site, basin is still

insufficiently explored when it comes to its Lepidoptera fauna. The first field research from this area were compiled by M. Hilf in 1894-1896. It is the area between Niš and Bela Palanka (then called Ak-Palanka). Hilf collected a total of 109 species of

Lepidoptera, of which 58 species are moths and 51 are butterflies. The material was processed and published by Rebel (1903, 1904). The following contribution to the knowledge of the fauna was given than by the Hungarian Natural History Museum's preparator József Uhl who collected material in the vicinity of Niš and Pirot. The results were published in 1903. Todorowa & Petkoff (1915) published faunal studies of Dimitrovgrad (then named Caribrod) and its environment. Radosavljević (1924) gives a contribution to the knowledge of harmful Lepidoptera species in this area. After the World War II Vasić (1948) published a contribution of gradation (outbreaks) of harmful moths. The works of those authors can be considered as the pioneer contributions.

## Material and methods

Specimens were collected with butterfly net and light trap, using "Philips" mercury vapor lamp, 125 W. The localities and coordinates where the Lepidoptera were collected were obtained using Garmin-Trex Vista GPS device. The material was sampled on the following localities: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, FN38, 43° 10' 46" (N), 22° 41' 30" (E); Pirot, Dojkinci, Ponor, 1550 m, FN49, 43° 15' 24" (N), 22° 48' 34" (E) (**Fig. 1**); Pirot, Vidlič Mt., Crni vrh, 1116 m, FN38, 43° 11' 08" (N), 22° 38' 58" (E); Pirot, Vidlič, Kitka – Čuka, 957 m, FN38, 43° 11' 16" (N), 22° 38' 35" (E) (**Fig. 2**); Suva Planina, Bojanine Vode, 850 m, EN88, 43° 13' 19" (N), 22° 06' 39" (E); Suva Planina, Devojački Grob, 1317 m, EN88, 43° 11' 59" (N), 22° 08' 14" (E) and Knjaževac, Staro Selo village, Dvoja Vrata Cave, 451 m, FP13, 43° 40' 34" (N), 22° 22' 55" (E).



**Fig. 1.** Stara planina Mt. – Ponor near Dojkinci

The photos *in situ* of specimens were taken using Nikon Camera with AF-S Micro Nikkor Lens.

After setting, we determined the specimens by the wing-patterns. Male genitalia were examined for

species that cannot be reliably identified based exclusively on wing morphology.

The preparations were carried out following the well-known standard procedure: maceration by boiling in potash, dissecting and cleaning, clearing in xylolum and mounting in Canada balsam. The photographs of the genital structure were taken using a "Leica DM 1000" microscope with a "Camera Leica DFC 290". All the material (specimens and genitalia slides) is deposited in the author's collection.



**Fig. 2.** Vidlič Mt. near Pirot

The taxonomic order is done according to Nieukerken et al. (2011) and Fibiger et al. (2012). Nomenclature and ID number before the species follows Karsholt & Razowski (1996). Ecological preferences and Biotopes were done according to Carl et al. (2005). Estimation by analogy for missing species was done by author.

Fieldwork in protected areas was realized in agreement with permits provided by the Ministry of Environment, Mining and Spatial Planning, Republic of Serbia, No. 353-01-1559-2011-03, dated from 8. 06. 2011; No. 353-01-1070/2012-03, dated from 12. 06. 2012.; No. 353-01-916/2014-08, dated from 29.05.2014.; No. 353-01-356/2015-17, dated from 27. 04. 2015 and No. 353-01-389/2016-17, dated from 08. 04. 2016.

