

## Contribution to the knowledge of the Macrolepidoptera fauna of the “Strandzha” Natural Park, SE Bulgaria

(Lepidoptera, Macrolepidoptera)

by

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**Abstract:** The genus *Pachycnemis* STEPHENS, 1829 and two species belonging to it: *Pachycnemis hippocastanaria* (HÜBNER, [1799]) and *Pachycnemis tibiaria* (RAMBUR, 1829) are reported as new for the Bulgarian fauna. Both species are numerous but established in a single locality only. *Idaea infirmaria* (RAMBUR, 1833) is new to the Bulgarian fauna, it is syntopic to the species above. *Nola ronkayorum* BESHKOV, 2006 up to now was known only from the type material. Many other species [*Pieris ergane* (GEYER, 1828), *Melitaea arduinna rhodopensis* FREYER, [1836], *Rhoptria asperaria* (HÜBNER, 1817), *Hydraecia micacea* (ESPER, [1789]), *Naenia typica* (LINNAEUS, 1758), etc.] are new for the Strandzha Mts or for the Black Sea Coast, the rest of the reported species are rare and known from very few localities in the country or were not reported before from Strandzha. Conservation status and the importance of the species reported are presented.

**Introduction:** “Strandzha” Natural Park is situated in the Bulgarian part of Strandzha Mts, SE Bulgaria and covers as well part of the costal area of the Black Sea in Bulgaria. In 2008 “Strandzha” Natural Park was visited 4 times from April to October. Each visit lasted 5 days, respectively 4 nights. To cover a larger territory, each night during these 5 days visits, we collected in a different locality. During all these 4 visits observations on the butterflies were carried out and moths were collected, using different methods: Light tower with 160W MVL combined with 18W and 8W black tubes powered by generator. More intensively the costal areas were explored because of the intentions of the local authorities of the Tzarevo Municipality to build there more and more resorts and infrastructure, which can destroy the rest of the natural habitats of many important species. Once the same area was visited for 4 days in early May, 2009.

Together with the light tower, but in distance and in another habitat, we used one 15W “actinic light” trap, powered by 12V battery, one light trap with two 8W black light tubes also powered by 12V battery and another 8W “black light” light trap, powered by another 12V battery. All light traps run all over the nights. During two of the trips we used sugar ropes on the bushes. GPS coordinates of all collecting localities were taken and they are included in the species list. During all these four visits, single nights were spent collecting in “Popovi Skali” near Velika Village, an area which did not belong to the Park yet, but will follow to be added to the Park.

The collected material is part of the author’s collection in the NMNHS. Some of the species were identified by genital dissections.

“Strandzha” is a Prime Butterfly Area in Bulgaria (ABADJIEV & BESHKOV, 2007) with 13 target species (one additional is reported here) and unic species composition. This 13 target butterfly

species together with 17 rare moth species are reported in the publication quoted above, however without localities.

### NATURA 2000 species established in the “Strandzha” Natural park

EC Habitat Directive 92/43, Annex II. – animal and plant species of common interest whose conservation requires the designation of special areas of conservation. An asterisk (\*) before the name of a species indicates that the species is a priority species; (o) – species not included in appendices IV and V.

*Lycaena dispar* (HAWORTH, 1802)

*Euphydryas aurinia* (ROTTEMBURG, 1775)

\**Euplagia quadripunctaria* (PODA, 1761) (o)

*Lycaena dispar* (HAWORTH) previously was known from Malko Turnovo, Sinemoretz and Ahtopol. During our investigations we found it only near Veleka River near Sinemoretz Village. Taking into account the habitats of the species and their vulnerability, as well as that we registered the species only once in a single locality, we consider *Lycaena dispar* (HAWORTH) as endangered species.

*Euphydryas aurinia* (ROTTEMBURG, 1775) is for the first time reported from Strandzha and Black Sea Coast in “Prime Butterfly Areas in Bulgaria” (ABADJIEV & BESHKOV, 2007), but without localities. The only published locality is deep in the mountain - Tsarnogorovo place near Malko Tarnovo Town, 320 m (ZLATKOV & BESHKOV, 2008). During our investigations we found the species in several localities which are reported here, some of them with their GPS coordinates. *Euphydryas aurinia* (ROTT.) was established as larvae and as imago. Larvae were found on *Succisa pratensis*. We consider the species as critically endangered in the coastal areas because of the small size of the natural habitats, the anthropogenic pressure and fragmented habitats.

*Euplagia quadripunctaria* (PODA) was previously reported for Ahtopol (BURESCH & TULESCHKOW, 1943), but without additional data. Our previous data are from Bosna Ridge: Draganova Niva between Kalovo and Byala Voda villages, N42°09'60"; E027°31'48" and between Krushevetz and Izgrev villages, N42°19'28"; E027°30'25" Here, *E. quadripunctaria* (PODA) is reported from two more localities with GPS coordinates. We consider the species as critically endangered in the coastal areas because of the small size of the natural habitats, the anthropogenic pressure and fragmented habitats. Each of the reports is based on a single specimen only.

### Other important Lepidoptera species and their conservation importance

Target species from “Prime Butterfly Areas in Bulgaria”: *Thymelicus acteon* (ROTTEMBURG, 1775), *Heteropterus morpheus* (PALLAS 1771), *Zerynthia polyxena* ([DENIS & SCHIFFERMÜLLER], 1775), *Par-nassius mnemosyne* (LINNAEUS, 1758), *Pieris ergane* (GEYER, 1828) (for the first time reported from Strandzha here), *Lycaena ottomanus* (LEFEBVRE, 1830), *Glaucopteryx alexis* (PODA, 1761), *Maculinea arion* (LINNAEUS, 1758), *Apatura metis* FREYER, 1829, *Nymphalis xanthomelas* (ESPER, 1781), *Melitaea trivialis* ([DENIS & SCHIFFERMÜLLER], 1775), *Brenthis hecate* ([DENIS & SCHIFFERMÜLLER], 1775).

