

Contribution to the butterfly (Rhopalocera) fauna of Albania with confirmation of the presence of the black hairstreak *Satyrrium pruni* (Papilionoidea: Lycaenidae) in the country

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Abstract. In July 2018 a new expedition was undertaken to explore unknown regions of Albania, including the central Dibër region. On 24.vii.2018, the author observed and collected a worn female of *Satyrrium pruni* (Linnaeus, 1758) (Papilionoidea: Lycaenidae) near Guri i Vashës. Previously, the status of this species had been relegated to data deficient in the last checklist of Albanian butterflies. In this article, a voucher specimen is described, together with the biotope, and the presence of this species in Albania is confirmed. It is expected that more localities will be found, from central up to North Albania, especially when searching in June.

Përmbledhje. Në korrik të vitit 2018 një ekspeditë e re u ndërmor me qëllim eksplorimin e rajoneve të panjohura të Shqipërisë përfshirë edhe zonën qendrore të rrethit të Dibrës. Më datë 24.vii.2018, autori vëzhgoi dhe mbledhi një femër të llojit *Satyrrium pruni* (Linnaeus, 1758) (Papilionoidea: Lycaenidae) pranë Guri i Vashës. Në listën e fundit të kontrollit për faunën e fluturave shqiptare bazuar në studime të mëparshme, statusi i këtij lloji është përshkruar me të dhëna të mangëta. Në këtë artikull konfirmohet prania e llojit për Shqipërinë si dhe përshkruhen të dhëna mbi individin e kampionuar dhe biotopin e tij. Pritet që lloji të gjendet në më shumë lokalitete me shtrirje nga Shqipëria e mesme në zonën veriore të vendit. Koha më e përshtatshme për këto kërkime të arrdshme është veçanërisht muaji qershor.

Samenvatting. In juli 2018 werd een nieuwe expeditie opgezet om onbekende regio's van Albanië te verkennen, waaronder de centrale Dibër regio. Op 24.vii.2018 observeerde en verzamelde de auteur een afgevlagen vrouwtje van *Satyrrium pruni* (Linnaeus, 1758) (Papilionoidea: Lycaenidae) in de buurt van Guri i Vashës. Voorheen werd de status van deze soort gewijzigd naar data deficiënt in de laatste checklist over de Albanese vlinderfauna. In dit artikel wordt het voucher exemplaar en de biotoop beschreven en daarmee de bevestiging van de soort voor Albanië. De verwachting is dat de soort nog op andere plaatsen, vanaf Centraal- tot Noord-Albanië, kan worden gevonden vooral in juni.

Résumé. En juillet 2018, une nouvelle expédition a été entreprise pour explorer des régions inconnues d'Albanie, notamment la région centrale de Dibër. Le 24.vii.2018, l'auteur a observé et collecté une femelle usée de *Satyrrium pruni* (Linnaeus, 1758) (Papilionoidea : Lycaenidae) près de Guri i Vashës. Auparavant, le statut de cette espèce avait été relégué aux données insuffisantes dans la dernière liste de contrôle des papillons albanais. Dans cet article, un spécimen de référence ainsi que son biotope sont décrits, et la présence de cette espèce est confirmée en Albanie. On s'attend à ce que davantage de localités soient découvertes, du centre au Nord de l'Albanie, en particulier lors de recherches au mois de juin.

Keywords: Albania — Butterflies — Faunistics — Papilionoidea — *Satyrrium pruni*.

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Introduction

In July 2018, another expedition to Albania was undertaken by the author, to further investigate the butterfly fauna in unexplored regions, with a focus on the central region of the country. Following previous expeditions in 2015 and 2017 by the author and other entomologists of the VVE (Flemish Entomological Society) the latest checklist of Lepidoptera was published shortly after, based on available literature and scattered new explorations over the country (Cuvelier *et al.* 2018). In this checklist an update was given for Albanian taxa, with new distribution maps, and some species were ranked as data deficient or omitted from the list. Specifically, the status of *Satyrrium pruni* (Linnaeus, 1758) was relegated to 'data deficient' and also in the European checklist by Wiemers (2018), and its distribution status is given as 'uncertain' for Albania. Previously, *S. pruni* had been mentioned for Albania by Murraj (1972) in his checklist without any detail or figure. In van Swaay & Warren (1999) the species is even given a distribution of 5–15% for Albania (without exact localities) but is not mentioned in Misja (2005).

While this book is hard to find on the market, it can be regarded as a reference work for Albania. However, the absence of personal observations of *S. pruni* was confirmed by late Prof. Misja before the print of this article (Cuvelier *et al.* 2018). There is no specimen of *S. pruni* in the collection in the Natural Sciences Museum of Albania in Tiranë (communication by Prof. Anila Paparisto) nor in other natural history collections. As far as the author knows, no specimen of *S. pruni* collected within the current boundary of the Albanian territory is known.

Material and methods

Museum visits were made before the 2018 expedition to explore in detail all available specimens in old collections at the Natural Sciences Museum of Albania in Tiranë. Field research on Lepidoptera in Albanian biotopes was conducted using a standard net and an electronic notebook on a smartphone for instant field determinations (IObs app). Specimens which could not be identified in the field or having a data deficient status



Fig. 1. *Satyrium pruni*, collected on 24.vii.2018 near Guri i Vashës, Dibër region, Albania. a, upperside b, underside; specimen in coll. L. Parmentier (LPAcoll, Zulte, Belgium); scale bar = 10 mm. © L. Parmentier.