## Results

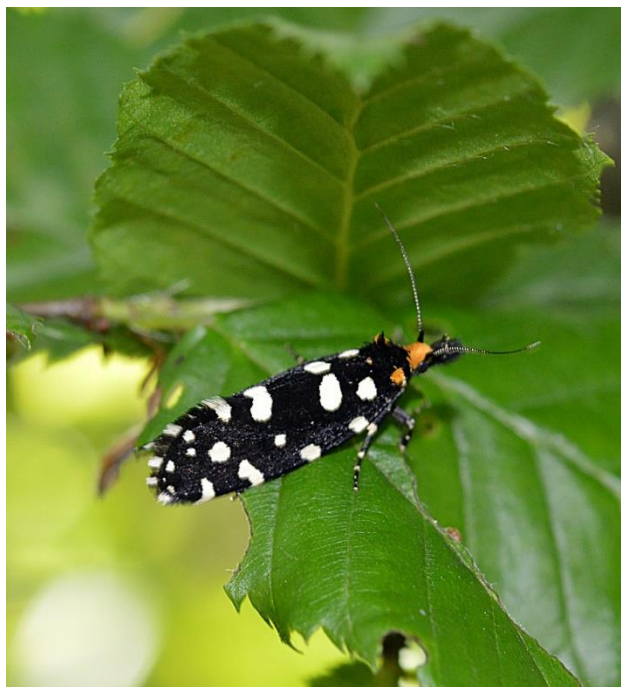
### Ordo Lepidoptera

#### Fam. Tineidae

##### 724. *Euplocamus anthracinalis* (Scopoli, 1763)

Material examined: Pirot, Vidlič Mt., Crni Vrh, 1130 m, 30. V 2016., 1 male. (**Fig. 3**). This species is well known in Serbia (Jakšić, 2016). The larva is mycophagous, inhabit rotting wood, which they eat bracket fungi growing on it and dead wood. Habitat: *E. anthracinalis* inhabit humid woodland, as well as

thermophilous forests of *Fagus*, *Quercus* and *Crataegus*.



**Fig. 3.** *Euplocamus anthracinalis* (Scopoli, 1763), Pirot, Vidlič Mt., Crni Vrh, 1130 m, 30. V 2016.

**Fam. Limacodidae**

3907. *Apoda limacodes* (Hufnagel, 1766)

Material examined: Pirot, Vidlič Mt., Hotel “Stara”, 1040 m, 6.VII 2016., 1 male, 5 females. This species is well known in Serbia (Jakšić, 2016). Caterpillars is oligophagous, feed on *Quercus* and *Fagus* species. According to ecological amplitude this species is eurytope (wide ecological amplitude). Habitat: *A. limacodes* inhabit deciduous forests.

**Fam. Cossidae**

4151. *Cossus cossus* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel “Stara”, 1040 m, 6.VII 2016., 1 male. This species is well known in Serbia (Jakšić, 2016). The larva is oligophagous, feed in the branches of a wide variety of trees. Ecological amplitude: eurytope. Habitat: woodland biotope, deciduous forests.

**Fam. Pterophoridae**

5378. *Gillmeria ochrodactyla* ([Denis & Schiffermüller], 1775) (syn.: *G. tatradaactyla* (Linnaeus, 1758))

Material examined: Pirot, Vidlič Mt., Crni Vrh, 1130 m, 6. VI 2016., 1 male (Fig. 4). So far, this species is known in Serbia only from Žljeb Mt. (Rebel, 1917b). Vidlič Mt. is second known locality of *G.*

*ochrodactyla* in Serbia. This is a monophagous species, larval food-plant is *Tanacetum vulgare*. Marković (2014) reported both *T. vulgare*, *T. corymbosum* and *T. macrophyllum* on Vidlič Mt. They have restricted ecological amplitude. This species inhabit woodland biotopes along edges of thermophilous forest.



**Fig. 4.** *Gillmeria ochrodactyla* Denis & Schiffermüller, 1775, Pirot, Vidlič Mt., Crni Vrh, 1130 m, 6. VI 2016

**Fam. Thyrididae**

5562. *Thyris fenestrella* (Scopoli, 1763)

Material examined: Suva Planina Mt., Devojački Grob, 1317 m, 4. VII 2016., 1 male. This species is well known in Serbia (Jakšić, 2016). The larva is monophagous, feed on *Clematis vitalba*. Jovanović (1980) reported this plant species on Suva Planina Mt. This is a species with restricted ecological amplitude. Habitat: hedgerows and related biotopes.

