

# A contribution to the knowledge of the Bulgarian Lepidoptera fauna (Lepidoptera: Macrolepidoptera)

Stoyan Beshkov

**Abstract.** Four new species from the family Noctuidae are reported for the fauna of Bulgaria: *Zebeeba falsalis* (Herrich-Schäffer, 1839), *Leucania herrichi* Herrich-Schäffer, 1849, *Dioszeghyana schmidtii* (Dioszeghy, 1935), *Rhyacia arenacea* (Hampson, 1907) and two new genera: *Zebeeba* Kirby, 1892 and *Dioszeghyana* Hreblay, 1993. One Geometridae species *Colostygia lineolata* (Fabricius, 1794) is new for Bulgaria too. The species *Agriopis beschkovi* Ganev, 1987, known till now only from the type material, is illustrated for the first time in colour. Data for some rare species in Bulgaria and two UTM maps are given.

**Samenvatting.** Bijdrage tot de kennis van de Bulgaarse Lepidoptera fauna (Lepidoptera: Macrolepidoptera)

Er worden vier nieuwe Noctuidae soorten vermeld voor de Bulgaarse fauna: *Zebeeba falsalis* (Herrich-Schäffer, 1839), *Leucania herrichi* Herrich-Schäffer, 1849, *Dioszeghyana schmidtii* (Dioszeghy, 1935) en *Rhyacia arenacea* (Hampson, 1907), waardoor twee genera nieuw zijn voor Bulgarije: *Zebeeba* Kirby, 1892 en *Dioszeghyana* Hreblay, 1993. Verder wordt één nieuwe Geometridae soort vermeld: *Colostygia lineolata* (Fabricius, 1794). *Agriopis beschkovi* Ganev, 1987, waarvan tot nu toe alleen het type-materiaal bekend is, wordt hier voor het eerst in kleur afgebeeld. Gegevens voor enkele zeldzame soorten in Bulgarije worden meegedeeld en er worden twee UTM-kaartjes afgebeeld.

**Résumé.** Contribution à la connaissance des lépidoptères bulgares (Lepidoptera: Macrolepidoptera) Quatre espèces de noctuelles sont mentionnées ici pour la première fois de Bulgarie: *Zebeeba falsalis* (Herrich-Schäffer, 1839), *Leucania herrichi* Herrich-Schäffer, 1849, *Dioszeghyana schmidtii* (Dioszeghy, 1935) et *Rhyacia arenacea* (Hampson, 1907), ainsi les genres *Zebeeba* Kirby, 1892 et *Dioszeghyana* Hreblay, 1993 sont nouveaux pour la Bulgarie. Une espèce de géomètre est mentionnée comme nouvelle pour la faune bulgare: *Colostygia lineolata* (Fabricius, 1794). *Agriopis beschkovi* Ganev, 1987, dont on ne connaît que les exemplaires types, est figurée ici pour la première fois en couleurs. Des données sur quelques espèces rares en Bulgarie sont communiquées en deux cartes UTM sont figurées.

**Key words:** Bulgaria - Macrolepidoptera - distribution - faunistics - cave - genitalia.

Beshkov, S.: 13 Mart Str. - 17, BG-1142 Sofia, Bulgaria.

## Introduction

This article is a result of several years' studies on the lepidopterous fauna of Bulgaria. Although this fauna is well known, there are still large areas of the country not well explored or not explored at all. Such areas have been studied by the author over the last years. Some new species for this country have also been collected along with many interesting data. Part of the results are presented here.

For a long period of time the cave fauna of Bulgaria has been an object of investigation too. Several new species for the cave lepidopterous fauna have been found and new faunistic data have been recorded for other species, known till now from single localities only. In this article only a small part of the results are mentioned. The rest of them will be published in a separate paper.

Following determination by genitalia several new and lesser known species for Bulgaria have been found among the material ascribed to closely related taxa. Illustrations of male and female genitalia for several species are given, as well as the everted vesica of *Rhyacia simulans* (Hufnagel, 1766) and *Rhyacia arenacea* (Hampson, 1907). All localities of the new Noctuidae species for Bulgaria are marked on UTM maps. One species, *Agriopis beschkovi* Ganev, 1987, known till now only from the type material, is illustrated here for the first time in colour. The order of the families is given according to

Leraut (1980) and Wolf (Red.) (1988). The systematics of the family Noctuidae is given according to Fibiger & Hacker (1990).

### Special part

#### Cossidae

*Capopta thrips* (Hübner, 1818) - Bulgarian North Black Sea Coast, SBA (Belija Briag) camping near Touzlata, between Balchik and Kavarna, 22-27.VII.1992, 1♂ on 400 W Hg lamp; Resseletz Village, Resseletz Chalet, Tcherven Briag Region, 26-29.VII.1993, 1♂ on 1500 W Tungsten lamp. Known in Bulgaria from Plovdiv and Sliven (Ganev 1984).

#### Pieridae

*Pieris ergane* (Geyer, [1828]) - East Rhodopi Mts: Studen Kladenetz Village, 21-22.III.1990; near Madzharovo, 05.IV.1993. Marked on the distribution map (Map 6) for East Rhodopi Mts in Abadjiev (1993).

*Pieris krueperi* Staudinger, 1860 - East Rhodopi Mts: Studen Kladenetz Dam, Sredna Arda Railway Station, 16.VI.1993; near Studen Kladenetz Village in two generations. In Abadjiev (1993) marked on the distribution map (Map 7) for East Rhodopi Mts.

*Pontia chloridice* (Hübner, [1813]) - East Rhodopi Mts: Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 1♀; Shiroko Pole Village near Studen Kladenetz Dam, 21.VI.1991; Studen Kladenetz Village, III, VII. in two generations. In the East Rhodopes known from Sredna Arda and Studen Kladenetz (Abadjiev 1992).

#### Lycaenidae

*Heodes ottomanus* Lefebvre, 1830 - East Rhodopi Mts: near Arda Chalet on Ivailovgrad Dam, Dabovetz Region, 27.IV.1990; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 1♂. New for Rhodopes, previously known from Kresna Gorge, Strandzha and South Black Sea Coast.

#### Nymphalidae

##### Nymphalinae

*Brenthis hecate* ([Denis & Schiffermüller], 1775) - East Rhodopi Mts: Studen Kladenetz Dam, Sredna Arda Railway Station, 16.VI.1993; above Studen Kladenetz Village and near Daretz, 18.VI.1993. New for East Rhodopi Mt.

*Proclossiana eunomia* (Esper, [1799]) - Kaloferska Stara Planina Mts: under Levski top, 1900-2000 m.; under Koupena top above Levski Chalet, 1800 m.; under Koupena Top, 2200 m.; under Zhaltetz Top, 2100 m. All previous reports for this species in Bulgaria are from the beginning of the century from near the same locality.

##### Satyrinae

*Erebia cassioides* (Hochenwarth, 1793) - Kaloferska Stara Planina Mts, 19-20.VII.1994: under Levski Top, 1900 m.; between Botev and Ravnatz Top, 1900-2000 m. This is the second record of this species from Stara Planina Mts.

#### Lasiocampidae

*Trichiura verenae* Witt, 1981 - East Rhodopi Mts: above Momchilgrad Town, 2-4 km. on the way to Raven Village, 23.X.1989 on 300 W petromax lamp; Svezhest Chalet above Krumovgrad Town, 23.X.1989, 3♂ on lamp; between Konush and Trakietz,

25.X.1989 on 300 W petromax lamp; Studen Kladenetz Village, 06.XI.1989. New for the East Rhodopes.

*Poecilocampa alpina* (Frey & Wulschlegel, 1874) - W. Bulgaria, near the Cave of Philipovtzi Village, Tran Region, 12.XI.1994, VI. Beshkov leg. on 300-400 W petromax lamp 1♂. Known from Kostinbrod near Sofia, Zemen Gorge, Iskretz Village in West Stara Planina Mts (Ganev, 1984) and Liuljaka Chalet near Beledie Han in West Stara Planina Mts (Ganev & Beschkov 1987).