Fig. 2. Biotope and some flowering plant species attractive to butterflies. a, b, biotope of *Satyrium pruni* near Guri i Vashës, Dibër region, Albania, ~1200 m alt.; c, *Odontarrhena muralis* between leaves of *Rubus fruticosus*; d, *Artemisia alba*; e, *Eryngium campestre*. All photos © L. Parmentier.

were collected and stored in glassine envelopes in boxes with a layer of freshly cut leaves of *Prunus laurocerasus* on the bottom to keep them relaxed without putrefaction during the expedition; boxes were later stored in a fridge at -20°C. Collected specimens were subsequently set and photographed. Pictures of biotopes and plants were taken by an iPhone 6; those of specimens were made under natural light conditions using a Canon D70 camera with a Canon 100 mm macro lens.

Results

During the expedition, the Dibër Province in the central part of Albania was further explored, following a previous visit in the region by the author in 2017. Situated North East of the city Bulqizë, an unexplored valley was examined, as biotopes in this locality looked interesting. On 24.vii.2018 near Guri i Vashës, at an altitude of ~1200 m, the author netted a worn female of a *Satyrium* species, along a small path between scrub and small trees. It was identified as *Satyrium pruni* and later confirmed based on habitus with typical traits such as the clear orange submarginal band on hindwings as depicted in Figure 1. Other butterfly species that were monitored flying on the same biotope are *Polyommatus icarus* (Rottemburg, 1775), *Lysandra coridon* (Poda, 1761), *Polyommatus daphnis* ([Denis &], 1775), *Melitaea didyma* (Esper, 1778), *Plebejus argus* (Linnaeus, 1758), *Spialia orbifer* (Hübner, 1823), *Thymelicus sylvestris* (Poda, 1761), and *Satyrus ferula* (Fabricius, 1793). Other butterfly species observed in the neighbourhood of this and adjacent biotopes will be given in a forthcoming article and new overview for Albania.

The biotope where *S. pruni* was captured (Fig. 2 a, b) consists of clearings and bushy glades with small trees and scrub growing on moderately steep slopes mostly on karst soil but often intermixed with zones of darker ophiolites. Tree species recorded were *Pinus* sp., *Quercus* sp. and thickets of *Rosa canina* and *Frangula alnus*. *Prunus* sp. scrub was not recorded at this altitude. In the open clearings, some flowering plant species attractive to butterflies were noticed, including *Stachys scardica*, *Inula oculus-christi*, *Odontarrhena muralis*, *Morina persica*, *Odontarrhena muralis*, and *Eryngium campestre* some of which are illustrated in Fig. 2 (c–e) *Rubus fruticosus*, an attractive nectaring plant for *S. pruni* was also recorded but not in flower.

Discussion

In this article, the first voucher specimen of *S. pruni* for Albania is described, together with its biotope. The status of *S. pruni* in Albania has long been debated as previous references gave many confusing reports. Indeed, it was not mentioned in the book of Misja (2003), an important reference work for Albania, and, due to the absence of clear evidence, it was ranked as 'data deficient' in the latest comprehensive checklist by Cuvelier *et al.* (2018), although it was thought that *S. pruni* could be a potential species to be discovered in Albania (Cuvelier *et al.* 2018).

However, the species was mentioned before by Murrain (1972) and also van Swaay & Warren (1999) and Verovnik & Popović (2013) included it in their checklist for Albania, probably based on observations in adjacent areas in Republic of Macedonia (Verovnik *et al.* 2010, Abdija 2013, Melovski & Bozhinovsk 2014) and from nearby Podgorica (Zeta-Skadar plain) in the Republic of Montenegro (Sobczyk & Gligorovic 2016). More recent papers also report the presence of *S. pruni* in Montenegro, but also based on older observations: in the Zeta-Skadar plain (Pietrzak 2021, based on Sobczyk & Gligorovic 2016) and Bar (Franeta 2018, based on Sijarić 1984 and Sijarić *et al.* 1984). *S. pruni* is also present in northern Greece (Pamperis 2009). On the contrary, no recent observations were found on open-source websites of Observado (Observado.org 2022) and GBIV (GBIV.org 2022) for Albania and adjacent countries. Indeed, in the southern Balkans, *S. pruni* is a very local species, difficult to observe and probably at the boundaries of its most southern distribution range. The place near Guri i Vashës, Dibër region is only about 60 km from the nearest known locality of *S. pruni* in the Republic of Macedonia, which is west of Openica village near Ohrid lake (Verovnik *et al.* 2010). The biotope where *S. pruni* was observed by the author consisted of a mixture of small trees of *Pinus* sp., *Quercus* sp. and thickets of *Rosa canina* and *Frangula alnus*, and *Rubus fruticosus* was also noticed in the vicinity. While the altitude (1200 m) is slightly at its limit, this is a potential biotope for *S. pruni*. Indeed, *Rosa canina* is known as a possible hostplant for *S. pruni* in Southern Europe (Tshikolovets 2011) and *Frangula alnus* is attractive as a source of nectar (Tolman T. & Lewington R. 1997). However, although *Prunus* sp., the best known foodplant of *S. pruni*, was not recorded in the area, it is perhaps present in the vicinity at lower altitude.



Fig. 3. From left to right: Prof. Anila Paparisto, late Prof. Misja Kastriot, Dr. Laurian Parmentier at the Faculty of Natural Sciences in Tiranë, during a visit in July 2017. © Laurian Parmentier.

The species' flight period in southern Europe is from mid-May until the end of July, depending on the altitude (Tolman & Lewington 1997, Tshikolovets 2011). As the collected specimen is a very worn female with a collecting date of 24th of July, it must be at the end of the species' flight period. As its favourite nectar source, *Frangula alnus* was not in flower, this female was probably searching for other nectar sources at higher altitudes. Indeed, it was observed that different flowering plants were present at that altitude attracting a variety of Lycaenid and other butterflies.

While this single observation confirms the presence of *S. pruni* for Albania, it is expected that more localities, from northern Albania till the Elbasan region, will be found especially when searching in June.

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