







New records of rare butterflies (Lepidoptera: Papilionoidea) in Albania

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Abstract: Field work conducted in 2016–2019 and 2022 contributed with additional data on 23 relatively rare species in Albania, including the second record of *Cacyreus marshalli* and the sixth record of *Apatura metis*. Several new localities are given for *Danaus chrysippus*, which proved to be not rare on the southern coast of Albania.

Keywords: Albania, new records, Papilionoidea

Introduction

Studies of butterflies in Albania increased in the last several years and resulted in findings of several new species for the country. According to Verovnik & Popović (2013a) checklist comprises 196 butterfly species. Šašić et al. (2015) added two more species. Micevski et al. (2015) found *Antocharis damone* Boisduval, 1836 new for the country and confirmed *Apatura metis* Freyer, 1829, which was not listed in Verovnik & Popović (2013a). Sachanovicz et al. (2016) reported two more new species: *Cacyreus marshalli* Butler, 1898 and *Melitaea diamina* (Lang, 1789). These authors mentioned *A. damone* as newly recorded for Albania but this species has already been published several months before. Sachanovicz et al. (2016) drew attention to the paper of Misja (2005) and suggested that *Euchloe penia* (Freyer, 1851) and *Pseudochazara cingovskii* (Gross, 1973) should be included in species list. Couvelier et al. (2018) gave comprehensive overview and reported new species for Albania. According to them the number of butterfly species with recent evidence in Albania is 196 while four species are considered as data deficient and at least nine are potential.

Recently, *Proterebia phegea* (Borkhausen, 1788) was reported for the first time in Albania (Verovnik & Verovnik, 2022). There are still several species expected in Albania. Because the field research of the authors was focused mostly on lamp collecting of nocturnal species at the night and on the family Zygaenidae at the day time, butterflies were a little bit neglected. Only a few Papilionoidea species were published in Beshkov & Nahirnić, (2019), Beshkov & Nahirnić-Beshkova (2021), Beshkov, Plant & Nahirnić (2020) and in Nahirnić & Beshkov (2017). In this paper we provide new records for 23 relatively rare species in Albania.

Material and methods

Field work was conducted in 2016–2019 and 2022 in all parts of Albania. *Hipparchia* specimens were determined on the basis of genitalia according to Coutsis (1983). Most of the specimens were just observed or caught and released after determination. Collected specimens are stored in the collections of Ana Nahirnić-Beshkova and Stoyan Beshkov, both stored in the National Museum of Natural History in Sofia.



Fig. 1. Habitat of *Anthocharis damone* Boisduval, 1836 at Gramsh Municipality, between Bratillë and Kokël villages, N40°46'33", E20°17'59", 507 m, 5.05.2022.

Results and discussion

Hesperiidae

Pyrgus serratulae (Rambur, [1839])

Near Prespa Lake, SW of Glloboçen Village, N40°50'44", E20°55'27", 930 m, 4.06.2022. It is known from several localities in southern Albania (Cuvelier et al., 2018). Our record is isolated from others. Record presented on the map in Cuvelier et al. (2018) falls on Mali i Thanës (= Mt Galičica) but it must be referred to the North Macedonian part of the mountain because Rebel & Zerny (1931) quoted Drenowsky (1930) who collected only at North Macedonian part and never at Albanian territory.

Spialia phlomidis (Herrich-Schäffer, 1845)

Ivan Mt, above Zvezdë Village, N40°43'59", E20°52'49", 1088 m, 6.07.2016; Gramsh Municipality, Bratillë Village, N40°46'15", E20°18'38", 515 m,

5.05.2022; Valamara Mt, above Bratillë Village, N40°46'20", E20°20'06", 994 m, 7.06.2022. Occurs in northern and south-eastern part of the country. Two of our records from Bratillë are the only ones in central Albania.

Muschampia proto (Ochsenheimer, 1808)

Sarandë Municipality, Butrint vicinity, N39°44'47", E20°00'39", 38 m, 18.X.2016; Gjirokastër County, Finiq Municipality, between Dhrovjan and Syri i Kaltër, N39°54'34", E20°11'23", 178 m, 13.07.2018, nectaring on *Centaurea melitensis* L. Beshkov (1995) reported this species for the first time for Albania from Himara and Muzina. All records originate from southern Albania.

Gegenes pumilio (Hoffmannsegg, 1804)

Sarandë municipality, Butrint vicinity, N39°44'47", E20°00'39", 38 m, 18.10.2016.