*Eriogaster catax* (Linnaeus, 1758) - West Rhodopi Mts, Oryahovetz Village, 16.X.1994, 1♂ resting on a lamp, Pl. Mitov leg.

### Saturniidae

*Eudia spini* ([Denis & Schiffermüller], 1775) - East Rhodopi Mts: Kroyatzi Hunt Chalet on Studen Kladenetz Dam, 22.III.1990, 2♂; Studen Kladenetz Village, 05.IV.1990, I. Stoychev leg.; Sredna Arda Railway Station on Yazovir Studen Kladenetz Dam, 31.III.1992, 1♂. A common species in the beginning and in the middle of the century. In the last 40 years only single specimens of this very local species have been collected.

*Perissomena caecigena* (Kupido, 1825) - East Rhodopi Mts: Svezhest Chalet above Krumovgrad Town, 23.X.1989, on lamp; Studen Kladenetz Dam, Sredna Arda Railway Station, 13.X.1991; Studen Kladenetz Dam, Studen Kladenetz Village, 15.X.1991, 1♀; Momina Skala Chalet, Madzharovo Region, 150 m., 16.X.1991; Yazovir Ivailovgrad Dam, Arda Chalet, 17.X.1991, many males and females; Siv Kladenetz Village, Ivailovgrad Region, 18.X.1991. Protected by law in Bulgaria.

### Geometridae Oenochrominae

*Orthostixis cribraria* (Hübner, 1799) - East Rhodopi Mts: Yazovir Studen Kladenetz Dam, many specimens in a forest of *Carpinus* during the day between Daretz and Studen Kladenetz Village, 17.VI.1993, 9 specimens collected; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 1♂ on a lamp.

### Larentiinae

*Xanthorhoe fluctuata* (Linnaeus, 1758) - Vrachanska Stara Planina Mts, The gallery above Gorna Byala Rechka Village, 800 m altitude, 05.VI.1994, B. Petrov & P. Stoev leg., 1♂. This species has never been reported from caves or galleries.

*Colostygia lineolata* (Fabricius, 1794) (= *turbata* (Hübner, 1799)) - SW. Bulgaria, Pirin Mts, Damianitza Chalet, 1850 m., 03.VIII.1992, Dimitar Usunov leg. 1♀ in very bad condition, its determination was possible only by genitalia (det. Beshkov). New species for Bulgaria.

### Ennominae

*Eumera regina* Staudinger, 1892 - East Rhodopi Mts: Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 30.VIII.1992; Studen Kladenetz Village, 31.VIII.1992; Momina Skala Chalet near Madzharovo Town, 01.IX.1992, 22.IX.1994, on 400 W. Hg lamp. Known from West Bulgaria only: Kyustendil Region and Vitosha Mts.

*Agriopsis beschkovi* Ganev, 1987 - (Pl. 2, fig. 1, Fig. 2, map) - SW. Bulgaria, Kresna Gorge, Stara Kresna Railway Station, 200 m alt., 14.XI.1987; 30.XI.1987; 03.XII.1988, Beshkov leg., 37♂ on a lamp; 09.XI.1991, 1♂; Kresna Gorge, Peyo Yavorov Railway Station, 04.XII.1988. This species was known only from the type material of Kresna Gorge (Type-locality: Stara Kresna Railway Station), from November 1984 (Ganev

1987a) and has never been illustrated in colour. Recently the species has been discovered in Greece. The female is still unknown.

*Nychiodes amigdalaria* Herrich-Schäffer, [1848] - East Rhodopi Mts, Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 3 specimens on 400 W Hg lamp. Known in Bulgaria from Sliven (Buresch & Tuleschkow 1937), Kresna (Ganev 1987b) and Sakar (Beshkov 1992).

### Spingidae

*Dolbina elegans* A. Bang-Haas, 1912 - Black Sea Coast, between Ravda and Nessebar, 2 km. south of Nessebar, 01-02.VIII.1993, Dimitur Vassilev leg., 1♀; East Rhodopi Mts: Mandritza Village, Ivailovgrad Region, 100-150 m., 26.IV.1990 one specimen; Studen Kladenetz Village, 26-27.VII.1990. New for East Rhodopes.

*Rethera komarovi* (Christoph, 1885) - East Rhodopi Mts: Mandritza Village, Ivailovgrad Region, 100-150 m., 26.IV.1990 one specimen; Studen Kladenetz Village, 05.IV.1990, 1♂, I. Stoychev leg. Known before from SW. Bulgaria: Kresna Gorge and Slavyanka (=Alibotush) Mts.

*Sphingonaepiopsis gorgoniades* (Hübner, [1819]) - Bulgarian North Black Sea Coast, SBA (Belija Briag) camping near Touzlata, Balchik Region, between Balchik and Kavarna, 01-06.VII.1993, 1♂ on 400 W Hg lamp in the first minutes of the night. Known in Bulgaria only from a single female specimen, collected 3-4 km west of the forementioned locality (Beshkov 1990).

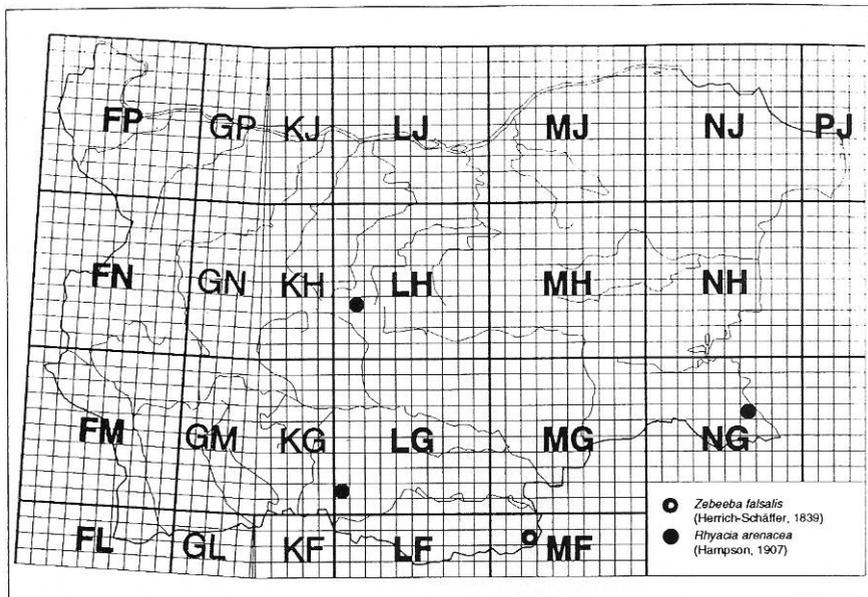


Fig. 1: Map of Bulgaria with localities of *Zebeeba falsalis* (Herrich-Schäffer, 1839) and *Rhyacia arenacea* (Hampson, 1907).

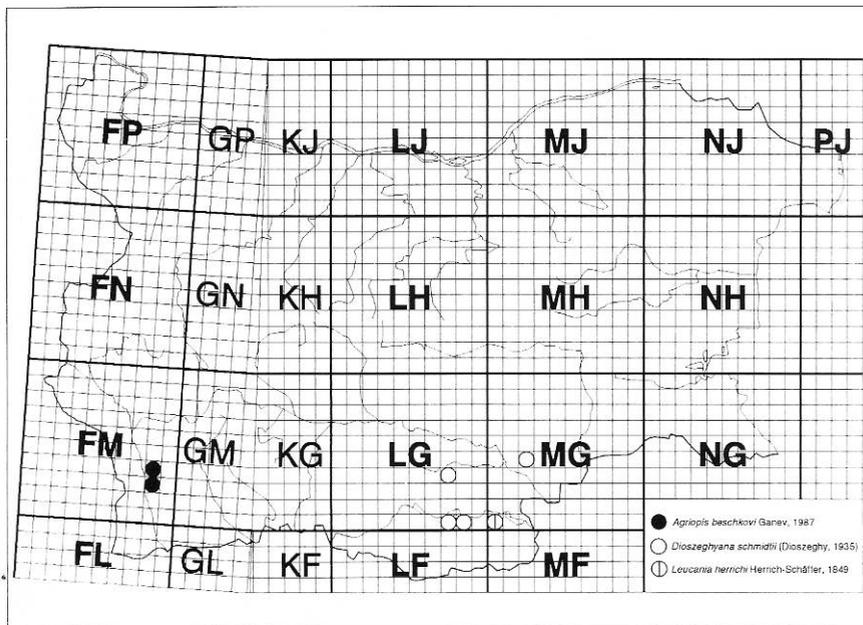


Fig. 2: Map of Bulgaria with localities of *Agriopsis beschkovi* Ganev, 1987, *Dioszeghyana schmidtii* (Dioszeghy, 1935) and *Leucania herrichi* Herrich-Schäffer, 1849.

