

Some dragonfly records from Albania, with *Cordulegaster heros* and *Somatochlora metallica* new for the country (Odonata: Cordulegastridae, Corduliidae)

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Summary

A total of 13 Odonata species were recorded during a short visit to Albania. Two species, *Cordulegaster heros* and *Somatochlora metallica*, are recorded for the first time for this country. One male of *C. heros* was observed on 21-vii-2015 on a small stream before ending up in the Mati River south of Klos. *Somatochlora metallica* was found on 24-vii-2015 at the glacial lake Buni Jezerce in the Prokletije Mountains in northern Albania, nearly at the border with Montenegro.

Zusammenfassung

Libellenbeobachtungen aus Albanien, mit den Erstnachweisen von *Cordulegaster heros* und *Somatochlora metallica* für das Land (Odonata: Cordulegastridae, Corduliidae) – Während eines Kurzaufenthalts in Albanien konnten 13 Libellenarten beobachtet werden. Zwei Arten, *Cordulegaster heros* und *Somatochlora metallica*, wurden erstmalig für das Land nachgewiesen. Ein Männchen von *C. heros* wurde am 21.07.2015 an einem kleinen Bach kurz vor der Mündung in den Fluss Mat südlich von Klos registriert. *Somatochlora metallica* wurde am 24.07.2015 am Gletschersee Buni Jezerce in den Albanischen Alpen im Norden des Landes, an der Grenze zu Montenegro, entdeckt.

Introduction

The dragonfly fauna of Albania is poorly explored (e.g., BOUDOT et al. 2009). The first review of the odonate fauna was published by BILEK (1966) and was based on a collection made by the German Entomological Society and on an exhaustive literature survey. This resulted in a list of 37 taxa for Albania (see DUMONT et al. 1993). Additional records were made during an intensive field survey in 1993

(DUMONT et al. 1993) and in 1996 (KALKMAN 2000). Since then, several field trips were undertaken by MURÁNYI (2007) and MURÁNYI & KOVÁCS (2013) increasing the number of records of many species and the number of species up to 55 for Albania.

The present account is based on two days of fieldwork carried out in July 2015. On 21-vii-2015 selected localities along the Mati River were inspected for dragonflies and on 24-vii-2015 high altitude lakes along the border with Montenegro were surveyed. In this article a total of 13 species are reported, two of them, *Cordulegaster heros* and *Somatochlora metallica*, are new for Albania.

Methods and list of localities

Fieldwork was conducted along the Mati River in the central part of Albania, where several sites were investigated for their dragonflies, mostly without any observations. Secondly, several alpine and glacial lakes in the Prokletije Mountains, situated at the cross-border area of Montenegro and Albania, were investigated. In both cases, dragonflies were visually observed and if necessary netted to verify characteristics in the hand, as was the case with *S. metallica* and *C. heros*.

Loc. 1. Several pools and small streams within the streambed of the Mati River, south of Klos; 41°29'29"N, 20°05'50"E; 274 m a.s.l.; 21-vii-2015.

Loc. 2. Rivulet and irrigation channels flowing to the Mati River, just south of Loc. 1; 41°29'21"N, 20°05'46"E; 274 m a.s.l.; 21-vii-2015.

Loc. 3. Buni Jezerces north, Prokletije Mountains, Albania, small glacial lake; 42°28'04"N, 19°48'43.3"E ; 1763 m a.s.l.; 24-vii-2015.

Loc. 4. Buni Jezerces south, Prokletije Mountains, Albania, glacial lake, south of Loc. 3; 42°27'42.4"N, 19°48'23.6"E; 1795 m a.s.l.; 24-vii-2015.

Results

Thirteen species were observed during our short survey in Albania. Most of the species are (very) common in most of the Balkans and are not further commented upon. Two, however, – *C. heros* and *S. metallica* – are new species for Albania and are further commented and discussed. Here we give the list of observed species, followed by the localities where they were recorded.

Calopteryx virgo festiva (Brullé, 1832): Loc. 1 (3 ♂, 2 ♀)

Enallagma cyathigerum (Charpentier, 1840): Loc. 3 (10 ♂), Loc. 4 (2 ♂)

Ischnura elegans (Vander Linden, 1820): Loc. 1 (2 ♂), Loc. 3 (2 ♂)

Anax imperator Leach, 1815: Loc. 1 (1 ♂), Loc. 3 (1 ♂)

Anax parthenope (Selys, 1839): Loc. 1 (1 ♂)

Cordulegaster bidentata Selys, 1843: Loc. 2 (2 ♂)

- Cordulegaster heros* Theischinger, 1979: Loc. 2 (1 ♂)
Somatochlora metallica (Vander Linden, 1825): Loc. 3 (2 ♂)
Libellula depressa Linnaeus, 1758: Loc. 3 (1 ♀)
Orthetrum brunneum (Fonscolombe, 1837): Loc. 1 (10 ♂)
Orthetrum cancellatum (Linnaeus, 1758): Loc. 3 (2 ♂), Loc. 4 (1 ♂)
Orthetrum coerulescens anceps (Schneider, 1845): Loc. 1 (10 ♂, 2 ♀)
Sympetrum fonscolombii (Selys, 1840): Loc. 3 (2 ♂)

Discussion

A total of thirteen species from four localities were recorded during only two days of field survey. Of these, two, *C. heros* and *S. metallica*, are recorded for the first time for Albania. The fact that these two species are new for the country emphasizes how poor the knowledge is of the Albanian dragonfly fauna.