**Fam. Lasiocampidae**

6744. *Malacosoma castrensis* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel “Stara”, 1040 m, 6.VII 2016., 1 male. So far, Beshkov (2015c) reported this species for Western Serbia, Prijepolje Region, Zvijezda Village, Savina Voda near Jabuka Pass, 1117 m. The caterpillars are oligophagous and feed on *Caryophyllaceae*, *Chenopodiaceae*, *Betulaceae*, *Plantaginaceae* et cetera. *Malacosoma castrensis* is eurytope, it has wide ecological amplitude. It inhabits woodland biotopes, beech dominated forest.

6834. *Hyloicus pinastri* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel “Stara”, 1040 m, 6.VII 2016., 1 male. This species is well known in Serbia (Zečević, 1996). *Hyloicus pinastri* is polyphagous species, larval food plants are different conifer species. They have wide ecological

amplitude, inhabit pine forest, fir-tree dominated forest, spruce forests, et cetera.

### Fam. Sphingidae

6843. *Macroglossum stellatarum* (Linnaeus, 1758)

Material examined: Suva Planina Mt., Devojački Grob, 1317 m, 4. VII 2016., 1 male. This species is well known in Serbia (Zečević, 1996). For this polyphagous species larval food plants are *Galium*, *Rubiactinctoria* and *Stellaria*. Jovanović (1980) reported *G. aparine*, *G. mollugo*, *G. sylvaticum*, *G. aristatum*, *S. holostea*, and others on Suva Planina Mt. Ecological amplitude: eurytope, wide ecological amplitude. They inhabit woodlands biotopes.

### Fam. Drepanidae

7505. *Watsonalla cultraria* (Fabricius, 1775)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male (genitalia slide SR-2855). So far, only Gradojević (1926) reported this species for Serbia, South Kučaj Mt. The larvae is monophagous, feed on *Fagus* species. Ecological amplitude: eurytope, wide ecological amplitude. Biotope: woodland biotopes, deciduous forests.

### Fam. Geometridae

7522. *Abraxas grossulariata* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. This species is well known in Serbia (Zečević, 1996). Recorded food-plants for their caterpillars are *Ribes rubrum*, *R. nigrum*, *Prunus spinosa*, *Crataegus*, *Corylus*, *Salix* and *Euonymus europaeus*, this is a polyphagous species. Ecological amplitude: eurytope, wide ecological amplitude. Biotope: woodland biotopes, deciduous forests.