### Thaumetopoeidae

*Thaumetopoea solitaria* (Freyer, 1838) - East Rhodopi Mts: Yazovir Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 200 m, 30.VIII.1992; Momina Skala Chalet near Madzharovo Town, 01.IX.1992; Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village, 02.IX.1992; SW. Bulgaria, Melnik Town, 350 m, Sandanski Region, 11.IX.1992. Very local species, known from Kresna Gorge, Haskovo, Assenovgrad and Plovdiv (Ganev 1984).

### Lymantriidae

*Ocneria lederi* (Millière, 1869) (= *prolai* Hartig, 1963) - East Rhodopi Mts: Sredna Arda Railway Station, 05.VII.1992; Momina Skala Chalet near Madzharovo Town, 07.VII.1992, 2♂; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 1♀. The species occurs in Central Italy, Sicily, Dalmatia, and the Peloponnissos Peninsula. Previously known only from a single locality in Bulgaria: Kresna (de Freina & Witt 1987).

*Parocneria terebinthi* (Freyer, 1839) - East Rhodopi Mts: Studen Kladenetz Dam, Sredna Arda Railway Station, 16.VI.1993; Momina Skala Chalet near Madzharovo, 20.VI.1993, 1♀. New for East Rhodopi Mts.

### Arctiidae

*Phragmatobia caesarea* (Goeze, 1781) - SW. Bulgaria, Paril Village between S. Pirin and Alibotush (=Slavyanka) Mts, 900 m, 08.V.1993, 3♂ on 400 W Hg lamp.

**Noctuidae**  
**Herminiinae**

*Orectis proboscidata* (Herrich-Schäffer, [1851]) - Rhodopi Mts, Lukovitzta Motel above Assenovgrad Town, 400 m, 03.X.1986, 1♀ on a lamp; East Rhodopi Mts: Studen Kladenetz Village, 23.VI.1991, 1♂ on a lamp; Momina Skala Chalet, Madzarovo Region, 150 m., 01.IX.1992, 1♂ on a lamp and 1♂ on sugar; Momina Skala Chalet near Madzharovo Town, 22.IX.1994, 5 specimens on a lamp.

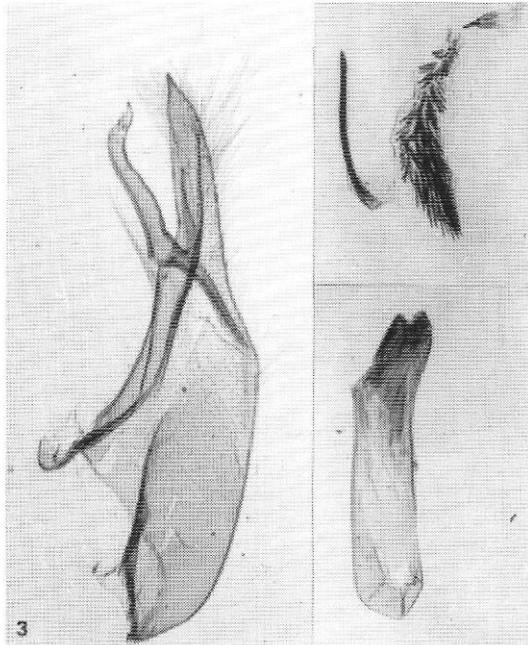


Fig. 3. *Conistra ragusae* (Failla-Tebaldi, 1890), ♂ - East Rhodopi Mts, Yazovir Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 24.XII.1989, Gen. prep. 24./24.I.1990 Beshkov.

**Hypenodinae**

*Schranksia taenialis* (Hübner, [1809]) - Rhodopi Mts Teshel Youth Chalet, Devin Region, 20.VII.1993, on 1500W Wf lamp, 1♂.

**Hypeninae**

*Hypena obesalis* Treitschke, 1829 - West Rhodopi Mts, the Region of Modar Top, Modarska Pester Cave, 1700 m, 26.IX.1994, 3♂ and 2♀, B. Petrov leg.; in the region of Modar Top, Inankaya Cave, 1700 m, 26.IX.1994, B. Petrov observed some specimens. This species has never been reported for the cavian fauna.

*Hypena palpalis* (Hübner, 1796) - East Rhodopi Mts: Studen Kladenetz Village, 21-22.III.1990, 1♂ on a lamp; In the gallery between Madzharovo Town and Borislavtzi Village, 3 km from Madzharovo: 02.IX.1992, 2♀; 23.VII.1993, between 20 to 100 m deep, 11♀ and 3♂.

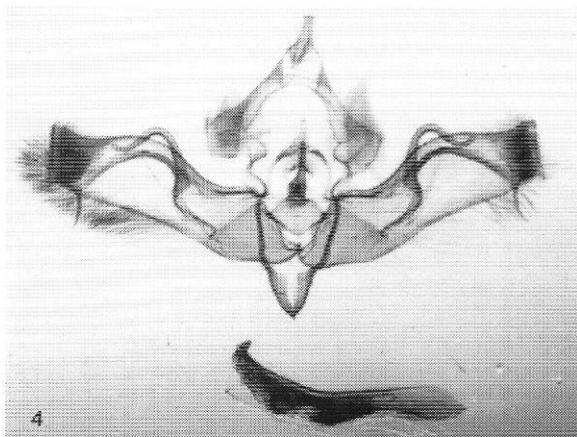


Fig. 4: *Dryobotodes monochroma* (Esper, [1790]), ♂ - East Rhodopi Mts, Momina Skala Chalet near Madzharovo Town, 01.IX.1992, gen prep. 5./14.X.1992 Beshkov.

#### Catocalinae

*Apopestes spectrum* (Esper, [1787]) - South Pirin Mts above Goleshovo Village, Starshelitzka Cave, 1000-1100 m, 20.III.1993, S. Beshkov leg., coll. V. Gastarov.

*Autophila ligaminosa* (Eversmann, 1851) - South Pirin Mts above Goleshovo Village, 1000-1100 m, 20.III.1993, in Starshelitzka Cave; Salievata Pestera Cave near Gospodintzi Village, Gotze Delchev Region, 02.XI.1994, B. Petrov leg. 1♀.

#### Sarrothripinae

*Nycteola siculana* (Fuchs, 1899) - East Rhodopi Mts, Studen Kladenetz Village, 24.II.1990; 26-27.VII.1990, 1♂.

#### Acronictinae

*Acronicta alni* (Linnaeus, 1767) - Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m: 27.VI.1987; 24.VI.1989; 08.VII.1988; Strandzha Mts, "Trakiyski Lager", 27.IV.1990, B. Petrov leg. 1♂. The only certified previous record for Bulgaria is based on one caterpillar from Strandzha (Vihodcevsy 1958). All other records are doubtful.

*Acronicta cuspis* (Hübner, [1813]) - Strandzha Mts, "Trakiyski Lager", 27.IV.1990, B. Petrov leg. 2♂. Known before only from the Volcanic Hill of Kozhuh in SW. Bulgaria.

*Cryphia seladona* (Christoph, 1885) - East Rhodopi Mts: Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 30.VIII.1992; Sredna Arda Railway Station, 20.IX.1994, 1♂ on 400 W Hg lamp; Momina Skala Chalet near Madzharovo Town, 01.IX.1992, 22.IX.1994 1♀ on a lamp; Sakar Mts, "Radinchevo" above Dossiteevo Village, 400 m, 14.IX.1986.

