CONTRIBUTION TO THE BULGARIAN MACROLEPIDOPTERA FAUNA (LEPIDOPTERA: GEOMETRIDAE, NOCTUIDAE)

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Abstract

One genus, five species and one subspecies are reported for first time in the literature for Bulgaria with firm data. *Acontia candefacta* (Hb.) is also new for the Balkan Peninsula. *Idaea spissilimbaria* (Mabille) is confirmed for Bulgaria.

Keywords: Zoogeographical data, Geometridae, Noctuidae, Bulgaria

Geometridae

*Archiearis puella puella* (Esper, 1787)

Northern Black Sea Coast, Varna, 29.ii.1937, N. Karnozhitzki leg. (Plate 21, Fig. 1), three males in coll. National Museum of Natural History (Sofia). In Bulgaria previously only ssp. *mediterranea* Ganev, 1984 was reported, from the SW Bulgaria (type locality: Kozhouh [Rupite] near Struma River, Petrich (Ganev, 1984). At present *Archiearis puella mediterranea* Ganev has very few other localities not far away from the type locality and it is connected with *Populus alba* (Viktor Gashtarov, pers. comm.).

*Idaea spissilimbaria* (Mabille, 1888)

Vratchanska, Stara Planina Mountains, Milanovo Village, 900m, UTM Code: FN97 (Map. 1: 2), N43°07’06”: E23°23’55”, 05-12.vii.2002, S. Beshkov leg. at 160-watt mvl, one female (Plate 21, Fig. 2.). The habitat is village with gardens and meadows and mixed *Carpinus* forest on the surrounding calcareous rocks. *Idaea spissilimbaria* has very strange distribution and everywhere is very rare and local; very few specimens have been collected in the world. Stanescu & Hausmann (2002) reported it as a new species for Romania (Cibin Mountains, 20.vii.) and refered its previous localities: Algeria (terra typica), Corsica, SE France (single localiy in Hautes Alpes) and Bulgaria (Vitosha Mountains). According to Hausmann (2004: 108) only nine specimens of this species are known. For Bulgaria he mentioned Sofia and Rhodopes, following the reports of Ganev (1983) and of Dufay (1983). In fact, these localities are result of misunderstanding. Dufay, unfamiliar with the geography of Bulgaria, put Vitosha Mountains somewhere in the Rhodopes, but Vitosha is near Sofia; the correct locality seems to be Vitosha Mountains, not Sofia town. Therefore, the map for *I. spissilimbaria* in Hausmann (2004) for Bulgaria is not correct: It should have two dots only – Vitosha and this one reported here (Milanovo). The present record is mentioned for Vrachanski Balkan in Abadjiev & Beshkov (2007), but without details.
**Scopula virgulata virgulata** ([Denis & Schiffermüller], 1775)
Predbalkan, Tzar Petrovo Village, Vidin Region, 216m, N43°57'46": E22°38'34" (Map 1: 1), 24.v.2009, meadow on limestone area, S. Beshkov & B. Zlatkov leg., three male specimens (Plate 21, Fig. 3). New species for Bulgaria. Known from neighbouring countries in Romania and Serbia (Frushka Gora, Novi Sad and Kladovo in Timocka Krajna (Tomic, Zecevic, Mihajlovic & Glavendekic, 2002).

**Noctuidae**

**Nola harouni** (Wiltshire, 1951)
Vratchanska Stara Planina Mountains, Milanovo Village, 900m, UTM Code: FN97, (Map 1: 2); N43°07'06": E23°23'55", 03.ix.2001, S. Beshkov leg. at 160-watt mvl, one male (Plate 21, Fig. 4), Gen. prep. 1./14.ix.2001, S. Beshkov. Comparing to the illustrations in Fibiger & Karsholt (1998), there are small differences in the valvae. *Nola harouni* was reported for first time for Europe by Fibiger & Karsholt (1998) from Greece: Samos, Crete, Rhodes and Peloponnesus (Lakonia). Later, in September 2000, it was also found in the continental part of Aegean Greece – Rhodopi, Thraki and Halkidiki (S. Beshkov leg.). *Nola harouni* has subtropical Mediterranean Asiatic distribution, restricted to Asia Minor, Iraq, Iran, Jordan, Dhofar, Bahrain and Saudi Arabia. The locality in Bulgaria is the most northern known. This specimen is mentioned for Vrachanski Balkan in Abadjiev & Beshkov (2007), but without data.