Important moth species established in Strandzha and included in “Prime Butterfly Areas in Bulgaria” are: *Lasiocampa grandis* (ROGENHOFER, 1891), *Moma alpium* (OSBECK, 1778), *Acronicta alni* (LINNAEUS, 1767), *Acronicta cuspidata* (HÜBNER, [1813]), *Acronicta strigosa* ([DENIS & SCHIFFERMÜLLER], 1775), *Schrankia taenialis* (HÜBNER, [1800.1809]), *Clytie syriaca* (BUGNION, 1837), *Dysgonia*

*torrida* (GUENÉE, 1852), *Euchalcia modestoides* POOLE, 1989, *Mycteropus puniceago* (BOISDUVAL, 1840), *Janthinea frivaldskii* (DUPONCHEL, 1835), *Praestilbia armeniaca* STAUDINGER, 1892, *Rileyiana fovea* (TREITSCHKE, 1825), *Calophasia platyptera* (ESPER, [1788]), *Amphipyra stix* HERRICH-SCHÄFFER, 1850, *Amphipyra micans* (LEDERER, 1857), *Agrotis vestigialis* (HUFNAGEL, 1766).

In the following table the new species are not included for Bulgaria. The species list and their conservation status follows BESHKOV & ZLATKOV (2007).

Species/status	EC 92/43	IUCN	Bern	CITES	EU Red Book	COR INE	RD BE B	PBA	BPA	End em.	BBD	rare
<i>Lasiocampa grandis</i>						*						+
<i>Saturnia pyri</i>					+	+						
<i>Perisomena caecigena</i>									+			
<i>Lemonia balcanica</i>										SE		
<i>Kentrochrysalis elegans</i>						*						+
<i>Proserpinus proserpina</i>	IV	DD	II		+	+			+			+
<i>Heteropterus morpheus</i>						+			+			+
<i>Parnassius mnemosyne</i>	IV		II		+	+		+	+			
<i>Zerynthia polyxena</i>	IV		II		+	+		+	+			
<i>Zerynthia cerisy ferdinandi</i>						*				BL	+	
<i>Pieris ergane</i>						+		+				+
<i>Lycaena dispar</i>	II, IV								+			
<i>Lycaena ottomanus</i>		VU A1ac				*	+	+		SE		+
<i>Glaucopsyche alexis</i>							+	+				
<i>Maculinea arion</i>	IV	LR/nt	II		+	+	+	+	+			
<i>Apatura metis</i>	IV		II		+	+		+	+			+
<i>Euphydryas aurinia</i>	II								+			
<i>Melitaea trivialis</i>						+		+				
<i>Melitaea britomartis</i>						+	+	+				+
<i>Melitaea arduinna rhodopensis</i>						*				SE	+	+
<i>Brenthis hecate</i>						+		+				
<i>Nymphalodes waltheri</i>												+
<i>Abrostola clarissa</i>												+
<i>Calophasia platyptera</i>						*						+
<i>Panemeria tenebromorpha</i>										BL		+
<i>Mycteropus puniceago</i>												+
<i>Janthinea frivaldskii</i>										SE		+
<i>Nola vonkayorum</i>										SE		+
<i>Euplagia quadripunctaria</i>	II								++			

Abbreviations:

EC 92/43 Habitat Directive, Annex II: - animal and plant species of common interest whose conservation requires the designation of special areas of conservation.

IUCN – the International Union for Conservation of Nature

Bern - Bern Convention, Appendix II

CITES – Washington Convention

EU Red Book – United Nation

CORINE - CORINE BIOTOPES, main list +; \* - offered and used for Bulgaria

RDBEB – Red Data Book of European Butterflies

PBA - Prime Butterflies Area in Bulgaria, target species

BPA – Biodiversity Protection Act, appendices 2 and 3

Endem. – Endemics and Subendemics: BL (Balkan); B (Bulgarian); SE (subendemics)  
BBD – Bulgaria's Biological Diversity, Conservation Status and Needs Assessment.  
Rare – rare species with very few localities in Bulgaria and with very few localities in Europe outside Bulgaria

Important Lepidoptera areas in Strandzha:

Judging the recent gained data, we are convinced that “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280m, N42°05'32”; E027°47'23” (col. pl. 1: 1-2) must be considered as a most interesting, and important species rich habitat. From there we can report one new genus and three new species for the Bulgarian fauna and some other rare species (*Panemeria tenebromorpha* RAKOSY, HENTSCHOLEK & HUBER, 1996, *Nola ronkayorum* BESHKOV, etc.). One of the new species also occurs in another locality: Popovi Skali near Velika Village. The second important place is Popovi Skali near Velika Village (col. pl. 1: 3-4). Only from there and from “Pirena” in Bulgaria *Idaea infirmaria* (RAMBUR) is known. In Bulgaria *Rhoptria asperaria* (HBN.) was known only from Varna (KARNOSCHITZKY, 1954). During our investigations it was confirmed for Bulgaria from Strandzha, where it is numerous in “Pirena” and Popovi Skali. *Nola ronkayorum* BESHKOV until now is restricted to the Eastern Rhodopes, Ropotamo Park and two localities in Turkey. The third important locality is Veleka River near Sinemoretz Village (col. pl. 1: 5). The humid forest and areas around the river is a habitat of *Dolbina elegans* (A. BANG-HAAS), and *Craniophora pontica* (STGR.), where they are abundant. Other interesting species are *Comibaena neriaria* (H.-S.), *Hydraecia micacea* (Esp.), *Naenia typica* (L.) and *N. ronkayorum* BESHKOV. During our investigations there, we collected *Pyrois cinnamomea* (GOEZE), *Amphipyra stix* H.-S., *Xylena lunifera* (WARREN, 1910), *Calophasia platyptera* (Esp.), etc.

On the costal area our investigations only were on the butterflies. The habitats there are strongly fragmented and destroyed. Most important is the area around so called “Zlatnata Perla” near Varvara Village, where are registered *E. aurinia* (ROTT.) and *M. arduinna rhodopensis* FREYER flying together.