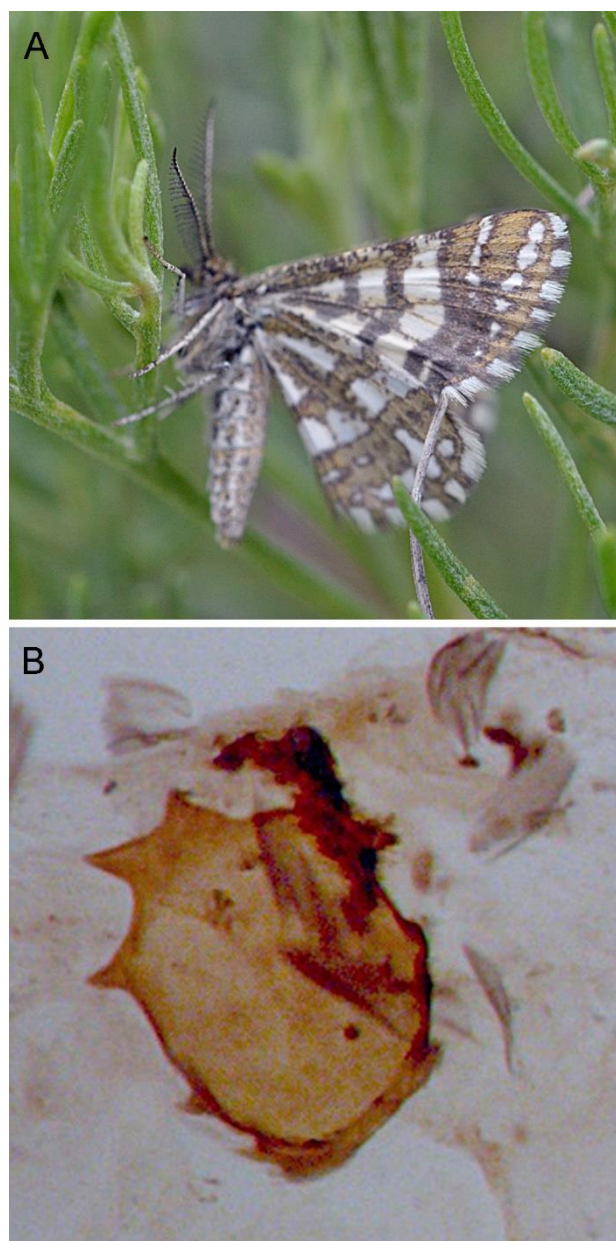
7537. *Heliomata glarearia* ([Denis & Schiffermüller], 1775)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. Rebel (1904) reported this species on the basis of Hilf's material. The caterpillars are oligophagous, feed on different Fabaceae (*Trifolium*, *Medicago*, *Lathyrus*, *Hippocrepis*). *Heliomata glarearia* is a stenotope species, with restricted ecological amplitude. They inhabit meadows and pastures biotopes.

7559. *Narraga tessularia* (Metzner, 1845)

Material examined: Pirot, Vidlič Mt., Crni Vrh, 1100-1116 m, 30.V 2016., 1 female (genitalia slide SR-2850); 6.VI 2016., 3 males. So far, only Beshkov

(2017) reported this species for the same area, as a new for Serbia. The species is locally distributed in the forest belt, up to 1000 m above sea level, occurring in forest margins. It is monophagous, larva feed on *Artemisia maritima* and *A. campestris*. Our photo shown adult specimens on *A. alba* Turra (Fig. 5A). Variation in the signum shape in female genitalia (Fig. 5B) is significant, our specimen is closely related to female from Austria (Skou & Sihvonen, 2015). They have restricted ecological amplitude. This species inhabit meadows biotopes along edges of thermophilous forest.



**Fig. 5.** *Narraga tessularia* (Metzner, 1845): A-adult specimens (Pirot, Vidlič Mt., Crni Vrh, 1100-1116 m, 30.V 2016) (photo P. Jakšić); B-the signum (genitalia slide SR-2850, photo Ivan Gnjatović, Photoshop Ana Nahirić)

7790. *Cleorodes lichenaria* (Hufnagel, 1767)

Material examined: Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male, 1 female. This species is well known in Serbia (Zečević, 1996). *Cleorodes lichenaria* is lichen-eating moth. Ecological amplitude: stenotope, restricted ecological amplitude. This species inhabit woodland biotopes.

7961. *Aplasta ononaria* (Fuessly, 1783)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male (genitalia slide SR-2857, Fig. 6). Male genitalia are illustrated in Can (2010), our specimen belong to the same type. This species is well known in Serbia (Zečević, 1996). The larva is oligophagous, feed on different Papilionoaceae: *Sarothamnus scoparius* and *Ononis repens*. Marković (2014) reported *Ononis pusilla*, *O. spinosa* and *O. arvensis* on Vidlič Mt. Ecological amplitude is wide. They inhabit woodland biotopes of mesophilous forests.



Fig. 6. *Aplasta ononaria* (Fuessly, 1783), Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., (genitalia slide SR-2857, photo Ivan Gnjatović, Photoshop Ana Nahirnić)

8269. *Catarhoe putridaria* (Herrich-Schäffer, 1852)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male (genitalia slide SR-2856, Fig. 7). In Serbia this species is known only from the same locality, described by Beshkov (2015) as a new for Serbia. The larval food-plants are different Rubiaceae, this is oligophagous species. According to Marković (2014) there are 21 Rubiaceae species on Vidlič Mt. Ecological amplitude: eurytope. Biotope: wetland biotopes, woodland biotopes with deciduous forests and hedgerows and related biotopes.