**Pandesma robusta** (Walker, [1858])
Black Sea Coast, Cape Kaliakra, SW slopes (Map 1: 4.), above the coast opposite the crossroad to Bolata Dere, 71m, (Plate 23), UTM Code: PJ10 N43°22'50.8": E28°27'04.6", 14.viii.2004, S. Beshkov leg. in 15-watt actinic light trap, one female (Plate 21, Fig. 5). This was during the first European moth nights session. The weather was extremely bad, with wind and rain, so I did not put out the big lamps. However, in order to obtain at least some data from Bulgaria from this night, I put the actinic trap on the car whilst I slept. In the morning the trap was full with common migrant species and among them there was a single female specimen of *Pandesma robusta*, which was a new genus and a new species for the Bulgarian fauna. This is also the most northern and eastern locality for this tropical species in Europe. Some of these data are presented in Rezbanyai-Reser & Kadar (2005). Lehmann & Hoppe (2007) reported *Pandesma robusta* (Walker) in number as a migration in Gafsa Province, Tunisia. They also mentioned in its range Bulgaria, but without any exact locality; they presumably followed my data from Kaliakra, used and quoted also by Rezbanyai-Reser & Kadar (2005). *Pandesma robusta* (this specimen) is mentioned for Kaliakra site in Abadjiev & Beshkov (2007), but without data. Fibiger (1986) first introduced the name robusta Walker for Europe and summarized all known localities in Europe:
Plate 21. Figure 1. Archiearis puella puella (Esper, 1787), male. Northern Black Sea Coast, Varna, 29.ii.1937; Figure 2. Idaea spissilimbaria (Mabille, 1888), female. Vratchanska Stara Planina Mts, Milanovo Village, 900m, 5-12.vii.2002; Figure 3. Scopula virgulata virgulata ([Denis & Schiffermüller], 1775), male. Tzar Petrovo Village, Vidin Region, 24.v.2009; Figure 4. Nola harouni (Wiltshire, 1951), male. Vratchanska Stara Planina Mts, Milanovo Village, 900m, 3.ix.2001; Figure 5. Pandesma robusta (Walker, [1858]), female. Black Sea Coast, Cape Kaliakra, SW slopes, 14.viii.2004; Figure 6. Acontia candefacta (Hübner, [1831]), male. Danube Plain, Karaboaz near Gulyantzi, 32m, 18.v.2009.
Greece (Peloponnesus, Attiki), Portugal and Spain. Bella & Russo (1999) reported it from Etna Mts, Sicily. It is known also from Friuli, Lazio, Calabria, several more localities in Sicily in Italy, from Malta and Corsica (Betraccini, Fiumi, Parenzan & Zilli, 2008).

_Acontia candefacta_ (Hübner, [1831])

Danube Plain, Karaboaz near Gulyantzi, 32m (Map 1: 3), N43°40’40”; E24°42’36”, 18.v.2009, ruderal and steppe area, sandy and solty soil, S. Beshkov & V. Delov leg. One male (Plate 21, Fig. 6) at mv1 and black light. New species for Bulgaria (and Balkan Peninsula). The first report for Ukraine is that of Kljuchko, Budashkin & Gerassimov (2004), who reported _A. candefacta_ from several localities there: Donesk region, Lugansk region and several localities in Crimea. Lehmann (2007: 247) reported _A. candefacta_ from Ukraine, Black Sea Coast [sic!], [Sea of Azov], Zaporozhe, 3 km eastern of Berdjansk Town, 50m, 03.vii.2005, L. Lehmann leg., during the second European Moth Nights session. So far as the present author knows, for first time there (Rezbanyai-Reser & Kadar, 2007: 309) _A. candefacta_ is illustrated in the literature for Europe, but the illustrated specimen however is not European. _A. candefacta_ was also collected in Romania, 2009 (Szekely Levente, pers. comm.), but there is not yet any report of this in the literature. The locality in Bulgaria is the most western and southern one available. Recent records suggest that _A. candefacta_ is moving westards or south-westwards, in the direction from whence it came. According to Kljuchko, Budashkin & Gerassimov (2004), Kluchko (2006) _A. candefacta_ was introduced in 1967-1968 from southern Canada to the Krasnodarks and Stavropolsk areas of Southern Russia, as a biological control agent for _Ambrosia_ Linnaeus and at present is component of the fauna of the steppe zone of Ukraine. It is spreading there rapidly (Fibiger & Hacker, 2005).

_Euxoa montivaga_ Fibiger, 1997

South-west Bulgaria, Alibotoush (= Slavyanka) Mts, below Livada above Goleshevo Village, 1500m, (Map 1: 6.) 15.vii.1998, mountain meadow with _Juniperus_ in coniferous zone, S. Beshkov, S. Abadjiev & V. Gashtarov leg., one male and three females, Gen. prep. 18./27.i.2004, S. Beshkov, male genitalia with everted vesica in Euparal; SW Bulgaria, S Pirin Mts, below Orelyak summit, 1900m (Map 1: 5), 15.vii.2002, dry subalpine stony zone with marble rocks, _Juniperus, Fragaria_, gras vegetation, S. Beshkov, J. Nowacki & M. Bunalski leg. at 160-watt mv1 with 18-watt black tube, one male and one female (Plate 22), S. Beshkov 19./27.i.2004, S. Beshkov, female genitalia in Euparal S. Beshkov & J. Nowacki. _Euxoa montivaga_ is xeromontain species, at present known from Greece, Bulgaria and Turkey. _Euxoa montivaga_ Fibiger is mentioned for Alibotoush (= Slavyanka) site in Abadjiev & Beshkov (2007), but without locality and collecting data. In Abadjiev & Beshkov (2007) this species is mentioned for Pirin, but in fact the true locality ‘Orelyak’ (same material reported here) is not in the Pirin region. The dot for Pirin on the map in Abadjiev & Beshkov (2007) is, therefore, incorrect.
Legend for Map 1.
1. Tzar Petrovo Village, Vidin Region (Scopula virgulata); 2. Vratchanska Stara Planina Mts, Milanovo Village (Idaea spissilimbaria, Nola harouni); 3. Karaboaz near Gulyantzi (Acontia candefacta); 4. SW slopes of Cape Kaliakra (Pandesma robusta); 5. S Pirin Mts, below Orelyak summit (Euxoa montivaga); 6. Alibotoush (=Slavyanka) Mts, above Goleshevo Village (Euxoa montivaga).

Plate 23. Black Sea Coast, Cape Kaliakra, south-west facing slopes, collecting locality of *Pandesma robusta* Walker.
References