#### Acontiinae

*Zebeeba falsalis* (Herrich-Schäffer, 1839) - (Pl. 2, fig. 2; Fig. 1, map) - East Rhodopi Mts, Siv Kladenetz Village, Ivailovgrad Region, 100 m, 22-23.V.1994, 1♂ at light, Beshkov leg. New genus and a new species for Bulgaria.

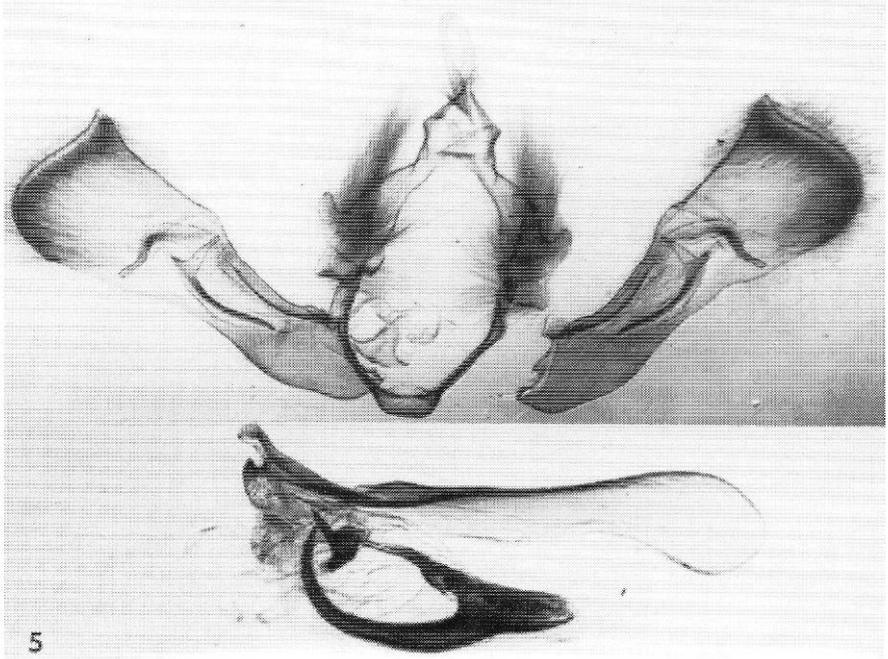


Fig. 5. *Dryobotodes tenebrosa* (Esper, [1789]), ♂ - East Rhodopi Mts, Yazovor Studen Kladenetz Dam, Sredna Arda Railway Station, 13.X.1991, gen. prep. 2./14.III.1992 Beshkov.

**Legend for plate 1** (Beshkov & Vassilev p. 187-192)

Fig. 1. *Cucullia fraterna* Butler, 1878, ♀. N. Bulgaria, 2 km south of Danube river, Nova Tchernav., "Kalimok" experimental station, Tutrakan region, 30.V.1994, D. Vassilev leg., gen. prep. 1./20.IX.1994 Beshkov. (Wingspan 46 mm).

Fig. 2. *Cucullia chamomillae* ([Denis & Schiffermüller], 1775), ♂. Bulgaria, Dragalevtzi v. near Sofia, 720 m, 20.IV.1987, Beshkov leg. (Wingspan 43 mm).

Fig. 3. *Cucullia fraterna* Butler, 1878, ♂. N. Bulgaria, 2 km south of Danube river, Nova Tchernav., "Kalimok" experimental station, Tutrakan region, 13.V.1994, D. Vassilev leg., gen. prep. 4./5.VIII.1994 Beshkov. (Wingspan 45 mm).

Fig. 4. *Cucullia lactucae* ([Denis & Schiffermüller], 1775), ♂. Bulgaria, Troyanska Stara Planina Mt., Dermenkaya chalet, 1530 m, 24.VI.1989, Beshkov leg. (Wingspan 47 mm).  
(Photos: S. Beshkov).

**Legend for plate 2** (Beshkov p. 201-218)

Fig. 1. *Agriopsis beschkovi* Ganev, 1987, ♂. SW. Bulgaria, Kresna Gorge, Stara Kresna Railway Station, 200 m, 03.XII.1988, S. Beshkov leg. on lamp.

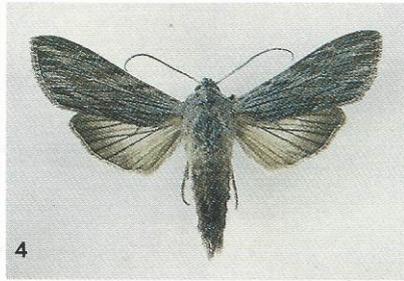
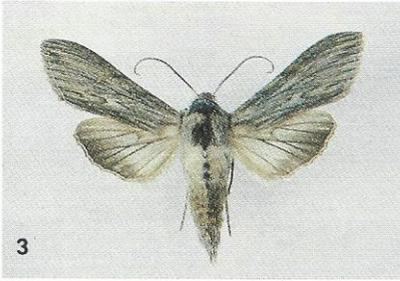
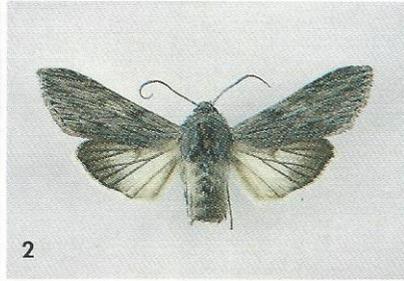
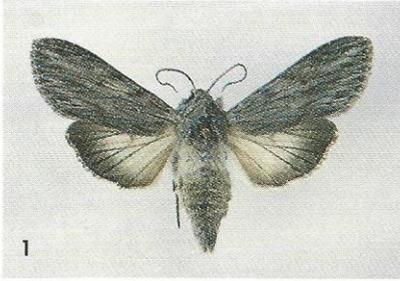
Fig. 2. *Zebueba falsalis* (Herrich-Schäffer, 1839), ♂. Bulgaria, East Rhodopi Mts, Siv Kladenetz Village, Ivailovgrad Region, 100 m, 22-23.V.1994, S. Beshkov leg. on lamp.

Fig. 3. *Leucania herrichi* Herrich-Schäffer, 1849, ♀. Bulgaria, East Rhodopi Mts, Momina Skala Chalet near Madzharovo Town, 200 m, 01.IX.1992, S. Beshkov leg. on lamp.

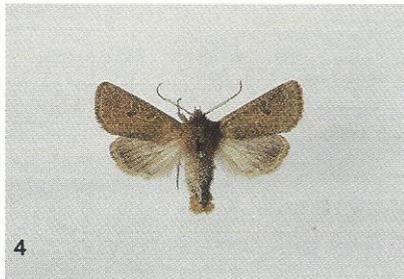
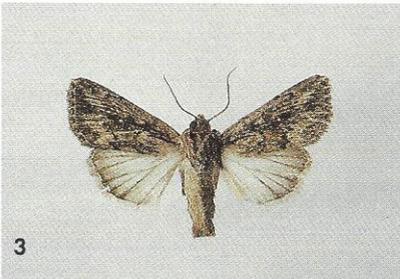
Fig. 4. *Dioszeghyana schmidti* (Dioszeghy, 1935), ♂. East Bulgaria, Sakar Mts, Radinchevo above Dossiteevo Village, Harmanli Region, 400 m, 20.III.1994, S. Beshkov leg. on lamp.

(Photos: S. Beshkov).

**Plate 1**



**Plate 2**



### Cuculliinae

*Cucullia santonici* (Hübner, [1813]) - Rhodopi Mts, Martziganitza Chalet, 24.VII.1994, R. Radev leg., coll. V. Gastarov.

*Cucullia prenanthis* Boisduval, 1850 - SW. Bulgaria, Paril Village between S. Pirin Mts and Alibotush (=Slavyanka) Mts 900 m, 08.V.1993 on 400W Hg lamp.

*Cucullia celsiae* Herrich-Schäffer, 1850 - East Rhodopi Mts, Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village. 05.IV.1992, 1♀ on 400W Hg lamp.