Fig. 7. *Catarhoe cuculata* (Hufnagel, 1767), Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016. (genitalia slide SR-2856, photo Ivan Gnjatović, Photoshop Ana Nahirnić)

8272. *Epirrhoe tristata* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. This species is well known in Serbia (Zečević, 1996). The larval food-plants are *Galium* species, like previous moth species. Hibernates as pupa in a cocoon on the ground. Ecological amplitude: eurytope. Biotope: woodland biotopes with deciduous forests.

8319. *Cosmorhoe ocellata* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male, 1 female. This species is well known in Serbia (Zečević, 1996). Caterpillars are monophagous, feeding on a single genus – *Galium* species, like previous moth species. Ecological amplitude: eurytope species. Biotope: wetland biotopes, woodland biotopes, meadows and pastures, as well as intensively used agricultural areas.

8350. *Cidaria fulvata* (Forster, 1771)

Material examined: Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male, 1 female. This species is well known in Serbia (Zečević, 1996). *C. fulvata* is monophagous species, the larval food-plants are different Rosaceae species. Ecological amplitude: eurytope. Biotope: woodland biotopes and cultural biotopes (gardens, parks, groves).

8427. *Triphosa sabaudiata* (Duponchel, 1830)

Material examined: Knjaževac, Staro Selo village, Dvoja Vrata Cave (Pećina Dvoja vrata), 9.IX 1998., 2 males, 2 females. The adults hibernate and live from July to May. Hibernation takes place in rather dry caves, like Dvoja Vrata Cave. This species is well

known in Serbia (Zečević, 1996). The larval-food plants are *Rhamnus cathartica*, *R. saxatilis*, *R. orbiculata*, *R. alpina* and *Frangula alnus*, this is monophagous species. Ecological amplitude: stenotope. Biotope: areas with rock formations.

8457. *Perizoma hydrata* (Treitschke, 1829)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. This species is well known in Serbia (Zečević, 1996). Oligophagous species, the larval food-plants are *Silene nutans*, *S. inflata*, *Lychnis viscaria* and *Melandrium* species, well presented in the flora of Vidlič Mt. (Marković, 2014). Ecological amplitude: stenotope. Biotope: rock formations, scree formations.

8620. *Aplocera plagiata* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known in Serbia (Zečević, 1996). The larva of this polyphagous species feed on *Solidago virgaureae*, *Calluna vulgaris*, *Silene vulgaris*, *Echium vulgare* *Centaurea* species and *Cirsium* species. Ecological amplitude: eurytope. Biotope: deciduous forests and coniferous forests.

8624. *Aplocera praeformata* (Hübner, 1826)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known in Serbia (Zečević, 1996). *Aplocera praeformata* is monophagous species. The larva feed on different *Hypericum* species. According to Marković (2014) there are 8 *Hypericum* species on Vidlič Mt. Ecological amplitude: eurytope. Biotope: hedgerows and related biotopes, as well as meadows and pastures.

#### Fam. Notodontidae

8709. *Furcula bicuspis* (Borkhausen, 1790)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. Dodok (1997) reported that *F. bicuspis* has been found at Užice and Jelova Gora Mt. This is oligophagous species: species feeding on a single family. Larval food-plants are *Betula pendula* and *Alnus glutinosa*. Marković et al. (2010) reported both species for area of eastern Serbia. Ecological amplitude: eurytope. Biotope: beech dominated forests, mountainous green alder shrubs.

8738. *Ptilodon capucina* (Linnaeus, 1758)

Material examined: Stara Planina Mt., Dojkinci, Ponor, 1550 m, 5. VII 2016., 1 female. This species

is well known in Serbia (Zečević, 1996). Caterpillars of this oligophagous species feed on *Carpinus*, *Corylus*, *Quercus*, *Fagus*, *Acer*, *Betula*, *Alnus* and other. Ecological amplitude: eurytope. Biotope: woodland biotopes and cultural biotopes (gardens, parks, groves).