From the humid inverted forests of *Fagus orientalis*, mixed with *Rhododendron ponticum* and *Laurocerasus officinalis* (col. pl. 1: 6), very few Lepidoptera species are known, of which most are boreal. In spite of its southern position in the country, the majority of the Lepidoptera fauna of Strandzha is boreal. In very low altitude there are many species with a mountain distribution in the other parts of Bulgaria. Exceptions are the highest parts of some of the hills, where the vegetation is xerothermic (*Quercus*, *Cystus*, *Phyllirea*, *Erica arborea*, *Calluna vulgaris*) (col. pl. 2: 7). In such places the Lepidoptera fauna is mingled with many Mediterranean elements. This can be explained with the unusual kind of the forests in Strandzha: In the valleys it is cold, humid and few sunshine, the forests there are composed by *Fagus orientalis* with *Rhododendron ponticum* and *Laurocerasus officinalis*; back, on the top of the hills the vegetation is xerothermic with *Quercus*, *Carpinus orientalis*, etc.

#### List with selected species established in Strandzha

29 species are with conservation status (see the table above). The genus *Pachycnemia* is new for the Bulgarian fauna. The species *P. hippocastanaria* (HBN.) and *P. tibiaria* (RAMBUR) and *I. infirmaria* (RAMBUR) are new for the Bulgarian fauna. These three species are also important for conservation. *Rhoptria asperaria* (HBN.) till now was only known from a single locality in the country.

Many species with conservation value were found for a first time in Strandzha [*P. ergane* (GEYER), *M. arduinna rhodopensis* FREYER, *H. micacea* (ESP.), *N. ronkayorum* BESHKOV, *N. typica* (L.) etc.].

The systematics of the families follow KARSHOLT & RAZOWSKY (1996). The systematics into different families (except for Noctuoidea) mostly follows the different authors in KARSHOLT & RAZOWSKY (1996). The systematic of the Noctuoidea follows FIBIGER & HACKER (2005) and LAFONTAINE & FIBIGER (2006).

#### Psychidae

*Megalophanes viciella orientalis* DIERL, 1977: “Dvata Vrisa” above Brushlyan Village, 370 m, N42°02'10”; E027°25'37”, 29.V.2008.

#### Cossidae

*Dyspessa salicicola* (EVERSMANN, 1848): “Popovi Skali” between Velika and Fazanovo Villages, 40m, N42°09'47”; E027°44'17”, 26.V.2008.

#### Lasiocampidae

*Trichiura crataegi* (LINNAEUS, 1758): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 9.X.2008, 1 ♂, genitalia checked.

*Trichiura verenae* WITT, 1981: According to GANEV (1984: 405) the „Exempliaries [sic] reported from SLIVOV (1976: [42]) for Strandzha mn in X-XI, probably belong to *Trichiura verenae witti* GANEV, 1981, because *Trichiura crataegi* flies in VIII-IX and *Trichiura verenae* in X-XI. There was no possibility to see this material” The present author accepts the opinion of GANEV as correct. *Trichiura crataegi* (L.) however is a species surely proved for Strandzha (see above).

*Eriogaster rimicola* ([DENIS & SCHIFFERMÜLLER], 1775): “Papiya” Hill above Brodilovo Village, 330 m, N42°06'25”; E027°50'33”, 11.X.2008.

*Lasiocampa grandis* (ROGENHOFER, 1891): “Arapya” beach near Tzarevo Village, 31.VIII.2002.

#### Saturniidae

*Saturnia pyri* ([DENIS & SCHIFFERMÜLLER], 1775): “Popovi Skali”, between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 22.IV.2008; the crossroad Kosti Village-Malko Turnovo Town, 320 m, N42°05'36”; E027°44'03”, 25.IV.2008; above Ahtopol Town on the road to Brodilovo Village, 247 m, N42°04'58”; E027°54'15”, 23.IV.2008; “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280m, N42°05'32”; E027°47'23”, 7.V.2009; Veleka River near Sinemoretz Village, 10m, N42°03'35”; E027°57'37”, 30.VII.2009.

*Perisomena caecigena* (KUPIDO, 1825): reported for Strandzha Mts but without any localities there.

#### Lemoniidae

*Lemonia balcanica* (HERRICH-SCHÄFFER, 1847): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 9.X.2008.

#### Sphingidae

*Dolbina elegans* (A. BANG-HAAS, 1912): Veleka River near Sinemoretz Village, 10m, N42°03'35”; E027°57'37”, 30.VII.2008, 11 specimens collected; “Popovi Skali” between Velika and Fazanovo

Villages, 40 m, N42°09'47"; E027°44'17", 1.VII.2009, B. ZLATKOV & R. BEKCHIEV leg.; above Varvara Village, "Sveta Bogoroditza" Chapel, N 42°06'58", E 27°53'13", 3.VII.2009, B. ZLATKOV & R. BEKCHIEV leg.

*Proserpinus proserpina* (PALLAS, 1772): "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 5.V.2009; on the road between Rezovo and Varvara villages, 9.V.2009, R. BEKCHIEV leg.

### Hesperiidae

*Heteropterus morpheus* (PALLAS, 1771): Bosna, between Yasna Polyana Village and the crossroad Malko Turnovo-Tzarevo, 260 m, N42°13'00"; E027°34'30", 13.VI.2005; Bosna, between Yasna Polyana Village and the crossroad Malko Turnovo-Tzarevo, 300 m, N42°12'36"; E027°34'20", 13.VI.2005; after Izgrev Village on the road to Malko Turnovo Town, 113 m, N42°08'02"; E027°47'24", 14.VI.2005; Bosna, "Draganova Niva", before the crossroad to Kalovo Village from Byala Voda Village, 425m, N42°10'47"; E027°30'15", 13.VI.2005; Bosna, "Dimitrieva Tcheshma", 1 km from Kalovo Village to the crossroad Bosna-Vizitza Village, 377 m, N42°08'47"; E027°32'44", 13.VI.2005.

### Papilionidae

*Zerynthia polyxena* ([DENIS & SCHIFFERMÜLLER], 1775): Kondolovo Village, 320 m, N42°05'37"; E027°41'08", 25.IV.2008.

*Zerynthia cerisy ferdinandi* STICHEL, 1907: "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008; "Butamyata" beach near Sinemoretz Village, 28.V.2008.

*Parnassius mnemosyne* (LINNAEUS, 1758): Mladezhko Village, 29.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

### Pieridae

*Pieris ergane* (GEYER, 1828): Mladezhko Village, 29.V.2008.