Papilionidae

Parnassius apollo (Linnaeus, 1758)

Korçë County, above Drenovë Village, N40°35'18", E020°48'23", 1050 m, 7.07.2016; Tirana County, Mali me Gropë Mts, N41°21'09", E20°02'47", 1405 m, 17.07.2018; Tirana Municipality, Mali me Gropë, N41°21'42", E20°03'24", 1495 m, 16.07.2018; Munella Mt, above Kimez Village, N41°57'13", E20°05'06", 1325 m 7.07.2019; Munella Mt, southern foothill, N41°56'57", E20°05'33", 1405 m, 7.07.2019; Munella Mt, south-eastern foothill, N41°57'18", E20°06'13", 1490 m, 7.07.2019. Not reported from Munella Mt before.



Fig. 2. *Colias croceus* f. *erateformis* Niculescu, 1963 male. Ksamil, 18.10.2016. Scale = 1 cm.

Pieridae

Anthocharis damone Boisduval, 1836

Gramsh Municipality, between Bratillë and Kokël villages, N40°46'33", E20°17'59", 507 m (Fig. 1), 5.05.2022. It is known from two localities in Albania, Bratillë in central Albania (Micevski et al., 2015) and Borsch in southern Albania (Sachanowicz et al. 2016). We observed ca. 20 specimens flying on steep slopes, two of which were females.



Fig. 3. *Colias croceus* f. *erateformis* Niculescu, 1963 male genitalia. Ksamil, Gen. prep. 1./12.I.2017, S. Beshkov, male genitalia on glass in Euparal.

Colias croceus f. *erateformis* Niculescu, 1963

Sarandë Municipality, Ksamil Village south, N39°44'47", E19°59'58", 20 m, 18.10.2016. 1 male collected (Fig. 2), genitalia checked (Fig. 3). Both *Colias erate* (Esper, 1805) and *C. croceus* (Geoffroy, 1785) can be very variable. Several forms can't be distinguished without genitalia examination especially yellow form *C. croceus* f. *erateformis* (Poorten et al., 1988; John et al., 2006). *Colias erate* is not mentioned to occur in Albania in checklists of butterflies. It is present in all surrounding countries and can be expected. In order to be sure that we found *C. erate* we dissected our specimen. According to genitalia (Gen. prep. 1./12.I.2017, S. Beshkov) this specimen turns out to be *C. croceus*. We suggest close examination of all specimens that resemble *C. erate* in Albania. *Colias croceus* f. *erateformis* has been found in Romania, Greece, Cyprus and Turkey and it is very rare (Hutsebaut et al., 2020).

Colias aurorina Herrich-Schäffer, 1850

Mt Moravë, Dardhë, N40°31'15", E20°49'56", 1241 m, 4.06.2018. It is known from Mt Moravë, Mt Grammos, Mt Lunxhërizë and Mt Nemërçkë. On Mt Moravë Verovnik & Popović (2013b) found it near the pass between Boboshticë and Dardhë, Šašić et al. (2015) found it near the same pass and near Boboshticë and Sachanowicz et al. (2016) recorded it from area west of village of Drenovë. Also, Cuvelier et al. (2018) found it in a wider area of the mentioned pass. We found it at new locality on Mt Moravë which is 2.3 km far from the nearest locality of the pass between Boboshticë and Dardhë published by Šašić et al. (2016). Our locality near Dardhë is characterised by southerly to westerly exposed slopes covered with *Astracantha* sp.



Fig. 4. Locality of *Cacyreus marshali* Butler, 1898, *Danaus chrysippus* (Linnaeus, 1758) and *Charaxes jasius* (Linnaeus, 1767). Vlorë County, Himarë Municipality, village Ilias S, Gjipe Beach, 18.10.2016.

Lycaenidae

Cacyreus marshalli Butler, 1898

Vlorë County, Himarë Municipality, village Ilias S, Gjipe Beach, N40°07'38", E19°40'17", 30 m, 18.10.2016, Eunis habitat type F5.213 Eastern Mediterranean high maquis (Fig. 4). One specimen observed nectaring. This species is native to Southern Africa. Its host-plants are *Pelargonium* spp. and *Geranium* spp. It was introduced to Europe with its host-plants which are widely used as ornamental plants. For the first time in Europe it was discovered in Balearic Islands in 1988 (Sarto i Monteys & Maso, 1991). It is reported from many European countries and became an invasive species. Sachanovicz et al. (2016) reported it for the first time for Albania in 2016 based on specimen collected in Tirana in 2009. Our finding represents the second record of this species in Albania. The nearest known locality is in Corfu Island (Parker, 2010). No host-plants were noticed at our site.

