

## The first report of *Hadena tephroleuca* (Boisduval, 1833) (Lepidoptera: Noctuidae) in Bulgaria

STOYAN BESHKOV <sup>1</sup>, JARI JUNNILAINEN <sup>2</sup>

<sup>1</sup>National Museum of Natural History, Tsar Osvoboditel Blvd.1, 1000 Sofia, Bulgaria, stoyan.beshkov@gmail.com

<sup>2</sup> Mahlapolku 3, 01730 Vantaa, Finland, junnilainen.jari@googlemail.com

**Abstract.** Single female specimen of *Hadena (Pinkericola) tephroleuca* (Boisduval, 1833) was collected in Belassitsa Mts. in SW Bulgaria at an altitude of 1857m at light. This is the first record of this species in Bulgaria. Collected specimen is illustrated here and is deposited in the collection of the National Museum of Natural History, Sofia (NMNHS).

**Key words:** Bulgaria, Noctuidae, *Hadena tephroleuca*.

### Introduction

The only data in the literature for this species on the Balkan Peninsula are summarized in Beshkov (2000) as follows: “*Hadena tephroleuca* is wrongly included for Bulgaria in Nowacki & Fibiger (1996: 282). It has never been found in Bulgaria, but it is not impossible that it will be discovered here. From the Balkan Peninsula, *H. tephroleuca* is known from Greece, Nestos, Paranestion, near the Bulgarian/Greece border (Hacker 1989: 582) and from Albania (Beshkov & Misja 1995: 356). In both of these articles it is recorded as *Hadena tephroleuca asiatica* (F. Wagner, 1931). Careful examination of the Albanian *tephroleuca* and comparison with specimens from Turkey and Alps have shown that the population in Albania belongs to *Hadena tephroleuca tephroleuca* (Boisduval 1833). In the Balkan Peninsula, *Hadena tephroleuca* is known also from the Durmitor Mts. in Montenegro (Carnelutti *et al.* 1991: 93)”. According to Hacker (1996) the subspecific identity of the Balkan population is unclear. In Hacker *et al.* (2002) is accepted the opinion of Beshkov & Misja (1995) that the population of the Balkan Peninsula belongs to the nominant subspecies, but was expressed opinion, that some more material is needed to verify this statement. Recently *H. tephroleuca tephroleuca* was found also in Republic of Macedonia, Galichitza (Petrina Planina) Mts., below Bulgarska Tchuka summit, 1803 m, 41°00’09”N; 20°50’50”E, 19.06.2008, S. Beshkov leg. at L.T. (black light), one male specimen and another locality nearby but with different altitude: above “Dvata Yavora”, below Bulgarska Tchuka summit, 1640 m, 41°00’09”N; 20°51’12”E, 19.06.2008, S. Beshkov leg. at lamps, one male specimen (Beshkov 2009).

### Results

A single female specimen of *Hadena (Pinkericola) tephroleuca* (Boisduval, 1833) was collected at light in SW Bulgaria, Belassitsa Mts., 41.325881 N 23.1772556 E, 1857 m. a.s.l., 27.07.2013, very close to Creek border, J. Junnilainen & Antti Aalto leg. (Fig. 1). Coordinates and altitude are taken from Google Earth. This specimen, as well as the whole

population of the Balkan Peninsula is identified as the nominotypical *Hadena tephroleuca tephroleuca* (Boisduval, 1833). In Belassitsa Mt. with highest top Radomir (2029 m) the collecting locality is below Kongura Top, near the road from Petrich Town along Belassitsa Chalet, Kongura Chalet, Varshiloto place to Kongura Top and ahead below the mountain summit and the borderline to Greece. On this steep and narrow road below Kongura Top there are several curves with enough places for parking and lamp collecting. For lamp collecting were used three basic ground light traps (160 W Mixed lamp, funnel and container) without any screen because night was rather windy and later also cold. Traps were working full night but only one *H. tephroleuca* was found. With this finding the number of Bulgarian Quadrid Noctuoidea (sensu Noctuidae Europeae Vol. 13), but not counting Lymantiinae and Arctiinae reach 710 species.



**Fig. 1.** *Hadena (Pinkericola) tephroleuca tephroleuca* (Boisduval, 1833) female, SW Bulgaria, Belassitsa Mt, 41.325881 N 23.1772556 E, 1857m, 27.07.2013, J. Junnilainen & Antti Aalto leg., in coll. NMNHS, Photo: S. Beshkov.

### Discussion

This is the first finding of this species in Bulgaria, although it was expected in the country in the border area to Greece, but more likely in Rhodopi Mts. In the Balkan Peninsula *Hadena tephroleuca* is very rare, at night rarely can be collected more than 1-2 specimens using several traps. Senior author collected several times in this area of Belassitsa Mt., but failed to find *Hadena tephroleuca* there. Without any doubt it is a very rare species there, on the border of its range. Perhaps it will be found also in the Greek and Macedonian parts of the Belassitsa Mountains.