### Lycaenidae

*Lycaena dispar* (HAWORTH, 1802): Veleka River near Sinemoretz Village, 14.VI.2005.

*Lycaena ottomanus* (LEFEBVRE, 1830): The graveyard of Sinemoretz Villages above the Veleka River mouth, 20 m, 24.IV.2008; Rezovo Village, 29 m, N41°59'10"; E028°01'21", 24.IV.2008; ibid, 46 m, N41°59'23.8"; E028°01'29.1", 24.IV.2008; ibid, 51 m, N41°59'13.7"; E028°01'28.8", 24.IV.2008; Kosti Village, 89 m, N42°03'57"; E027°46'31", 25.4.2008; ibid, 71 m, N42°03'48"; E027°46'29", 25.IV.2008; ibid, 61 m, N42°03'46"; E027°46'54", 25.IV.2008; ibid, 80 m, N42°03'53"; E027°46'27", 25.IV.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008; ibid, 40 m, N42°09'47"; E027°44'17", 23.IV.2008; Near Varvara Village, 30 m, N42°08'27"; E027°53'04", 14.VI.2005; between Barvara Village and the sea coast, 22 m, N42°07'35"; E027°54'40", 23.IV.2008; ibid, 30 m N42°07'30"; E027°54'30", 23.IV.2008; ibid, 38 m, N42°07'27.8"; E027°54'18", 23.IV.2008; ibid, N42°07'28.4"; E027°54'22.2", 23.IV.2008; ibid, 17 m, N42°07'18.3"; E027°54'31.7", 23.IV.2008; ibid, 25 m, N42°07'29.6"; E027°54'44.3", 23.IV.2008; ibid, 19 m, N42°07'17.1"; E027°54'34.3", 23.IV.2008; ibid, 41 m, N42°07'23.3"; E027°54'22.5", 23.IV.2008; ibid, 27 m, N42°07'20.6"; E027°54'37.8",

23.IV.2008; ibid, 29 m, N42°07'24.8"; E027°54'41.2", 23.IV.2008; ibid, 39 m, N42°07'30.5"; E027°54'00.2", 23.IV.2008; Kondolovo Village, 340 m, N42°05'42"; E027°41'02", 25.IV.2008.

*Leptotes pirithous* (LINNAEUS, 1767): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008.

*Glaucopsyche alexis* (PODA, 1761): Rezovo Village, 51 m, N41°59'13.7"; E028°01'28.8", 24.IV.2008.

*Maculinea arion* (LINNAEUS, 1758): Malko Turnovo Town; Kosti Village.

*Aricia anteros* (FREYER, 1838): Mladezhko Village, 29.V.2008; "Kovatch" near Zvezdetz Village, 29.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008; Bosna, "Draganova Niva", before the crossroad to Kalovo Village from Byala Voda Village, 425 m, N42°10'47"; E027°30'15", 13.VI.2005; ibid, 4.IX.2005; ibid, 430m, N42°09'60"; E027°31'48", 4.IX.2005.

### Nymphalidae

*Brenthis hecate* ([DENIS & SCHIFFERMÜLLER], 1775): Near Varvara Village, 30 m, N42°08'27"; E027°53'04", 14.VI.2005; Bosna, after Izgrev Village on the road to Malko Turnovo Town, 113m, N42°08'02"; E027°47'24", 14.VI.2005.

*Euphydryas aurinia* (ROTTEMBURG, 1775): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008; south next to the fence of the "Zlatnata Perla" near Varvara Village, 16m, N42°08'26.6"; E027°53'47.2", 27.V.2008; north next to the fence of the "Zlatnata Perla" near Varvara Village, 15 m, N42°08'32.1"; E027°53'35.0", 27.V.2008; Rezovo Village, 14 m, N41°59'09"; E028°01'14", 24.IV.2008, caterpillars last instar; Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008; "Silistar" beach near Rezovo Village, 28.V.2008; Mladezhko Village, 29.V.2008.

*Melitaea arduinna rhodopensis* FREYER, [1836] (col. pl. 2: 9, 10.): South next to the fence of the "Zlatnata Perla" near Varvara Village, 16 m, N42°08', 26.6"; E027°53'47.2", 27.V.2008.

*Melitaea trivia* ([DENIS & SCHIFFERMÜLLER], 1775): Mladezhko Village, 29.V.2008; "Kovatch" near Zvezdetz Village, 29.V.2008; Bosna, "Draganova Niva", before the crossroad to Kalovo Village from Byala Voda Village, 425 m, N42°10'47", E027°30'15", 13.VI.2005; "Silistar" beach near Rezovo Village, 28.V.2008.

*Melitaea britomartis* ASSMANN, 1847 (col. pl. 2: 11, 12.): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17" 26.V.2008; Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008. In Strandzha Mts known from Bosna, "Draganova Niva, N42°10'47"; E027°30'15" (ZLATKOV & BESHKOV, 2008).

*Apatura metis* FREYER, 1829: Veleka River near Sinemoretz Village, 10m, N42°03'35"; E027°57'37", 30.VII.2008.

*Coenonympha leander* (ESPER, 1784): Mladezhko Village, 29.V.2008.

*Minois dryas* (SCOPOLI, 1763): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008; "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

*Hipparchia syriaca* (STAUDINGER, 1871): Between Rezovo and Sinemoretz Villages, 70 m, N42°03'07"; E027°59'04" 11.X.2008.

### Geometridae

*Lomaspilis marginata* (LINNAEUS, 1758): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37," 30.VII.2008.

*Lygdia adustata* ([DENIS & SCHIFFERMÜLLER], 1775): Brodilovo Village, 80 m, N42°05'38"; E027°50'44", 24.IV.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Stegania dilectaria* (HÜBNER, 1790): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008.

*Rhoptria asperaria* (HÜBNER, 1817) (col. pl. 2: 13): "Popovi Skali" between Velika and Fazanovo Villages, 40m, N42°09'47"; E027°44'17" 26.V.2008; *ibid.*, 27.VII.2008; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; *ibid.*, 28.VII.2008, *ibid.*, 5.V.2009; "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 5.V.2009. This is the second report and we here report the second, third and fourth locality of *R. asperaria* (HBN.) in Bulgaria. In both localities this species was not rare, each time were found several specimens. In Bulgaria, up to now, *R. asperaria* (HBN.) was known only from Varna (KARNOSCHITZKY, 1954).