Scolitantides orion (Pallas, 1771)

Pogradec Municipality, Guri i Kamjes N40°50'14", E20°36'53", 1440 m, 5.06.2022; Valamara Mt, above

Bratillë Village, N40°46'20", E20°20'06", 994 m, 7.06.2022. There are only two records from southern part of the country.

Eumedonia eumedon (Esper, [1780])

Dajt Mt, E side, Qafa e Priskës N, N41°20'44", E19°57'14", 915 m, 5.06.2019; Pogradec Municipality, Maja e Ahishtës, N40°59'54", E20°36'31", 1320 m, 8.06.2022. It is known from north-eastern and south-eastern part of the country. Our record is the only one in central Albania.

Aricia artaxerxes (Fabricius, 1793)

Tirana County, Mali me Gropë Mts, N41°21'09", E20°02'47", 1405 m, 17.07.2018. There are only two records from the central part of the country.

Lycaena virgaureae (Linnaeus, 1758)

Tirana Municipality, Mali me Gropë, N41°21'42", E20°03'24", 1495 m, 16.07.2018. There are no data for the central part of the country with exception of one

near the border of North Macedonia (Cuvelier et al., 2018).

Lycaena ottomanus (Lefèbvre, 1830)

Permet Municipality, Benjë-Novoselë Village vic., N40°14'39", E20°25'22", 437 m, 6.06.2018; Sarandë Municipality, Butrint vicinity, N39°44'47", E20°00'39", 38 m, 18.10.2016. It is rare species in Albania. This is one of the most inland localities in Albania.

Lycaena candens (Herrich-Schäffer, 1844)

Tirana Municipality, Mali me Gropë, N41°21'42", E20°03'24", 1495 m, 16.07.2018. There are no data for the central part of the country.

Nymphalidae

Danaus chrysippus (Linnaeus, 1758)

Between Lushnjë and Kuçovë, Near Fier-Shegan Village, 16.10.2016; Vlorë County, Orikum Town vicinity, N40°19'25", E19°28'50", 15 m, 17.10.2016, agricultural area, 1 specimen on the road and 1 flying; Vlorë County, Himarë Municipality, between villages of Dhërmi and Ilias, St Theodore, N40°07'52", E19°39'19", 135 m, 18.10.2016, one specimen observed flying; Vlorë County, Himarë Municipality, village Ilias S, Gjipe Beach, N40°07'35", E19°40'15", 0 m (Fig. 4), 18.10.2016, one specimen observed flying above sea near the beach; Vlorë County, Himarë Municipality, Porto Palermo Castle vicinity, N40°04'00", E19°47'34", 20 m, 18.10.2016, two specimens observed nectaring in Eunis habitat type F5.52 *Euphorbia dendroides* formations. This widely distributed migratory species is observed in coastal areas in many Mediterranean countries and colonised some of them. In surrounding countries, it is reported for Greece (Owen, 1991) and Montenegro (Jakšić & Ristić, 1999). It is previously recorded from Albania from nine localities in coastal areas from Tirana to Saranda (Luquet & Misja, 1989; Gaskin 1990; Beshkov & Nahirnić, 2019). Those records date to 1979, 1982, 1988 and 2018. It was reported from the sea coast between Qeparo and Porto Palermo in November (Beshkov & Nahirnić, 2019). Must be the period of the year

September–November why this conspicuous butterfly has not been observed in Albania for a long time, since that is not period of the year when butterfly researchers usually conduct their research.

Charaxes jasius (Linnaeus, 1767)

Vlorë County, Himarë Municipality, between villages of Dhërmi and Ilias, St Theodore, N40°07'52", E19°39'19", 135 m, 18.10.2016; Vlorë County, Himarë Municipality, S of village of Ilias, Gjipe Beach, N40°07'35", E19°40'15", 0 m (Fig. 4), 18.10.2016; Sarandë Municipality, Bistricë Village, N39°55'15", E20°07'53", 115 m, 7.06.2016; Sarandë Municipality, Syri i Kaltër, N39°55'23", E20°11'29", 158 m, 6.08.2018, one male in light trap. The only source where exact localities of *C. jasius* are mentioned are those three in Rebel & Zerny (1931) and one locality in Nahirnić & Beshkov (2017). Misja & Kurizzi (1984) found it during their research but there is no further information about it. Cuvelier et al. (2018) omitted Nahirnić & Beshkov (2017) in literature overview for *C. jasius*. Main host-plant is *Arbutus unedo* L., 1753 which is noticed at all visited sites.