8739. *Ptilodon cucullina* ([Denis & Schiffermüller], 1775)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. Lazarević (1898) reported this species for the vicinity of Beograd. *P. cucullina* is a polyphagous species. Larval food-plants are *Acer pseudoplatanus* and *Acer campestre*, both present on explored area (Marković, 2014). Ecological amplitude: eurytope. Biotope: deciduous trees/shrubs.

8750. *Phalera bucephala* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known in Serbia (Zečević, 1996). Caterpillars live gregariously and feed on a number of different deciduous trees (*Tilia*, *Quercus*, *Corylus*, *Salix* spp.). Ecological amplitude: eurytope. Biotope: deciduous trees/shrubs.

#### Fam. Erebidae

8874. *Catocala nupta* (Linnaeus, 1767)

Material examined: Knjaževac, Staro Selo village, Dvoja Vrata Cave (= Pećina Dvoja vrata), 9.IX 1998., 1 female. This species is well known in Serbia (Zečević, 1996). The larval food-plants are *Salix alba*, *S. fragilis* and *Populus nigra*. It is polyphagous species – species feeding on a single family. Ecological amplitude: eurytope. Biotope: wetland biotopes, woodland biotopes.

8882. *Catocala promissa* (Schiffermüller, 1775)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known in Serbia (Zečević, 1996). The caterpillars are monophagous, feed on *Quercus* species. Ecological amplitude: eurytope. Biotope: woodland biotopes, deciduous forests: thermophilous forests.

8888. *Catocala nymphagoga* (Esper, 1787)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. Beshkov (2015c) recently reported this species from Suva Planina Mt., Bojanine vode. The caterpillars are monophagous, feed on *Quercus* species. Ecological amplitude: eurytope. Biotope: woodland biotopes, deciduous forests: thermophilous forests.

8984. *Scoliopteryx libatrix* (Linnaeus, 1758)

Material examined: Knjaževac, Staro Selo village, Dvoja Vrata Cave (Pećina Dvoja vrata), 9.IX 1998., 2 females. The adults hibernate in caves. *Scoliopteryx libatrix* is well known in Serbia (Zečević, 1996). During the winter *S. libatrix* hibernates in dark, cool places. The larval food-plants are *Salix* and *Populus* species, this is oligophagous species. Ecological amplitude: eurytope. Biotope: woodland biotopes: floodplain forests, moorland forests, as well as cultural biotopes (gardens, parks, groves).

10375. *Lymantria monacha* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. This species is well known from Western Serbia (Zečević, 1996). *Lymantria monacha* is a major pest of broadleaved and coniferous trees in Europe and Asia (*Pinus*, *Picea*, *Larix* and *Abies* are preferred hosts), feed on needles or leaves and can defoliate host trees. This is polyphagous species. Ecological amplitude: stenotope. Biotopes: woodland biotopes.

10489. *Eilema lurideola* (Zincken, 1817)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 2 males (genitalia slides SR-2745 and SR-2746). This species is well known from Western Serbia (Zečević, 1996; Jakšić & Dimović, 2000). The caterpillars are mycophagous, feeds on various lichens, including *Parmelia*. Ecological amplitude: eurytope. Biotopes: woodland biotopes.

10579. *Rhyparia purpurata* (Linnaeus, 1758)

Material examined: Suva Planina Mt., Devojački Grob, 1317 m, 25. VII 2014., 1 female. Beshkov (2015c; Beshkov & Nahirnić, 2016) reported this species from Pirot, kamenolom Kitka and Pirot, Krupac Village, as well as from Starac Mt., Preševo District. The caterpillars feed *Calluna* and other herbaceous plants and deciduous trees, they are polyphagous. Ecological amplitude: stenotope. Biotopes: woodland biotopes, hedgerows and related biotopes.