*Plagodis pulveraia* (LINNAEUS, 1758): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

*Pachynemia hippocastanaria* (HÜBNER, [1799]) (col. pl. 2: 14): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; *ibid.*, 28.VII.2008; *ibid.*, 12.X.2008. A new genus and a new species for Bulgaria. Both times this species was not rare in the association with *Erica arborea* and *Caluna vulgaris*.

*Pachynemia tibiaria* (RAMBUR, 1829) (col. pl. 2: 15): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008. The species was not rare (21 specimens were collected) in the association with *Erica arborea* and *Caluna vulgaris* together with *P. hippocastanaria* (HBN.). A new species for Bulgaria, numerous in October. This population should belong to *P. tibiaria tibiaria* (RAMBUR, 1829). *Pachynemia tibiaria pravieli* (HERBULOT, 1944) (described as „*Gnophos tibiaria pravieli*“) has been described at subspecific rank by HERBULOT in 1944 (one of the earliest descriptions of HERBULOT). Type locality is St. Tropez, in Dept. Var, in southern France. In the actual world catalogue this is still retained as subspecies of *P. tibiaria* (RAMBUR). Since the type locality of *P. tibiaria* (RAMBUR) is also in France (Tours) and since this is a species widespread in the Mediterranean, it is not clear if subspecific status will really stand a thorough revision of the taxonomy of this species/genus. There are certain doubts about that and it may well be within the species concept of *P. tibiaria* (RAMBUR) at infrasubspecific rank (AXEL HAUSMANN, pers. comm., October, 2008).

*Pseudopanthera macularia* (LINNAEUS, 1758): "Popovi Skali" between Velika and Fazanovo Villa-



ges, 40 m, N42°09'47"; E027°44'17", 23.IV.2008.

*Eilicrinia trinotata* (MRTZNER, 1845): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008.

*Apeira syringaria* (LINNAEUS, 1758): Veleka River near Sinemoretz Village, 10m, N42°03'35"; E027°57'37", 30.VII.2008.

*Crocallis tuscearia* (BORKHAUSEN, 1793): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 9.X.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 10.X.2008.

*Nychiodes waltheri* WAGNER, 1919: "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; Rezovo Village, 16 m, N41°59'16"; E028°01'11" 27.V.2008; the ♂ genitalia of all specimens checked.

*Hypomecis roboraria* ([DENIS & SCHIFFERMÜLLER], 1775): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008

*Hypomecis punctinalis* (SCOPOLI, 1763): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008; Bosna, "Draganova Niva", before the crossroad to Kaloovo Village from Byala Voda Village, 430 m, N42°09'60"; E027°31'48", 3.IX.2005; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01"; E027°27'53", 12.VI.2005.

*Cleorodes lichenaria* (HUFNAGEL, 1767): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Tephronia sepiaria* (HUFNAGEL, 1767) (col. pl. 2: 16): "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008. Hindtibiae spurs checked; the species is syntopic and synchronic to *E. oppositaria* (MANN).

*Eumannia oppositaria* (MANN, 1864) (col. pl. 2: 17): "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008 "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008. Hindtibiae spurs of all specimens checked for correct identification.

*Cabera exanthemata* (SCOPOLI, 1763): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008.

*Hylaea fasciaria* (LINNAEUS, 1758): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008.

*Gnophos sartata* (TREITSCHKE, 1827): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Charissa onustaria* (HERRICH-SCHÄFFER, 1852): “Petrova Niva” near Zvezdetz Village, 250 m, N42°03'39”; E027°31'49”, 25.IV.2008.

*Orthostixis cribraria* (HÜBNER, 1799): Between Sinemoretz and Rezovo Village, 30 m, 24.VIII.2002.

*Comibaena bajularia* ([DENIS & SCHIFFERMÜLLER], 1775): Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01”; E027°27'53”, 12.VI.2005; Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 27.V.2008; “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.V.2008; “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 26.V.2008; “Dvata Vrisa” above Brushlyan Village, 370 m, N42°02'10”; E027°25'37”, 29.V.2008.

*Comibaena neriaria* (HERRICH-SCHÄFFER, 1852): Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2008; Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 27.V.2008; Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 29.VII.2008.

*Eucrostes indigenata* (VILLERS, 1789): Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01”; E027°27'53”, 12.VI.2005.

*Cyclophora albiocellaria* (HÜBNER, 1789): Bosna, “Draganova Niva”, before the crossroad to Kalovo Village from Byala Voda Village, 430 m, N42°09'60”; E027°31'48”, 3.IX.2005.

*Cyclophora annularia* (FABRICIUS, 1775): Bosna, “Draganova Niva”, before the crossroad to Kalovo Village from Byala Voda Village, 430 m, N42°09'60”; E027°31'48”, 3.IX.2005; “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Idaea consolidata* (LEDERER, 1853): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Idaea infirmaria* (RAMBUR, 1833) (col. pl. 2: 18-20): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008 (col. pl. 2: 12.); “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.VII.2008. A new species for the fauna of Bulgaria, all specimens were dissected. In both localities this species was not rare, several specimens were collected at light.

*Rhodostrophia vibicaria* (CLERCK, 1759): “Dvata Vrisa” above Brushlyan Village, 370 m, N42°02'10”; E027°25'37”, 29.V.2008.

*Anticlea derivata* ([DENIS & SCHIFFERMÜLLER], 1775): The stream opposite of the “Kraveshkiyat Plazh” beach, 10 m, 23.IV.2008.

*Colostygia pectinataria* (KNOCH, 1781): Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 27.V.2008; “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 26.V.2008.

*Melanthia procellata* ([DENIS & SCHIFFERMÜLLER], 1775): Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 29.VII.2008.

*Lithostege griseata* ([DENIS & SCHIFFERMÜLLER], 1775): Brodilovo Village, 80 m, N42°05'38”; E027°50'44”, 24.IV.2008.