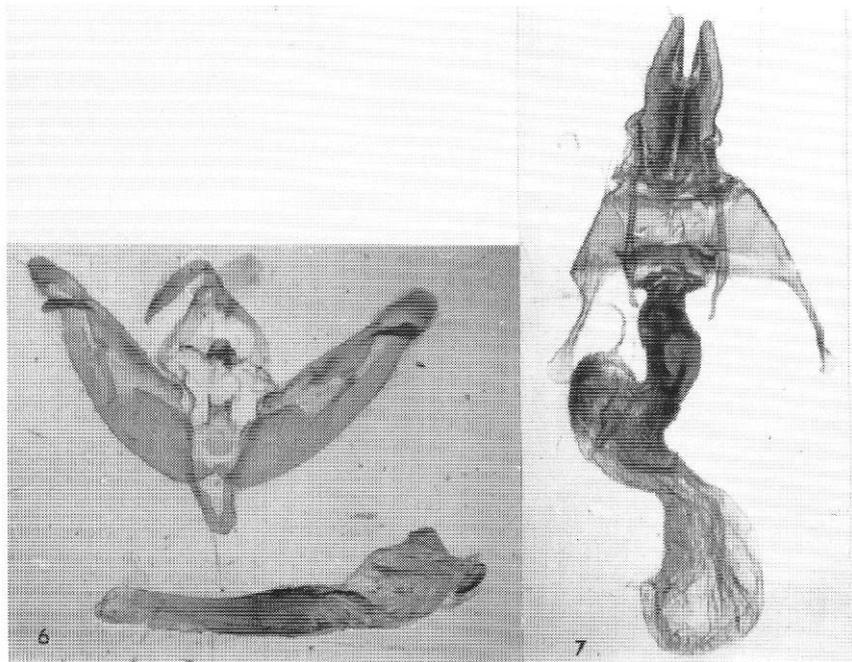


Fig. 6. *Gorytna moesiaca* Herrich-Schäffer, 1849, ♂ - East Rhodopi Mts, Yazovir Studen Kladenetz Dam, Sredna Arda Railway Station, 13.X.1991, gen. prep. 1./27.IV.1993 Beshkov.

Fig. 7. *Gorytna moesiaca* Herrich-Schäffer, 1849, ♀ - East Rhodopi Mts, Studen Kladenetz Village, 21.X.1990, gen. prep. 2./20.IV.1993 Beshkov.

*Copiphana olivina* (Herrich-Schäffer, 1852) - East Rhodopi Mts, Yazovir Ivailovgrad Dam, Arda Chalet, Dabovetz Region, 26.V.1990; 23.VI.1993, 1♂.

*Amephana dalmatica* (Rebel, 1919) - East Rhodopi Mts: Momina Skala Chalet near Madzharovo, 20.VI.1993, 1♀; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 2 specimens. New for Rhodopes.

*Pyrois cinnamomea* (Goeze, 1781) - S. Black Sea Coast, Sinemoretz Village, 16.X.1994, 1♀ on sugar. New for Black Sea Coast.

*Pyrois effusa* (Boisduval, [1828]) - East Rhodopi Mts, Madzharovo Region, 150 m, 02.IX.1992, 8-10 specimens in gallery, in depth 20-100 m; 20.VI.1993, 1♀ aestivating at a depth of 40-60 m. This species is not known for the fauna of caves and galleries in Bulgaria.

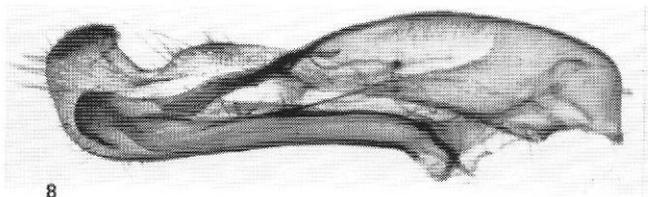


Fig. 8. *Hadenatele luteocincta* (Rambur, 1834), ♂ - West Rhodopi Mts, The Chalet by Smolyanski ezera lakes, 1550 m., 21.VII.1993, gen. prep. 15/30.XI.1993 Beshkov.

*Amphipyra tetra* (Fabricius, 1787) - East Rhodopi Mts: Studen Kladenetz Village, 21.IX.1994, 1♀ on sugar; Momina Skala Chalet near Madzharovo Town, 22.IX.1994, 8 specimens on sugar. New for East Rhodopes.

#### Ipimorphinae

*Pseudoxestia apfelbecki* (Rebel, 1901) - SW. Bulgaria, Melnik Town, Sandanski Region, 11.V.1994, 1 specimen.

*Polyphaenes subsericata* Herrich-Schäffer, [1861] - East Rhodopi Mts: Dzhebel Region, Lebed Village, near the lakes, 29.VIII.1992; Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 30.VIII.1992; Studen Kladenetz Village, 31.VIII.1992; Momina Skala Chalet, Madzharovo Region, 150 m, 01.IX.1992, many specimens on 400 W Hg lamp.

*Auchmis detersa* (Esper, [1787]) - W. Bulgaria, Zemen Gorge, Skakavitza Railway Station, 25.VIII.1994, Ilko Stoychev leg. 1♂ on sugar. The species has never been collected in West Bulgaria before.

*Xanthia cypreago* (Hampson, 1906) - East Rhodopi Mts: above Momchilgrad Town, 23.X.1989 on 300 W petromax lamp; Svezhest Chalet above Krumovgrad Town, 23.X.1989, on a lamp; between Konush and Trakietz, 25.X.1989 on 300W petromax lamp; Studen Kladenetz v, 06.XI.1989, 2♀; Momina Skala Chalet near Madzharovo Town, 07.XI.1989, 3♂ and 1♀ on a lamp; Studen Kladenetz Dam, between Kaloiantzi and Gnjazdovo Village, OSO Sports Center, 200 m, 19.X.1990; Studen Kladenetz Village, 21.IX.1994, on a lamp. New for East Rhodopi Mts.

*Agrochola osthelderi* Boursin, 1951 - East Rhodopi Mts: Studen Kladenetz Village, 21.IX.1994, 1♀ on sugar; Momina Skala Chalet near Madzharovo Town, 22.IX.1994, 1♀ on sugar. In Bulgaria known only from Kresna Gorge in SW. Bulgaria (Ganev & Hacker 1984; Beshkov 1992).

*Agrochola gratiosa* (Staudinger, 1882) - East Rhodopi Mts: Svezhest Chalet above Kroumovgrad Town, 23.X.1989, 1♀ on a lamp; Momina Skala Chalet near Madzharovo Town, 01.IX.1992, 1♀.

*Agrochola deleta* (Staudinger, 1882) - East Rhodopi Mts, Siv Kladenetz Village, Ivailovgrad Region, 18.X.1991, 4♀. Known only from Sakar Mts (Ganev 1987b; Beshkov 1992).

*Spudaea pontica* Kljutschko, 1968 - East Rhodopi Mts, Studen Kladenetz Dam, Sredna Arda Railway Station, 30.III.1991, 1♂; Sakar Mt, above Dossiteevo Village, 20.III.1994, 7 specimens on sugar and 1 on a lamp. Known before only from SW. Bulgaria.

*Conistra ragusae* (Failla-Tebaldi, 1890) - East Rhodopi Mts, Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 24.XII.1989, 1♂ on 400W UV lamp (see fig. 3). Hitherto in Bulgaria only known from Burgass (Ganev 1985).

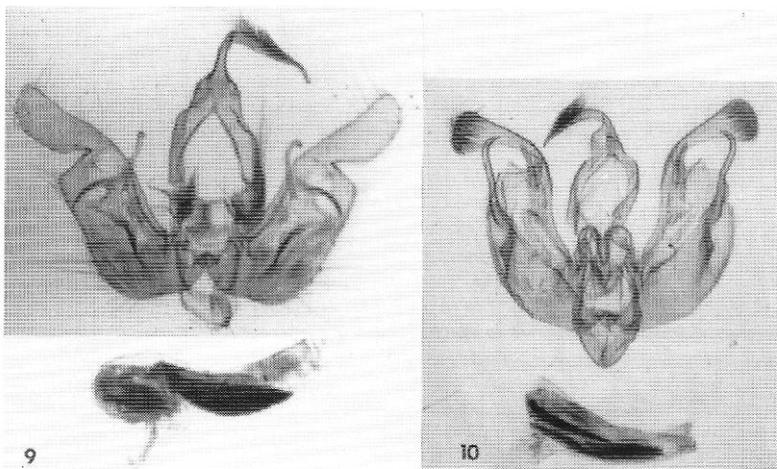


Fig. 9. *Leucania herrichi* Herrich-Schäffer, 1849, ♂ - East Rhodopi Mts, Momina Skala Chalet near Madzharovo Town, 200 m, 01.IX.1992, gen. prep. 3./14.X.1992 Beshkov.