10603. *Callimorpha dominula* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known from western Serbia (Zečević, 1996). The caterpillars feed on herbaceous plants, especially *Symphytum* spp. Marković (2014) reported *S. tuberosum* and *S. officinale* on Vidlič Mt. Ecological amplitude: stenotope. Biotopes: this species inhabits

humid clearings in wet forests, bog margins, beech dominated forests et cetera.

**Fam. Noctuidae**9307. *Amphipyra pyramidea* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 4. VII 2016., 1 male and 6.VII 2016., 1 female. This species is well known in Serbia (Zečević, 1996). The larva is polyphagous, feeds on a variety of trees and shrubs: *Fraxinus*, *Ligustrum*, *Lonicera*, *Malus*, *Quercus*, *Rhododendron*, *Rosa*, *Sorbus*, *Syringa* et cetera. Ecological amplitude: eurytope. Biotope: woodland biotopes: floodplain forests, moorland forests, deciduous forests.

9453. *Hoplodrina respersa* ([Denis & Schiffermüller], 1775)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male. So far, only Vasić (1969) reported this species from Deliblato Sands. The caterpillars are active at night and can be found on *Hippocrepis comosa*. Adamović (1909) reported this species for eastern Serbia. Ecological amplitude: stenotope. Biotope: thermophilous forests, pine forests, scree formations and xerophilous meadows and pastures.

9515. *Actinotia polyodon* (Clerck, 1759)

Material examined: Suva Planina Mt., Bojanine Vode, 850 m, 4.VII 2016., 1 female. So far, this species is known only from Deliblato Sands (Gradojević, 1963). The caterpillar feed on *Hypericum perforatum* and *Astragalus glycyphyllos*, they are polyphagous. Jovanović (1980) reported this plant species for Suva Planina Mt. Ecological amplitude: stenotope. Biotope: hedgerows and related biotopes.

9550. *Cosmia trapezina* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male (Genitalia slide SR-2780). This species is well known in Serbia (Zečević, 1996). The caterpillars are polyphagous, feed on *Carpinus*, *Betula*, *Quercus*, *Fagus*, *Ulmus*, *Pyrus*, *Corylus avellana*, and others. Ecological amplitude: eurytope. Biotope: woodland biotopes: floodplain forests, moorland forests, deciduous forests.

9642. *Brachylomia viminalis* (Fabricius, 1777)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 male, 2 females. This species is well known from western Serbia (Zečević,

1996). The larvae are monophagous, feed on *Salix* species. Ecological amplitude: eurytope. Biotope: woodland biotopes.

9781. *Oligia versicolor* (Borkhausen, 1792)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6. VII 2016., 3 males, 1 female. Beshkov (2015c) reported this species from Suva Planina, Bojanine vode; Pirot, stone-pit Kitka and Pirot, Krupac Village. The larvae is polyphagous, feed on deciduous tree and shrubs, *Brachypodium sylvaticum*, *Carex* sp., Poaceae, *Luzula luzuloides* et cetera. Ecological amplitude: stenotope. Biotope: wetland biotopes, floodplain forests, moorland forest.

10100. *Noctua fimbriata* (Schreber, 1759)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 female. This species is well known from western Serbia (Zečević, 1996). The larvae are polyphagous and feed on *Ligustrum*, *Primula*, *Rubus*, *Rumex*, *Salix*, *Trifolium* and *Urtica* species. Ecological amplitude: eurytope. Biotope: woodland biotopes, meadows and pastures.

10372. *Colocasia coryli* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 2 males, 1 female. This species is well known from western Serbia (Zečević, 1996). The larval food-plants are *Carpinus betulus*, *Corylus avellana*, *Fagus sylvatica*, *Quercus robur*, et cetera, this is polyphagous species. Ecological amplitude: eurytope. Biotopes: floodplain forests, moorland forests, deciduous forests, hedgerows and related biotopes.