*Asthena albulata* (HUFNAGEL, 1767): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 22.IV.2008; “Dvata Vrisa” above Brushlyan Village, 370 m, N42°02'10”; E027°25'37”, 29.V.2008; “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.V.2008.

#### Notodontidae

*Drymonia obliterata* (ESPER, 1785) = *melagona* (BORKHAUSEN, 1790): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Furcula furcula* (CLERCK, 1759): “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.VII.2008.

*Furcula bifida* (BRAHM, 1787): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Dicranura ulmi* ([DENIS & SCHIFFERMÜLLER], 1775): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 22.IV.2008; Above Ahtopol Town on the road to Brodilovo Village, 247 m, N42°04'58”; E027°54'15”, 23.IV.2008.

*Phalera bucephala* (LINNAEUS, 1758): “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.VII.2008.

*Phalera bucephaloides* (OCHSENHEIMER, 1810): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Peridea anceps* (GOEZE, 1781): Above Ahtopol Town on the road to Brodilovo Village, 247 m, N42°04'58”; E027°54'15”, 23.IV.2008.

#### Noctuidae

##### Hypenodinae FORBES, 1954

*Schrankia taenialis* (HÜBNER, [1800-1809]): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2008; Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01”; E027°27'53”, 12.VI.2005; “Papiya” Hill above Brodilovo Village, 330 m, N42°06'25”; E027°50'33”, 11.X.2008; Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 27.V.2008.

##### Hermiiniinae LEACH, [1815]

*Idia calvaria* ([DENIS & SCHIFFERMÜLLER], 1775): “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008; “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 28.V.2008; “Dyado Vulcho” in “Pirena” protected area above Kosti Village, 280 m, N42°05'32”; E027°47'23”, 12.X.2008.

*Pechipogo strigilata* (LINNAEUS, 1758) = *barbalis* (CLERCK, 1759): “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008.

*Zanclognatha zelleralis* (WOCKE, 1850): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008; “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008.

Catocalinae BOISDUVAL, [1828]

*Clytie syriaca* (BUGNION, 1837): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 26.V.2008.

*Dysgonia torrida* (GUENÉE, 1852): Lozenetz Village, 4.IX.1999.

*Grammodes bifasciata* (PETAGNA, 1787): “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2008.

*Catocala conversa* (ESPER, [1787]): “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008.

*Catocala fraxini* (LINNAEUS, 1758): “Dyado Vulcho” in “Pirena” protected area above Kostı Village, 280 m, N42°05'32”; E027°47'23”, 12.X.2008.

*Catocala dilecta* (HÜBNER, [1808]): Between Rezovo and Sinemoretz Villages, 70 m, N42°03'07”; E027°59'04”, 11.X.2008.

Nolinae BRUAND, 1846

*Nola ronkayorum* BESHKOV, 2006: “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 22.IV.2008; on the road to “Popovi Skali” between Velika and Fazanovo Villages, 20 m, N42°11'23”; E027°45'17”, 22.IV.2008 (col. pl. 2: 8); “Dyado Vulcho” in “Pirena” protected area above Kostı Village, 280 m, N42°05'32”; E027°47'23”, 5.V.2009; Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2009. This species until now was known only from the type material.

*Nola subchlamydula* (STAUDINGER, 1871): Above Ahtopol Town on the road to Brodilovo Village, 247 m, N42°04'58”; E027°54'15”, 23.IV.2008.

*Bena bicolorana* (FUESSLY, 1775) = *prasinana* auct., nec LINNAEUS, 1758: “Dyado Vulcho” in “Pirena” protected area above Kostı Village, 280 m, N42°05'32”; E027°47'23”, 28.V.2008; “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008.

*Pseudoips prasinanus* (LINNAEUS, 1758) = *fagana* (FABRICIUS, 1781): “Dyado Vulcho” in “Pirena” protected area above Kostı Village, 280 m, N42°05'32”; E027°47'23”, 28.VII.2008; *ibid.*, 28.V.2008; “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008.

Arctiinae LEACH, [1815]

*Pelosia muscerda* (HUFNAGEL, 1766): Rezovo Village, 16 m, N41°59'16”; E028°01'11”, 27.V.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2008.

*Eilema depressum* (ESPER, 1787) = *depressa* (ESPER, 1787); = *deplana* (ESPER, 1787): Veleka River near Sinemoretz Village, 10 m, N42°03'35”; E027°57'37”, 30.VII.2008; “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Eilema pseudocomplana* (DANIEL, 1939): “Papiya” Hill above Brodilovo Village, 370 m, N42°06'17”; E027°50'53”, 31.VII.2008; “Popovi Skali” between Velika and Fazanovo Villages, 40 m, N42°09'47”; E027°44'17”, 27.VII.2008.

*Eilema pygmaeola pallifrons* (ZELLER, 1847): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008.

*Eilema sororcula* (HUFNAGEL, 1766): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 25.V.2008; *ibid*, 27.VII.2008.

*Thyria jacobaeae* (LINNAEUS, 1758): Near the mouth of Veleka River near Sinemoretz Village, N 42°03'45", E 27°58'05", 1.VII.2009, at day time, B. ZLATKOV leg.

*Dysauxes famula pontica* FRIESE, 1959 = *punctata* (FABRICIUS, 1781), auct.: Between Sinemoretz and Rezovo Village, 30 m, 24.VIII.2002; Bosna, "Draganova Niva", before the crossroad to Kalo-vo Village from Byala Voda Village, 430 m, N42°09'60"; E027°31'48", 3.IX.2005.

*Euplagia quadripunctaria* (PODA, 1761): Bosna, "Draganova Niva", before the crossroad to Kalo-vo Village from Byala Voda Village, 430 m, N42°09'60"; E027°31'48", 3.IX.2005; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008; "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

#### Lymantriinae HAMPSON [1893]

*Lymantria monacha* (LINNAEUS, 1758): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008. Normally in Bulgaria it is a mountain species.

#### Plusiinae BOISDUVAL, [1828]

*Abrostola asclepiadis* ([DENIS & SCHIFFERMÜLLER], 1775): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Abrostola clarissa* (STAUDINGER, 1900): Tzarevo Town, 1.VII.1972, Z. LSTUVKA leg., one ♂ specimen in coll. S. BESHKOV (BESHKOV, 2000). The only locality in Bulgaria, but known from European Turkey.

