New records of Adscita obscura (Zeller, 1847) (Lepidoptera, Zygaenidae, Procridinae) on the Balkan Peninsula

Ana Nahirnić1*, Stoyan Beshkov1, Dimitar Kaynarov2

1 - National Museum of Natural History, Tsar Osvoboditel Blvd.1, 1000 Sofia, BULGARIA;
2 - Pazardzhik Region, Byaga Village, 12th Street № 4, BULGARIA
*Corresponding author: ananahirnic@nmnhs.com

Abstract. Adscita obscura (Zeller, 1847) is recorded in Albania for the first time. Several new records are given for Bulgaria where it has been known only from a single locality. One new record is presented for Greece where it is rare species.

Key words: Adscita obscura, Albania, Bulgaria, Greece.

Introduction

There are seven Adscita species (Zygaenidae, Procridinae) on the Balkan Peninsula and almost all of them are very similar to each other. Adscita obscura (Zeller, 1847) can be confused with A. statices (Linnaeus, 1758), A. geryon (Hübner, [1813]), A. mannii (Lederer, 1853) and with the female of A. albanica (Nauffock, 1926), thus examination of genitalia is necessary for correct identification. Nothing is known on early stages, host-plants and habitats of A. obscura in the Balkans. Larvae and host plants are studied in Turkey and Iran where host-plants are proven to be Helianthemum spp., Sanguisorba minor (Scop.) and Lotus dorycnium L. (syn. Dorycnium pentaphyllum Scop.) (TARMAANN & TREWAN, 2001; DE FREINA, 2003; KEIL, 2014). It is known to occur in North Macedonia, Greece, Bulgaria, Turkey, Syria, Lebanon, Israel, Jordan, Egypt, Georgia, Armenia, Dagestan Republic in Russia, Azerbaijan, Iran and Iraq (NAUMANN et al., 1999) and Romania (Guenin, 2019).

Although Albania is included in the distribution of A. obscura by both NAUMANN et al. (1999) and DE FREINA & WITT (2001), the source of this data is not known and no voucher specimen has been found in any European museum collection (Ana Nahirnić, Gerhard Tarmann, pers. obs.). Studies on Procridinae in Albania are very scarce and data exist mainly from the northern part of the country and studies have been undertaken, exclusively, by foreign authors (e.g. REBEL & ZERNY, 1931; Alberti, 1966). A promising exception appeared in 2016 where only species collected in Albania were listed (VRENOZI et al., 2016) and more recently Theresimima ampellophaga (Bayle-Barelle, 1808) has been found for the first time in Albania by means of sexual attractants (VRENOZI et al., 2018). So far twelve Procridinae species were known from Albania based on reliable data (REBEL & ZERNY, 1931; ALBERTI, 1966; VRENOZI et al., 2016, 2018). Many Procridinae species known to be common in the Balkans are rarely reported from Albania and the reason for this poor knowledge can be attributed to the necessity of genitalia examination for correct determination of almost all species in the region.

The aim of this study is to present new record and notes on habitats of A. obscura in the Balkans. We also drew attention to closer
examination of Procridinae in museum and private collections as this can reveal more data on A. obscura occurrence.

**Material and Methods**

Specimens were collected with an entomological net and deposited in collections of the authors, indicated in the following list by collection of Ana Nahirnić in Kruševac, Serbia (CANK), collection of Stoyan Beshkov, housed in NMNHS (SB in NMNHS) and collection of Dimitar Kaynarov in Sofia, Bulgaria (CDKS). The collection of the National Museum of Natural History in Sofia (NMNHS) was also examined. All specimens were determined on the base of genitalia. Abdomens were boiled in 10% KOH and the abdominal skin and genitalia either preserved in microvials filled with glycerol or mounted on a glass slide in Euparal.

**Results**

Albania

Moravë Mt., between Boboshticë and Dardhë Villages, (Fig. 1), N 40°32’24”, E 20°47’30”, 1240 m, serpentinite slopes with sparse vegetation, 09.VII.2016, 1 ♀ (Fig. 2a), leg. A. Nahirnić & S. Beshkov (CANK).

Bulgaria


Besaparski Ridove Hills, Byaga Village vicinity, 25.V.1984, 1 ♂ (Fig. 2b), leg. S. Beshkov. det. J. Ganev, prep. No 234 as Jordanita notata (Zeller, 1847), re-determined by S. Beshkov as A. obscura (SB in NMNHS).

Besaparski Ridove Hills, northern slopes ca. 2 km from Ognyanovo Village, (Fig. 3), N 42°07’53”, E 024°24’36”, 313 m, steppe-like grasslands with single trees and shrubs, 20.V.2016, 1 ♂, leg. D. Kaynarov (CDKS).


Besaparski Ridove Hills, ridge between Trivoditsi Village and Hadzhievo Railway station, N 42°07’27”, E 024°26’29”, 365 m, steppe-like grasslands, 01.V.2016, 2 ♂♂ and 1 female and 06.V.2016 1 ♂ and 1 ♀, leg. D. Kaynarov (CDKS).