Fig. 10. *Mythimna alopecuri* (Boisduval, 1840), ♂ - Resseletz Chalet, Tcherven Briag Region, 26-29.VII.1993, gen. prep. 14./07.XII.1993 Beshkov.

*Brachionycha nubeculosa* (Esper, 1785) - SW. Bulgaria, Belassitza Mts, Belassitza Chalet, 720 m, 19.V.1991, 1 dead dried ♂ on a window. New for Belassitza Mts.

*Xylena lunifera* (Warren, 1910) - SW. Bulgaria, Kresna Gorge, Stara Kresna Railway Station, 14.XI.1987; East Rhodopi Mts, Svezhest Chalet above Krumovgrad Town, 23.X.1989, 1♂ on lamp; S. Black Sea Coast, Sinemoretz Village, 16.X.1994, 1♂ on a lamp. New for East Rhodopes and Black-Sea Coast.

*Dryobotodes monochroma* (Esper, [1790]) - East Rhodopi Mts, Momina Skala Chalet near Madzharovo Town, 01.IX.1992, 1♂ (see fig. 4).

*Dryobotodes tenebrosa* (Esper, [1789]) - East Rhodopi Mts, Studen Kladenetz Dam, Sredna Arda Railway Station, 13.X.1991, 2♂ (see fig. 5). Previously reported only from SW. Bulgaria.

*Polymixis trisignata* (Ménétriés, 1847) - East Rhodopi Mts: Studen Kladenetz Dam, between Kaloyantzi and Gnyazdovo Village, 14.X.1991, 1♂; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 18.X.1991, about 12-15 specimens. New for East Rhodopes. Previously reported as *Blepharita leuconota* (Herrich-Schäffer, 1850) from Sliven and Sakar Mts.

*Gortyna moesiaca* Herrich-Schäffer, 1849 - East Rhodopi Mts: above Momchilgrad Town, 2-4 km on the way to Raven Village, 23.X.1989 1♂ on 300W petromax lamp; Studen Kladenetz Dam, Sredna Arda Railway Station, 13.X.1991, 1♂ (see fig. 6); Studen Kladenetz Village, 21.X.1990, 1♀ (see fig. 7) and 15.X.1991; Momina Skala Chalet near Madzharovo Town, 16.X.1991.

*Chortodes fluxa* (Hübner, [1809]) - West Rhodopi Mts: Tchairski Ezera Lakes, 1450 m, 21-22.VIII.1992 on 400W Hg lamp; Teshel Youth Chalet, Devin Region, 20.VII.1993, 1♂ on 1500W Tungsten lamp.

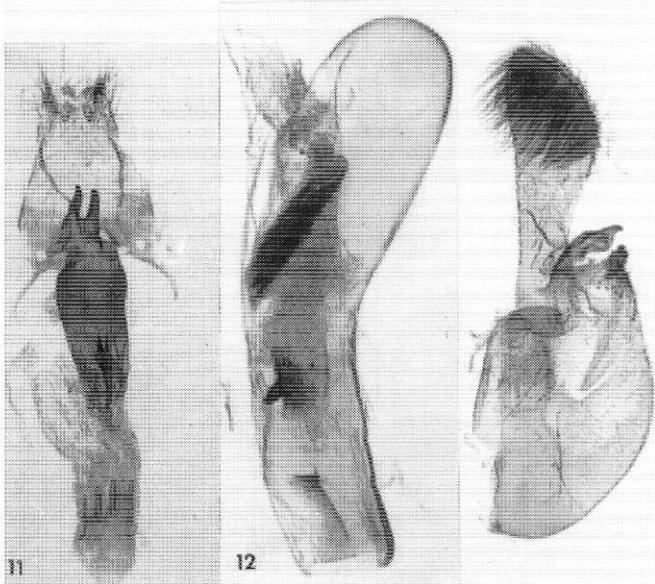


Fig. 11. *Dioszeghyana schmidtii* (Dioszeghy, 1935), ♀ - East Rhodopi Mts, Motel Kenana near Haskovo, 25.IV.1988, gen. prep. 1./20.V.1993 Beshkov.

Fig. 12. *Dioszeghyana schmidtii* (Dioszeghy, 1935), ♂ - East Rhodopi Mts, Yazovir Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 24.III.1990, gen. prep. 3./20.V.1993 Beshkov.

### Hadeninae

*Discestra mendax* (Staudinger, 1879) - East Rhodopi Mts: Momina Skala Chalet near Madzharovo, 20.VI.1993, 1♀; Siv Kladenetz Village near Mandritza, Ivailovgrad Region, 21-22.VI.1993, 5 specimens; Arda Chalet, Dabovetz Region, 26.V.1990, 1♀; 23.VI.1993, 2♂ and 2♀.

*Lacanobia splendens* (Hübner, [1808]) - Radnevo Town, Stara Zagora Region, 28.IV.1989, 1♂. Known in Bulgaria from one locality only: "Kastrakli" Natural Reserve in W. Rhodopi Mts, 1100 m (Slivov 1984).

*Hadena luteocincta* (Rambur, 1834) - West Rhodopi Mts, The Chalet by Smolyanski Ezera Lakes, 1550 m, 21.VII.1993 on 1500W Tungsten lamp, 1♂ (see fig. 8).

*Hadena syriaca* (Osthelder, 1933) - Bulgarian North Black Sea Coast, SBA (Belija Briag) camping near Touzlata, Balchik Region, between Balchik and Kavarna, 01.V.1989, 2 specimens. In Bulgaria known only from the southern part of the country.

*Leucania herrichi* Herrich-Schäffer, 1849 - (Pl. 2, fig. 3, Fig. 2, map) East Rhodopi Mts, Momina Skala Chalet near Madzharovo Town, 200 m, 01.IX.1992, 1♂ (see fig. 9) and 2♀ on a lamp. New species for Bulgaria. In Europe only known previously from Greece (Hacker 1989).

*Mythimna anderreggii* (Boisduval, 1840) - Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m, 27.VI.1987, 11 specimens, 24.VI.1989, several specimens; Rila Mts, Kirilova (=Partizanska) Polyana, 1600 m, 22.VII.1989, 1♀ on 400W Hg lamp; Kaloferska Stara Planina Mts, Botev Top, 2376 m, 19.VII.1994 on 400W Hg lamp. New for Stara Planina Mts.

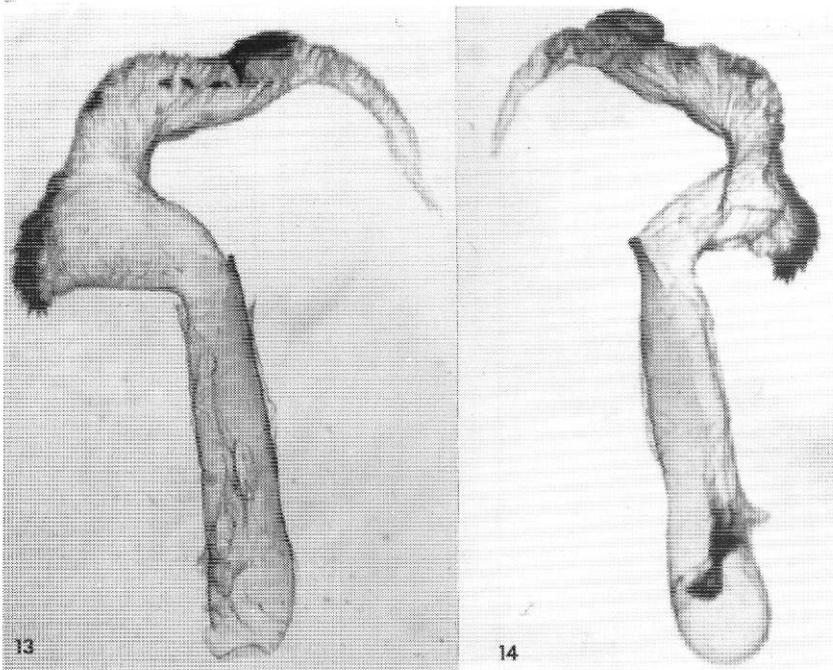


Fig. 13. *Rhyacia simulans* (Hufnagel, 1766), ♂, everted vesica - Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m, 08.VIII.1988, gen. prep. 14./25.X.1994 Beshkov.