*Euchalcia modestoides* POOLE, 1989 = *modesta* HÜBNER, 1786 preoccupied: "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23" 28.V.2008; Tzarevo Town.

#### Eustrotiinae GROTE, 1882

*Protodeltote pygarga* (HUFNAGEL, 1766): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008; Rezovo Village, 16 m, N41°59'16"; E028°01'11", 29.VII.2008; *ibid*, 27.V.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 27.VII.2008.

#### Acontiinae GUENÉE, 1841

*Aedia leucomelas* (LINNAEUS, 1758): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

#### Acronictinae HEINEMANN, 1859

*Moma alpium* (OSBECK, 1778): Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01"; E027°27'53", 12.VI.2005; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280m, N42°05'32"; E027°47'23", 28.V.2008;

*Acronicta auricomica* ([DENIS & SCHIFFERMÜLLER], 1775): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008.

*Craniophora pontica* (STAUDINGER, 1879): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008.

Metoponiinae HERRICH-SCHÄFFER, [1851]

*Aegle kaekeritziana* (HÜBNER, [1796-1799]): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

*Panemeria tenebromorpha* RÁKOSY, HENTSCHOLEK & HUBER, 1996: "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 5.V.2009.

*Mycteroplus puniceago* (BOISDUVAL, 1840): "Katchul" on Veleka River near Gramatikovo Village, ex coll. AL. SLIVOV in coll. Institute of Zoology, Bulgarian Academy of Sciences. Very likely this locality can be a result of mislabeling.

Oncocnemidinae FORBES & FRANCLEMONT, 1954

*Calophasia platyptera* (ESPER, [1788]): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 29.VII.2008; "Butamyata" beach near Sinemoretz Village; "Arapyta" beach near Tzarevo Village; Ahtopol Town.

*Janthinea friwaldskii* (DUPONCHEL, 1835): Gramatikovo Village, 28.-29.V.1973.

Amphipyriinae GUENÉE, 1837

*Amphipyra livida* ([DENIS & SCHIFFERMÜLLER], 1775): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 10.X.2008; *ibid.*, 30.VII.2008; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008.

*Amphipyra tetra* (FABRICIUS, 1787): "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 11.X.2008.

*Amphipyra micans* (LEDERER, 1857): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008; "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

Psaphidinae GROTE, 1896

*Meganephria bimaculosa* (LINNAEUS, 1767): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 9.X.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 10.X.2008.

Bryophilinae GUENÉE, 1852

*Cryphia ochsi* BOURSIN, 1940: "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008. Genitalia of all specimens checked. Flies together with *Cryphia algae* (FABRICIUS, 1775), which is common.

*Cryphia rectilinea* (WARREN, 1909): "Popovi Skali" between Velika and Fazanovo Villages, 40 m,

N42°09'47"; E027°44'17", 27.VII.2008.

*Cryphia amasina* (DRAUDT, 1931): "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

Xyleninae GUENÉE, 1837

*Elaphria venustula* (HÜBNER, 1790): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008; Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008; *ibid*, 29.VII.2008.

*Athetis gluteosa* (TREITSCHKE, 1835): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008.

*Anthracia eriopoda* (HERRICH-SCHÄFFER, [1851]): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

*Mormo maura* (LINNAEUS, 1758): Bosna, Elenina Dupka Cave near Byala Voda Village, 5.VIII.2006, B. PETROV leg.

*Apamea syriaca* (OSTHELDER, 1933): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008; Bosna, between the crossroad to Byala Voda and the crossroad to Gramatikovo Village, 417 m, N42°11'01"; E027°27'53", 12.VI.2005; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Amphipoea oculatea* (LINNAEUS, 1761): "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

*Hydraecia micacea* (ESPER, [1789]): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008.

*Episema tersa* ([DENIS & SCHIFFERMÜLLER], 1775): "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 11.X.2008; Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 10.X.2008; "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 9.X.2008.

*Lithophane semibrunea wiltshirei* BOURSIN, 1962: "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008, 1 ♀. This subspecies should represent the Balkan population.

*Atethmia centrago* (HAWORTH, 1809): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 10.X.2008.

*Rileyiana fovea* (TREITSCHKE, 1825): "Papiya" Hill above Brodilovo Village, 330m, N42°06'25"; E027°50'33", 11.X.2008.

*Scotochrosta pulla* ([DENIS & SCHIFFERMÜLLER], 1775): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 9.X.2008.

*Dichonia aeruginea* (HÜBNER, [1808]): "Dyado Vulcho" in "Pirena" protected area above Kosti

Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008.

*Griposia aprilina* (LINNAEUS, 1758): "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 11.X.2008, gen. prep. 8./10.I.2009, S. BESHKOV, ♂ genitalia with everted vesica. See also next species.

*Griposia wegneri* KOBES & FIBIGER, 2003: "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 11.X.2008, gen. prep. 8./10.I.2009, S. BESHKOV, ♂ genitalia with everted vesica. In both *Griposia* species the main specific differences (according to the original description) are in both, ♂ and ♀ genitalia. These differences however are very small and variable, so it is very difficult, just impossible to identify with sureness the specimens from Bulgaria.

*Ammoconia senex senex* (GEYER, [1828]) = *senex wagneri* BOURSIN, 1935: "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008.

#### Hadeninae GUENÉE, 1837

*Hadena syriaca podolica* (KREMSKY, 1937): "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

*Mythimna straminea* (TREITSCHKE, 1825): Rezovo Village, 16 m, N41°59'16"; E028°01'11", 27.V.2008.

#### Noctuinae LATREILLE, 1809

*Noctua interjecta* (HÜBNER, [1803]): Tzarevo Town, 40 m, 9.IX.1987; "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

*Noctua tertia* VON MENTZER, MOBERG & FIBIGER, 1991: "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 9.X.2008.

*Divaena haywardi haywardi* (TAMS, 1926) = *haywardi balcanica* (SLIVOV, 1985): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.VII.2008.

*Epilecta linogrisea* ([DENIS & SCHIFFERMÜLLER], 1775): Lozenetz Village; 1.VIII.1987.