Apatura metis Freyer, 1829

Syri i Kaltër, N39°55'23", E20°11'29", 158 m, 6.08.2018. Known from Lake Shkodër (Micevski et al., 2015; Sachanowicz et al., 2016; Cuvelier et al., 2018) and Tirana surroundings (Rebel & Zerny, 1931). Our finding at Syri i Kaltër is the only known locality in southern part of the country. Our record is the sixth for Albania.

Brenthis hecate ([Denis & Schiffermüller], 1775)

Valamara Mt, above Bratillë Village, N40°46'29", E20°20'27", 1018 m, 7.06.2022. There are just a few localities in central and southern part of the country.

Euphydryas aurinia (Rottemburg, 1775)

Korçë County, Mt Moravë, Dardhë, N40°31'15", E20°49'56", 1241 m, 4.06.2018; Korçë County, Mt Moravë, Boboshticë, N40°32'39.25", E20°46'57.70",

1151 m, 4.06.2018. The species is included in the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. There are only several data in different regions of Albania (Cuvelier et al., 2018). Our finding is the first one for Mt Moravë and Korçë County.

Hipparchia volgensis (Mazochin-Porshnjakov, 1952)

Bulqizë, Mt Thanës, above Plani i Bardhë Village, N41°28'34", E20°09'19", 767 m, 21.07.2018; Valamara Mt, above Bratillë Village, N40°46'20", E20°20'06", 994 m, 7.06.2022. In the central part of Albania where it was only from the area of Tirana (Cuvelier et al., 2018).

Pseudochazara amalthea (Frivaldszky, [1845])

Korçë County, Voskopojë Village N, N40°38'58", E020°34'59", 1150 m, 11.07.2018; Korçë County, above Drenovë Village, N40°35'18", E020°48'23", 7.7.2016; Korçë County, below Dardhë, above Boboshticë Village, N40°32'26", E020°47'31", 8.07.2016; Korçë-Colonje Mt Kuq, Qarrit Pass, west from Pepellash Village N40°28'55", E020°41'27", 27.06.2017, 22.8.2017; on the road from Korçë to Erseka, below Pepellash Village, N40°28'54", E020°40'29", 27.6.2017; on the road from Korca to Erseka, below Pepellash Village, N40°28'53", E020°40'31", 27.6.2017. In Albania it is known only from the south-eastern part. We are adding new localities and fill the gaps in its distribution around Korçë.

Pseudochazara tisiphone Brown, 1980

Bulqizë, Mt Thanës, above Plani i Bardhë Village, 767 m, N41°28'34", E20°09'19", 21.07.2018; Mt Moravë, Korçë Municipality, above Drenovë Village, 1067 m, N40°35'18", E20°48'23", 8.07.2016; Korçë County, below Dardha, above Boboshtica Village, N40°32'26", E20°47'31", 8.07.2016; Korçë-Colonje on the road from Korca to Erseka, the pass of the border Korçë-Colonje County, N40°28'54"; E020°40'29";, 27.6.2017; on the road from Korçë to Erseka, below Pepellash Village, N40°28'53", E020°40'31", 27.6.2017; Korçë County, Voskopojë Village N,

N40°38'58", E020°34'59", 1150 m, 11.07.2018. In Albania it is known only from the surroundings of Korçë and Bulqizë. We are adding new localities to each of those areas.

Lasiommata petropolitana (Fabricius, 1787)

Mt Moravë, 1,3 km SW Dardhë, road to Arrëz Village, N40°30'40", E20°48'49", 1455 m, 5.06.2018. It is reported only from mountains in northern Albania (Cuvelier et al., 2018). Record presented on the map in Cuvelier et al. (2018) falls on Mali i Thanës (= Mt Galičica) but it must be referred to the North Macedonian part of the mountain because Rebel & Zerny (1931) quoted Drenowsky (1930) who collected only at North Macedonian part and not at Albanian territory.

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