Besaparski ridove Hills, Byaga Village, below “Hisara” Summit, N 42°05’25”, E 024°23’11”, 324 m, open grasslands with single trees and shrubs (Paliurus spina-christi, juniperus spp.), 25.IV.2017, 1 ♀, leg. D. Kaynarov (CDKS).


Plovdiv district, Perushtitsa town, Pastusha quarter, 25.V.1942, 1 ♂ (ANZ 769), 4 ♀♀ (genitalia in glycerol) (Fig. 4), leg. I. Buresh (NMNHS).

Eastern Rhodopi Mts., near Gorni Yurutsi Village, N 41°20’26”, E 25°54’41”, 504 m, 16.V.2018, 1 ♀ (Fig 2c), leg. S. Beshkov, B. Zlatkov & R. Bekchiev (SB in NMNHS).

Greece

Phocis region, Vargiani Village 1.5 km NW, N 38°38’50”, E 22°24’31”, 650 m, grasslands, 13.V.2016, 1 ♂ and 2 ♀♀, leg. A. Nahirnić & S. Beshkov (CANK).
Fig. 2. *Adscita obscura*, a - ♀ Moravë Mt., between Boboshticë and Dardhë Villages, b - ♂ Besaparski Ridove Hills, Byaga Village, c - ♀ Eastern Rhodopi Mts., near Gorni Yurutsi Village. Scale line = 1 cm.

Fig. 3. Bulgaria, Besaparski Ridove Hills, northern slopes ca. 2 km from Ognyanovo Village. Photo: D. Kaynarov.

**Discussion**

All our new records of *A. obscura* are within the boundaries of its known distribution, although some gaps are filled in (Fig. 5). The report of this species from Moravë Mt. represents the first one in Albania.

As *A. obscura* was known on Galičica Mt. and Ohrid in North Macedonia (Thurner 1938-1941; Daniel, 1964) it was expected species in Albania. Mt. Moravë, Mt. Galičica and Ohrid are the westernmost localities of *A. obscura*.

The first and the only published record of *A. obscura* in Bulgaria is given in De Freina & Witt (2001) for Asenovgrad (=Stanimaka) where it has been collected in 01-10.07.1933. There are more dots on a map of distribution of *A. obscura* given in Guenin (2019), however exact localities and sources are not provided and thus not included in our map. In
New records of *Adscita obscura* (Zeller, 1847) (Lepidoptera, Zygaenidae, Procridinae)...

**Fig. 5.** Distribution of *Adscita obscura* on the Balkan Peninsula. AL - Albania, MK - Republic of North Macedonia, BG - Bulgaria, GR - Greece, TR - Turkey. Black dots - published records, red dots - new records. 1 - between Boboshticë and Dardhë, 2 - Kozhuh Hill, 3 - Rozhenski Manastir Monastery, 4 - Besaparski Ridove Hills, 5 - Pastusha, 6 - Gorni Yurutsi, 7 – Vargiani.

Stoyan Beshkov’s collection in NMNHS there is one *Adscita* male from Byaga Village determined as *Jordanita notata* (Zeller, 1847) by Julius Ganev in 1984. Dimitar Kaynarov studied Macrolepidoptera of Besaparski Ridove Hills for his Master Diploma work and noticed that it was very strange that he didn’t find *J. notata*. Stoyan Beshkov checked the specimen and genitalia slide and realized that it is *A. obscura*. Julius Ganev must have made a mistake because of the similarity of male genitalia of *A. obscura* and *J. notata* whilst also failing to pay attention to habitus. These two species are very easy to distinguish by their antennae, which are pointed distally in all *Jordanita* species and clubbed distally in all *Adscita* species. If determination of the mentioned specimen had been done correctly, this would have been the first report of *A. obscura* in Bulgaria, 14 years before DE FREINA & WITT (2001).

Our new findings in Besaparski Ridove Hills and Pastusha are situated in the same area as Asenovgrad Town and they represent the northern distributional limit of *A. obscura*. Only Tulcea in Dobrogea is more in the North (GUENIN, 2019). Gorni Yurutsi Village fills the gap between Asenovgrad Town and the Thrace region of Turkey, where it has been reported from four localities in Kırklareli and Istanbul provinces (CAN ÇENGIZ et al., 2018). Gorni Yurutsi Village is 120 km distant from the nearest locality near Kırklareli town and ca. 115 km from Asenovgrad Town. Our finding near Rozhenski Manastir Monastery fills the gap between Besaparski Ridove Hills and Dojran Lake. Guenin (2019) presented dots on a map which correspond to Struma Valley, however there is no any data on these localities in the paper.

In Greece *A. obscura* is recorded from the islands of Aegean Sea and on the mainland
from near sea level to 1500 m on Mt. Chelmos in the Peloponneseos (e.g. MOLLET, 1995; GOZMÁNY, 2012; COUTSIS, 2017). GUENIN (2019) gave a map with additional dots in Greece, but not any further information on *A. obscura* in Greece. It is very rarely reported, but it is certainly more widely distributed in Greece as its suitable habitats are frequent there. In the Greek mainland previously it has been known from Mt. Olympos foothills, Athens and Mt. Chelmos (GOZMÁNY, 2012; COUTSIS, 2017) and our record from Vargiani falls between them.

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**References**


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