Fig. 14. *Rhyacia simulans* (Hufnagel, 1766), ♂, everted vesica - Sadovetz Village near Pleven Town, in a cave, 09.VII.1990, gen. prep. 3./25.X.1994 Beshkov.

*Mythimna alopecuri* (Boisduval, 1840) (= *Mythimna pseudoalopecuri* De Laever, 1984) - Resseletz v, Resseletz Chalet, Tcherven Briag Region, 26-29.VII.1993, 2♂ (see fig. 10), and 2♀ on 1500W Tungsten lamp. Known from West Bulgaria: Skakavitza Railway Station in Zemen Gorge and "Rupite" near Petrich in SW. Bulgaria.

*Dioszeghyana schmidtii* (Dioszeghy, 1935) - (Pl. 2, fig. 4, Fig 2, map) - East Rhodopi Mts: Kenana Motel near Haskovo, 25.IV.1988, many female specimens; Studen Kladenetz Village, 02.IV.1990, 1♀, B. Petrov leg., 04.-07.IV.1990, I. Stoychev leg. 1♀, 23-24.IV.1990, 1♀, Beshkov leg; Studen Kladenetz Dam, Kroyatzi Hunt Chalet, 24.III.1990, 2♂ and 1♀. East Bulgaria, Sakar Mts, Radinchevo above Dossiteevo Village, Harmanli Region, 400 m, 20.III.1994, 8♂ on lamp, Beshkov leg. New genus and new species for Bulgaria. Occurs in Czechia, Slovakia, Hungary, Romania, Greece and West Turkey (Hacker 1989; Hreblay 1993).

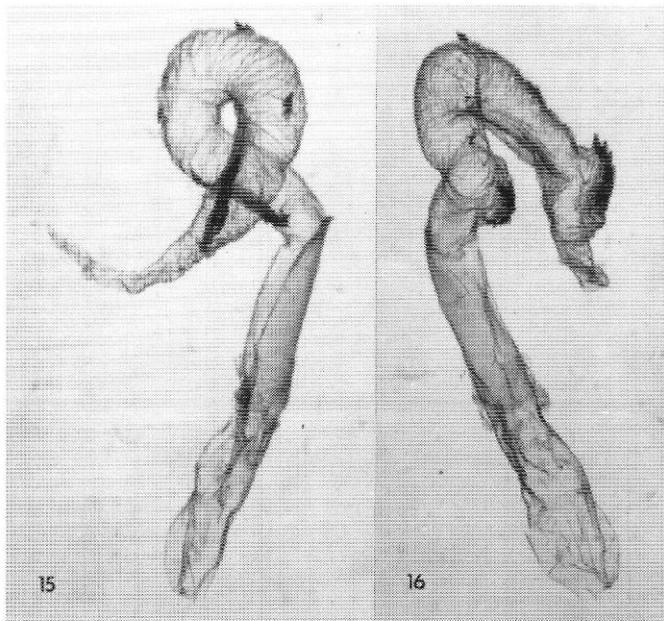


Fig. 15. *Rhyacia arenacea* (Hampson, 1907), ♂, everted vesica - W. Rhodopi Mts, Smolyanski Ezera Chalet, 1550 m, 26.VII.1986, gen. prep. 4./25.X.1994 Beshkov.

Fig. 16. *Rhyacia arenacea* (Hampson, 1907), ♂, everted vesica, reverse - W. Rhodopi Mts, Smolyanski Ezera Chalet, 1550 m, 26.VII.1986, gen. prep. 4./25.X.1994 Beshkov.

#### Noctuinae

*Rhyacia arenacea* (Hampson, 1907) (Fig. 1) - Carevo (Michurin), 01.VII.1973, leg. Z. Lastuvka, coll. M. Fibiger, M. Fibiger det. (pers. comm. M. Fibiger 12. X. 1994); Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m, 21.IX.1987 1♂, Beshkov leg.; W. Rhodopi Mts, Smolyanski Ezera Chalet by Smolyanski Ezera lakes, 1550 m, 26.VII.1986 1♂, Beshkov leg., (figs 15-17). On the Balkan Peninsula *Rhyacia arenacea* is only known from a single locality in Greece (Fibiger 1993). In Europe it is also known from Russia and Ukraine. According to Fibiger (1993) it would be possible to find *Rhyacia arenacea* in other European countries too: Romania, Czechia, Slovakia, Poland, other parts of the former USSR, and as far as the Baltic countries and Finland. The reason why *Rhyacia arenacea* is so badly known in Europe lies in the fact that it can only be well differentiated from the closely related species *Rhyacia simulans* (Hufnagel, 1766) by studying its genitalia. In the male genitalia the main difference is in the shape and the structures of the everted vesica. The vesica of *Rhyacia simulans* (see figs 13-14) has a dorsal basal bulb bearing a large spine-field with large spines. In *Rhyacia arenacea* the everted vesica (see figs 15-16) has no dorsal basal bulb, the spine-field is smaller and has small spines. The vesica of *Rhyacia simulans* is U-shaped, twisted in one level; in *Rhyacia arenacea* it does not lie in one plane and is twisted over 270°. Differences in the female genitalia of *Rhyacia simulans* (see fig. 18) and *Rhyacia arenacea*, as well as the male genitalia are discussed in detail in Fibiger (1993).

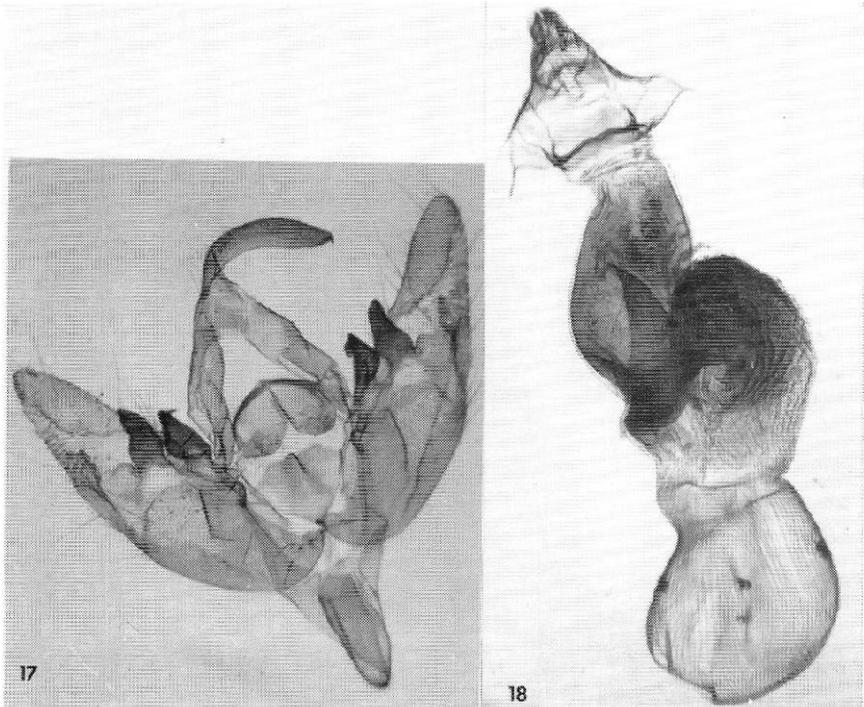


Fig. 17. *Rhyacia arenacea* (Hufnagel, 1766), ♂, - W. Rhodopi Mts, Smolyanski Ezera Chalet, 1550 m., 26.VII.1986, gen. prep. 4./25.X.1994 Beshkov.  
 Fig. 18. *Rhyacia simulans* (Hufnagel, 1766), ♀ - Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m., 24.VI.1989, gen. prep. 11./25.X.1994 Beshkov.