As for most of the southern Balkans, the knowledge of the different *Cordulegaster* species is confusing and poorly understood. *Cordulegaster bidentata* is mentioned by both BILEK (1966) and DUMONT et al. (1993) and certainly belongs to the Albanian fauna (MURÁNYI 2007; BOUDOT et al. 2009). As already pointed out by MURÁNYI (2007), no confirmed record of *C. heros* was known from Albania. This author stated that the single female with a label from Albania in the MacLachlan collection housed in the Natural History Museum in London belongs to *C. heros*, but details of the location are lacking and moreover it is uncertain if the specimen was collected in present-day Albania. Consequently, this record was omitted in BOUDOT et al. (2009). A male of *C. heros* was netted along a small stream before discharging into the River Mati, south of Klos on 21-vii-2015. This stream comes from the adjacent wooded hillside. Besides this male of *C. heros*, two males of *C. bidentata* were recorded some hundred meters further upstream, where the stream is flowing through the wooded hillside. As *C. heros* is widely distributed in the Balkans (BOUDOT et al. 2009; DE KNIJF et al. 2013; KULIJER et al. 2013), its presence in Albania could be expected. It is surprising that the species was not found during previous thorough surveys (e.g., DUMONT et al. 1993; KALKMAN 2000; MURÁNYI 2007; MURÁNYI & KOVÁCS 2013). As *C. heros* is mentioned on Annex II and IV of the European Habitats Directive, and Albania has EU candidate status and should first establish its Natura 2000 network of protected sites before becoming a member of the EU, we recommend that specific field surveys must be carried out to clarify its occurrence in Albania. This should not only be done for *C. heros* but also for other dragonfly species of the Annexes present in the country such as *Coenagrion ornatum* and *Lindenia tetraphylla*.

Somatochlora metallica is widespread in Central and Northern Europe (DIJKSTRA & LEWINGTON 2006), but is absent in the Mediterranean and very rare in south-eastern Europe (BOUDOT et al. 2009). In the Balkans, *S. metallica* is found only with certainty at higher altitude such as in Pirin or Rila Mountains in Bulgaria (BOUDOT et al. 2009; pers. observations), Bosnia and Herzegovina (KULIJER

et al. 2013) and Montenegro (DE KNIJF et al. 2013). In the latter country, the species is present at several sites in Durmitor, roughly 100 km from the Albanian locality reported here. PUSHNIG (1926) mentioned the finding of a male of *S. metallica* on 02-viii-1918 at Mamurras, located in the coastal plain north of Tirana. This record is also mentioned by BILEK (1966) but with the comment that this certainly belongs to the subspecies *meridionalis*, now considered a distinct species (e.g., DIJKSTRA & LEWINGTON 2006), which was only described by Nielsen in 1935. Notwithstanding this comment by BILEK (1966), this record was included in the Atlas of the Mediterranean and North Africa by BOUDOT et al. (2009) with the remark »possible [sic] refers to *S. meridionalis*«. As this species was not yet described at the time of the publication of PUSHNIG (1926), and as it was found nearly at sea level, we agree with BILEK (1966) and consider this old observation as pertaining to *S. meridionalis*. Recently, ALIKAJ & HASANI (2014) mention the presence of *S. metallica* for Viroi lake and its surroundings, in the southern part of Albania at about 190 m a.s.l. However, this observation was made at low altitude where *S. meridionalis* or even *Cordulia aenea* are more likely to occur. Furthermore, other species listed and illustrated with a photograph are also incorrectly identified. Therefore, we consider this record of *S. metallica* at lake Viroi as a misidentification and not valid. Our record of two males of *S. metallica* at Buni Jezerces in the Prokletije Mountains at 1,763 m a.s.l. are in line with the high



Figure 1. Buni Jezerces small glacial lakes in the Prokletije Mountains, Albania, where *Somatochlora metallica* was found (24-vii-2015). – Abbildung 1: Gletschersee Buni Jezerce in den Albanischen Alpen, Fundort von *Somatochlora metallica* (24.07.2015).

altitude observations in Montenegro (DE KNIJF et al. 2013), Bulgaria (BOUDOT et al. 2009; pers. observations) and Bosnia and Herzegovina (KULIJER et al. 2013), and fills the distribution gap between the localities in Montenegro and Bulgaria. The locality in Albania is a glacial lake bordered by boulders without riparian vegetation (Fig. 1). With the exception of some algae, aquatic vegetation was almost completely absent. Other lakes situated nearby are very similar and all are characterized by the absence of riparian and aquatic vegetation.

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