### Fam. Nolidae

10427. *Nola cucullatella* (Linnaeus, 1758)

Material examined: Pirot, Vidlič Mt., Hotel "Stara", 1040 m, 6.VII 2016., 1 males (genitalia slide SR-2860). Male genitalia are illustrated in Haker et al. (2012). This species is well known from western Serbia (Zečević, 1996). The caterpillars feed on *Crataegus* sp., *Malus* sp. and *Prunus spinosa*. Ecological amplitude: eurytope. Biotopes: woodland biotopes.

### Discussion

The results are related to geographical area of East Serbia that gravitates to catchment of Nišava River Basin. The area is located in the contact zone of three mountain systems: Rhodopy Mountain system, Carpathian Mountain system and Balkan Mountain

range. Climate impact also varies from continental climate to the Sub-mediterranean climate. Nišava River basin is influenced by Pontic and Mediterranean region through Struma River Valley. Its position suggests faunal richness but its Lepidoptera fauna has not been sufficiently explored to the present day. Results given by Beshkov (2017), as well as results shown here suggest existence of significant faunal richness.

Presence of 43 species of Lepidoptera (Heterocera) from 13 families is shown. Among the established species 14 (35%) are rare and found only in 2-3 locations in Serbia so far: *Gillmeria ochrodactyla*, *Malacosoma castrensis*, *Watsonalla cultraria*, *Heliomata glarearia*, *Narraga tessularia*, *Catarhoe putridaria*, *Epirrhoe tristata*, *Furcula bicuspis*, *Ptilodon cucullina*, *Catocala nymphagoga*, *Hoplodrina respersa*, *Actinotia polyodon*, *Oligia versicolor* and *Rhyparia purpurata*.

Rich fauna is significant part conditioned by the existence of differentiated biotope and ecological niches. The good examples are the species related to the calcareous rocky habitats. Besides there is noticeable connection with neighboring mountain areas such as Dinarides (which are also limestone surface). Although geographically distant, the two systems have common elements of Lepidoptera fauna. For example we can mention species of *Adscita albanica* distributed on mountain Paštrik Mt. (Dinarides) and Suva Planina Mt. (Rhodope) (Nahirnić et al., 2016); *Gillmeria ochrodactyla* distributed on Žljeb Mt. (Dinarides) and Vidlič Mt. (Rhodope); *Malacosoma castrensis* distributed on Prijepolje, Zvijezda (Dinarides) and Vidlič Mt. (Rhodope). It is interesting to point out that listed species in geographical area close to Kopaonik Mt. and Šar-Planina Mt. have not been found because it is not the limestone bedrock.

Biogeographical connection of the tested area exists with Carpathian system based again on the limestone. Examples of such species are *Watsonalla cultraria* present in Kučaj Mt. and Vidlič.

Thanks to erosion processes in the limestone cavernicolous facilities are developed. Therefore the list of these species are also petrophilous species: *Triphosa sabaudiata*, *Catocala nupta* and *Scoliopteryx libatrix*. All these species are troglophile. However the real number of species of environmental group is much higher. In neighboring Bulgarian caves Beshkov and Petrov (1996) have determined the presence of 32 species of Lepidoptera.

Special environmental group is comprised by species whose caterpillars are fed by lichen, lichen eating moths. Typical representatives are: *Cleorodes lichenaria* and *Eilema lurideola*. Environmentally



specific species is also *Euplocamus anthracinalis*, whose caterpillars are mycophagous.

To summarize we can say that shown fauna species represent significant contribution to the knowledge of its distribution in Serbia. Also these findings indicate a high potential for faunal species of this area. This indicates that further faunistic research will result in new and significant findings.

**Acknowledgements.** I am thankful to Dr Bojan Zlatković for the primary identification of *Artemisia alba* Turra. I also thank to Ana Nahirnić and Ivan Gnjatović for their valuable assistance and useful advices. This investigation was partly supported by scientific society Biodat Alpin from Innsbruck, Austria, as well as University of Maribor, Faculty of Natural Sciences and Mathematics (Project Biodiversity of the green lacewing in Serbia, Grants Nos. RP BioDiv CHRYSER 2015).

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