After examination of the genitalia of the Bulgarian material of *Rhyacia simulans/arenacea* in the collection of the author, *Rhyacia simulans* (Hufnagel, 1766) could be established for the following localities: Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m, 24.VI.1989, ♂ (see fig. 19) and ♀ (see fig. 18), Beshkov leg.; Idem, 27.VI.1987, ♀; Idem, 08.VIII.1988, ♀ and ♂ (see fig. 13); Sadovetz Village near Pleven Town, aestivating in a cave, 09.VII.1990, ♂ (see fig. 14), Beshkov leg.; Kaloferska Stara Planina Mts, Botev Top, 2376 m, 19.VII.1994, ♂, Beshkov leg.; Bessaparian hills, above Isparihovo Village, Pazardzhik Region, 300 m, 30.IX.1984, ♀, Beshkov leg.; Rila Mts, Mussala Chalet, 2400 m, 28.VIII.1987, ♂, Beshkov leg. Both species: *Rhyacia simulans* and *Rhyacia arenacea* are sympatric in Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m.

*Naenia typica* (Linnaeus, 1758) - Rhodopi Mts, Teshel youth Chalet, Devin Region, 20.VII.1993, 1♂ on 1500W Wf lamp.

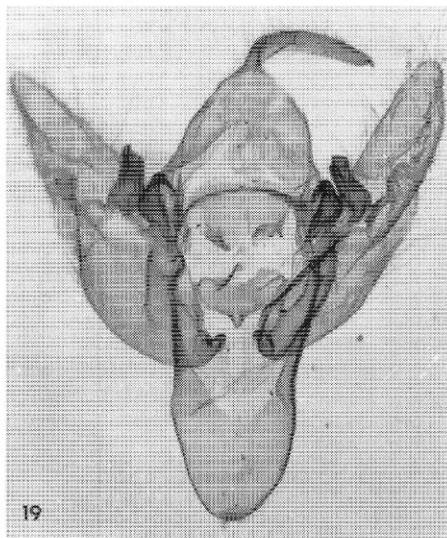


Fig. 19. *Rhyacia simulans* (Hufnagel, 1766), ♂ - Troyanska Stara Planina Mts, Dermenkaya Chalet, 1530 m., 24.VI.1989, gen. prep. 2./25.X.1994 Beshkov.

*Euxoa agricola* (Boisduval, 1829) - Sopharma Camping, Kyustendil Region, 18.IX.1994, V. Gastarov leg., 1♀. Known in Bulgaria from: Rila Mts, Mussala Chalet, 2400 m.; Black-Sea Coast, Balchik (Beshkov 1992), Alibotush (=Slavyanka) Mts, 1500-2100 m (Buresch & Tuleschkow 1932) and Stara Planina Range, Botev Top, 2376 m (Bocharov 1959).

#### Acknowledgments

I would like to express my sincere gratitude to Mr Ilko Stoychev and Mr Michail Viktorov (both from Sofia) for the invaluable assistance in preparing the photos of genitalia as well as to Mr Stanislav Abadjiev (also from Sofia) for the UTM maps used in this work.

#### References

- Abadjiev, S. 1992. *Butterflies of Bulgaria*, Part 1, Papilionidae & Pieridae. Veron Publishers, Sofia, 91 pp.
- Abadjiev, S. 1993. *Butterflies of Bulgaria*, Part 2. Nymphalidae: Libytheinae & Satyrinae. Veron Publishers, Sofia, 127 pp.
- Beshkov, S. 1990. *Sphingonaepiopsis gorgoniades* (Hübner [1819]) (Lepidoptera: Sphingidae) - a new genus and a new species for the Bulgarian fauna. - *Acta zool. bulg.* **40**: 75-77.
- Beshkov, S., 1992. Faunistic advances on Bulgarian Lepidoptera. - *Boll. Ass. Romana Entomol.* **46**: 37-56.
- Bocharov, S. 1959. Neue und seltene Schmetterlingsarten aus der Fauna Bulgariens. - *Bull. Inst. Zool. Acad. Sci. Bulgarie* **8**: 53-74.
- Buresch, I. & K. Tuleschkow, 1932. Die horizontale Verbreitung der Schmetterlinge in Bulgarien. III(1). Teil: Noctuides. - *Mitt. Kgl. Naturwiss. Inst. Sofia* **5**: 67-144.
- Fibiger, M. 1993. Noctuidae II. *Noctuidae Europeae*. Vol. 2. 230 pp. Sorø.
- Fibiger, M. & H. Hacker. 1990. Systematic List of the Noctuidae of Europe. - *Esperiana* **2**: 1-109.
- Fibiger, M. & H. Hacker. 1992. Systematic List of the Noctuidae of Europe. Corrigenda et Addenda I. - *Esperiana* **3**: 507-511.
- Freina, J.J. & T.J. Witt. 1987. *Die Bombyces und Sphinges der Westpalaearktis (Insecta, Lepidoptera)*, Bd. 1. Forschung & Wissenschaft, München, 708 pp.

- Ganev, J. 1984. Catalogue of the Bulgarian Bombyces and Sphinges (Lepidoptera). - *Entomofauna* **5** (33/1;2): 391-467.
- Ganev, J. 1985. Ein Beitrag zur Noctuidenfauna auf der Balkanhalbinsel. *Chersotis cuprea jordanovi* Touleshkov syn.n. und *Conistra ragusae* Fails Tedaldi eine neue Art für die Bulgarische Fauna. - *Nota lepid.* **8**: 129-130.
- Ganev, J. 1987a. Eine neue Geometriden-Arten aus Bulgarien, *Agriopis beschkovi* sp.n. (Lepidoptera, Geometridae, Boarmiinae). - *Entomofauna* **8** (18): 273-275.
- Ganev, J. 1987b. New contribution to the studies on Lepidoptera-Heterocera. - *SHILAP Revta Lepid.* **15**: 99-104.
- Ganev, J. & S. Beschkov, 1987. Records of Macrolepidoptera from Bulgaria (Lepidoptera). - *Phegea* **15** (2): 113-117.
- Ganev, J. & H. Hacker, 1984. *Agrochola osthelderi* Boursin, 1951 eine neue Art für Europa (Lepidoptera, Noctuidae, Cuculliinae). - *Articulata* **2** (5): 104-105.
- Hacker, H. 1989. Die Noctuidae Griechenlands. Mit einer Übersicht über die Fauna des Balkanraumes (Lepidoptera, Noctuidae). - *Herbipoliana* **2**. Eitschberger, Markleuthen, 589 + XII pp.
- Hacker, H. & L. Ronkay 1993. Das Genus *Polymixis* Hübner, [1820] mit Beschreibung neuer Taxa und Festlegung neuer Stati (Lepidoptera: Noctuidae). - *Esperiana* **3**: 473-496.
- Hreblay, M. 1993. Neue Taxa aus der Gattung *Orthosia* Ochseneimer, 1816 (s.l.) II. (Lepidoptera, Noctuidae) - *Acta Zoologica Hungarica* **39** (1-4): 71-90.
- Leraut, P. 1980. Liste systématique et synonymique des Lépidoptères de France, Belgique et Corse. - Supplément à *Alexanor*. Paris.
- Slivov, A. 1984. New and Rare Butterfly Species of Family Noctuidae (Lepidoptera) in the Bulgarian Fauna. - *Acta Zoologica Bulgarica* **25**: 56-66.
- Vihodevsky, N. 1958. Nouveaux et rares papillons pour la faune de la Bulgarie. - *Bull. Inst. Zool. Acad. Sci. Bulgarie* **7**: 357-365.
- Wolf, W. (Redaktion) 1988. Arbeitsgemeinschaft Nordbayerischer Entomologen: Prodrum der Lepidopterenfauna Nordbayerns. - *Neue Entomologische Nachrichten* **23**: 1-159.