Collecting place is located in steep mountain slopes with *Juniperus sibirica*, *Vaccinium myrtillus* and *Vaccinium vitis-idaea* above *Fagus* forest; Typical for Belassitsa Mt. is absence of coniferous forest. Habitat there is: EUNIS: F2.2A2 Balkano-Hellenic dwarf bilberry heaths. It is interesting to note that apart from the montane types of insects, the ridge of the mountain is inhabited by many species connected with the oak belt, which have flown across the mountain by the help of air currents (Abadjiev & Beshkov 2007). Parts of

these insects are mosquitoes which reach mountain crest from Lake Kirkini in South down in Greece.

From the Bulgarian part of Belassitsa Mts. 824 Macrolepidoptera species are known from the different altitudes and different habitats. From the pseudo-subalpine zone of the mountain are known following interesting and rare Lepidoptera species, for some of which Belassitsa is distal point of their range: *Polyommatus eroides* (Frivaldszky, 1835), *Charissa pullata* ([Denis & Schiffermüller], 1775), *Caradrina suscianja* von Mentzer, 1981, *Caradrina gilva* (Donzel, 1837), *Coranarta cordigera* (Thunberg, 1788), *Hadena drenowskii* (Rebel, 1930), *Hadena caesia bulgarica* Boursin, 1959, *Mythimna anderreggii pseudocomma* (Rebel & Zerny, 1931), *Standfussiana lucerneae illyrica* (Rebel & Zerny, 1931), *Chersotis anatolica* (Draudt, 1936), *Euxoa conspicua* (Hübner, [1823-1824]), *Euxoa vitta hercegovinensis* Schawerda, 1938.

### References

- Abadjiev, S. & Beshkov, S. (2007) *Prime Butterfly Areas in Bulgaria*. Pensoft Publishers, Sofia—Moscow, 222 pp.
- Beshkov, S. (2000) *An Annotated Systematic and Synonymic Check List of the Noctuidae of Bulgaria (Insecta: Lepidoptera: Noctuidae)*. *Neue Entomologische Nachrichten* 49, Markt-leuthen, 300 pp.
- Beshkov, S. (2009) First locality of *Euchalcia chlorocharis* (Dufay, 1961) in Albania and first reports for *Hadena tephroleuca* (Boisduval, 1833), *Proxenus hospes* (Freyer, 1831), *Amphipoea oculatea* (L., 1761) and *Agrotis syricola* Corti & Draudt, 1933 in the Republic of Macedonia (Lep.: Noctuidae). *The Entomologist's Record and Journal of Variation* 121(4): 159-163.
- Beshkov, S. & Misja, K. (1995) A contribution to the knowledge of the Lepidoptera fauna of Albania. 1. Some materials from the collection of K. Misja in the Natural History Museum Tirana and some results of the collecting trip of Beshkov during 1992 (Lepidoptera, Macrolepidoptera). *Atalanta* 26 (1/2): 345-363.
- Carnelutti, J., Vasic, K., Tomic, D., Zecevic, M. & Kranjcev, R. (1991) Heterocera III. Noctuidae (Insecta, Lepidoptera). In: Fauna Durmitora, Sveska 4. Posebna izdanja, kn. 24., Odjeljenje prirodnih nauka, kn. 15: 79-134.
- Hacker, H. (1989) *Die Noctuidae Griechenlands. Mit einer Übersicht über die Fauna des Balkanraumes (Lepidoptera, Noctuidae)*. *Herbipoliana* 2. Eitschberger, Markt-leuthen, 589 + XII pp.
- Hacker, H. (1996) *Revision der Gattung Hadena Schrank, 1802 (Lepidoptera: Noctuidae)*. *Esperiana* 5: 7-697 + Tafs A-Y.
- Hacker, H., Ronkay, L. & Hreblay, M. (2002) *Hadeninae I. - Noctuidae Europeae*, vol. 4. Entomological Press, Sorø, 419pp.
- Nowacki, J. & Fibiger, M. (1996) Noctuidae, p. 251-293. In: Karsholt, O. & Razowski J. (eds), *The Lepidoptera of Europe. A distributional Checklist*. Apollo Books, Stenstrup, 380 pp.
- Witt, T. J. & Ronkay, L. (eds.) (2011) *Lymantriidae-Arctiidae, including Phylogeny and Check List of the Quadrifid Noctuoidea of Europe*. Noctuidae Europeae, vol. 13. Entomological Press, Sorø, 448pp.