*Xestia castanea castanea* (ESPER, [1798]) = *neglecta* (HÜBNER, [1800-1803]): "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 12.X.2008; "Papiya" Hill above Brodilovo Village, 330 m, N42°06'25"; E027°50'33", 11.X.2008.

*Naenia typica* (LINNAEUS, 1758): Veleka River near Sinemoretz Village, 10 m, N42°03'35"; E027°57'37", 30.VII.2008.

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## Colour plate 1/ Farbtafel 1



Figs 1-2: "Dyado Vulcho" in "Pirena" protected area above Kosti Village above Kosti Village, X.2008

Figs 3-4: "Popovi Skali" between Velika and Fazanovo Villages. 3.X.2008; 4.IV.2008.

Fig. 5: Veleka River near Sinemoretz Village, VII.2008.

Fig. 6: Inverted *Fagus orientalis* forest with *Rhododendron ponticum* in Marina Reka, IV.2008.

Fig. 7: Papiya Hill above Brodilovo Village, area with *Phyllirea latifolia*, VII.2008

Fig. 8: Between Velika and Fazanovo Villages, habitat of *Nola ronkayorum* BESHKOV, 2006, IV.2008.

Figs 9, 10: *Melitaea arduinna rhodopensis* FREYER, [1836], ♀. South next to the fence of the "Zlatnata Perla" near Varvara Village, 16 m, N42°08'26.6; E027°53'47.2", 27.V.2008.

Figs 11, 12: *Melitaea britomartis* ASSMANN, 1847, ♂. "Popovi Skali" between Velika and Fazanovo Villages, 40 m, N42°09'47"; E027°44'17", 26.V.2008.

## Colour plate 2/ Farbtafel 2

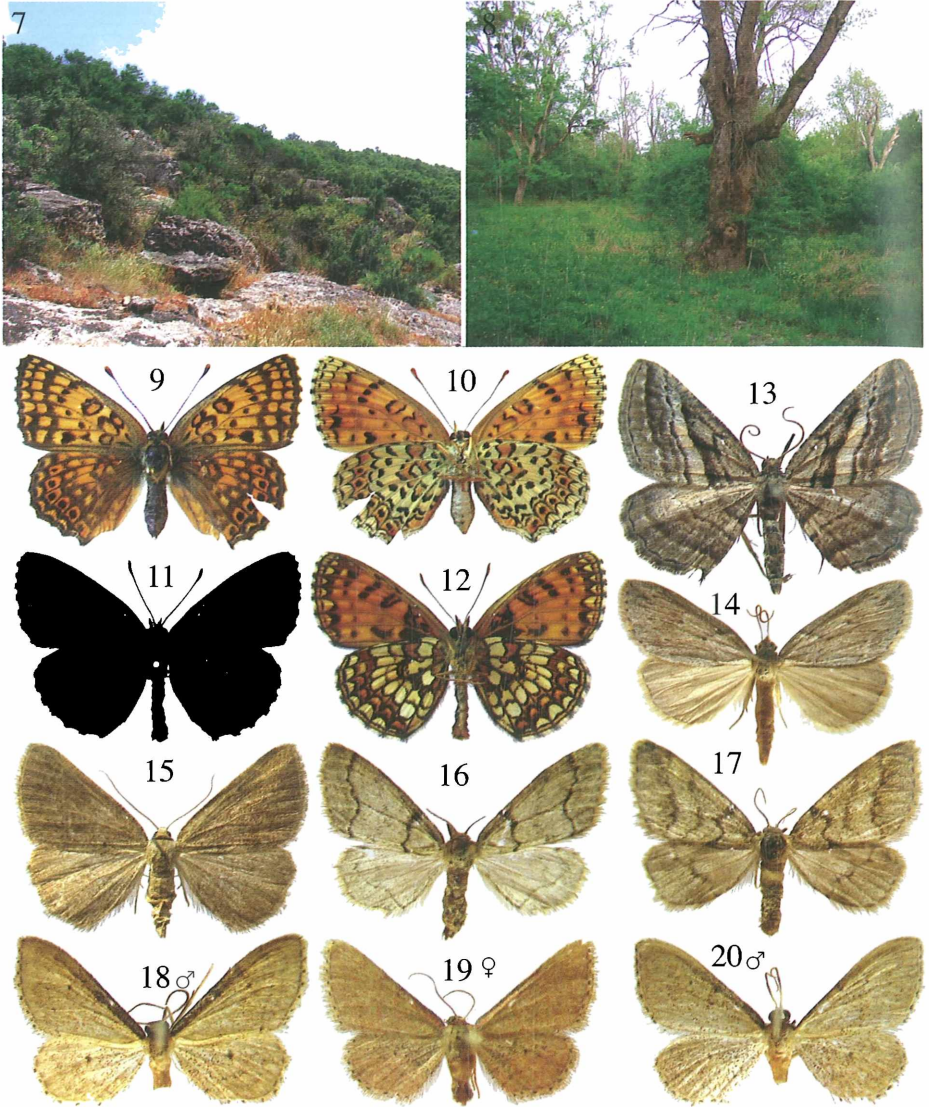


Fig. 13: *Rhoptria asperaria* (HÜBNER, 1817), ♂. "Dyado Vulcho" in "Pirena" protected area above Kosti Village, 280 m, N42°05'32"; E027°47'23", 28.V.2008.

Fig. 14: *Pachynemia hippocastanaria* (HÜBNER, [1799]), ♂. 28.VII.2008, same locality as in fig. 13.

Fig. 15: *Pachynemia tibiaria* (RAMBUR, 1829), ♀. 12.X.2008, same locality as in fig. 13.

Fig. 16: *Tephronia septaria* (HUFNAGEL, 1767), ♀. "Papiya" Hill above Brodilovo Village, 370 m, N42°06'17"; E027°50'53", 31.VII.2008.

Fig. 17: *Eumannia oppositaria* (MANN, 1864), ♀. Same date and locality as in fig. 13.

Figs 18-20: *Idaea infirmaria* (RAMBUR, 1833), 18-19: 28.VII.2008, same locality as in fig. 13; 20: 27.VII.2008, same locality as in figs. 11, 12.

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