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CONTRIBUTION TO KNOWLEDGE OF THE DRAGONFLIES (ODONATA) FROM LAKE SKADAR'S DRAINAGE BASIN (MONTENEGRO)

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An updated list of the dragonflies (Odonata) of the Lake Skadar's drainage basin is given, including 45 species and subspecies. Two of them – *Sympecma fusca* (Vander Linden, 1820) and *Ceriagrion tenellum* (de Villiers, 1789) are new for the fauna of Odonata of Montenegro, while *Brachytron pratense* (Müller, 1764) and *Aeshna isosceles* (Müller, 1767) are recorded for the first ime in the Lake Skadar's basin. Findings of *Orthetrum coerulescens coerulescens* (Fabricius, 1798) are of the particular interest having in mind distribution of *O. coerulescens* subspecies in this part of Europe.

KEY WORDS: dragonflies, new records, faunistics, Montenegro

INTRODUCTION

Although the order Odonata is an important group among the insects, studies of the Odonata fauna in Montenegro are too few (ADAMOVIĆ, 1996; ADAMOVIĆ *et al.*, 1996; JOVIĆ *et al.*, 2008). The aim of our work was to gain new insight into the fauna of the country and obtain valuable documentation of the occurrence of dragonflies in the previously insufficiently studied catchments draining into Lake Skadar. ADAMOVIĆ (1996) reported the presence of six dragonfly species from Donji Ceklin new for the area of Lake Skadar. JOVIĆ *et al.* (2008) presented a

checklist and listed complete bibliography on dragonflies and damselflies in Montenegro. In the present survey, we recorded 45 species and subspecies, two of which are new for the fauna of Montenegro.

MATERIALS AND METHODS

In 2006–2007 (from April to November) we studied the dragonfly fauna from 41 sampling sites. The Lake Skadar's drainage basin is situated between 18° 41' and 19° 47' East longitudeand 42° 58' and 40° 10' North latitude. Located in a karst terrain in the outer part of the southeastern Dinaric Alps, Lake Skadar is the largest of the Balkan lakes and has a surface area which seasonally fluctuates approximately from 370 to 600 km^2. The lake's water level also varies seasonally, from 4.7 to 9.8 m above sea level. The lake extends in a NW–SE direction and is approximately 44 km long. The Bojana River connects the lake with the Adriatic Sea, and the Drim River provides a link with the Lake Ohrid. The exact origin of the lake is unknown, but it probably originated as a result of solution and tectonic processes during the Pleistocene.

Odonata specimens were collected with aerial nets. Specimens were put into envelopes and transported to the laboratory. All the specimens were deposited in the collection of the first author. BESCHOVSKI (1994) was consulted for identification of specimens and the biogeographic distribution of the species. Unless stated otherwise, all material was collected by the first author. The composition of material is given as: (males/females/larvae).

RESULTS

Forty–five species and subspecies of dragonflies were recorded and they are listed in Tab. I. Five species and subspecies are new for Montengro; these findings are presented in more detail.

Suborder Zygoptera

Family Lestidae

Sympecma fusca (Vander Linden, 1820)

Material: Lake Skadar, Karuč, 27.09.2006 (1/0/0), 02.06.2007 leg. Pešić (1/1/0), 13.07.2007 (1/1/0); Lake Skadar, Plavnica, 25.07.2007 (2/0/0), 16.08.2007 (1/1/0); Lake Skadar, Malo blato, 11.07.2007 (1/0/0); Podgorica reg., Matica River (Fig. 2) 12.06.2007 (1/0/0), 21.07.2007 (1/0/1); Danilovgrad reg., Sušica River (Fig. 1), spring Oraška Jama, 23.07.2007 (2/2/1).

Distribution: Mediterranean subregion.

Table I

List of the dragonfly species collected from the Lake Skadar's drainage basin.

Suborder Zygoptera	Suborder Anisoptera
Calopteryx virgo (Linnaeus, 1758),	*Aeshna mixta* (Latreille,1805)
Calopteryx splendens (Harris, 1782),	*Aeshna cyanea* (Müller, 1764)
Sympecma fusca (Vander Linden, 1820)	*Aeshna isosceles* (Müller, 1767)
Lestes virens (Charpentier, 1825)	*Aeshna juncea* (Linneus, 1758)
Lestes sponsa (Hensemann, 1823)	*Aeshna affinis* Vander Linden, 1820
Lestes dryas Kirby, 1890	*Anax imperator* (Leach, 1805)
Lestes viridis (Vander Linden, 1825)	*Brachytron pratense* (Müller, 1764)
Lestes barbarus (Fabricius, 1798)	*Cordulegaster bidentata* (Sélys, 1843)
Platycnemis pennipes (Pallas, 1771)	*Cordulia aenea* (Linnaeus, 1758)
Pyrrhosoma nymphula (Sulzer, 1776)	*Somatochlora metallica* (Vander Linden, 1825)
Ischnura elegans (Vander Linden, 1820)	*Libellula fulva* Müller, 1764
Ischnura pumilio (Charpentier, 1825)	*Libellula quadrimaculata* Linnaeus, 1758
Enallagama cyathigerum (Charpentier, 1840)	*Libellula depressa* (Linnaeus 1758)
Erythromma najas (Hansemann, 1823)	*Orthetrum albistylum* (Sélys, 1848)
Erythromma viridulum (Charpentier, 1840)	*Orthetrum coerulescens coerulescens* (Fabricius, 1798)
Coenagrion ornatum (Sélys, 1850)	*Orthetrum coerulescens anceps* (Schneider, 1845)
Coenagrion hastulatum (Charpentier, 1840)	*Orthetrum brunneum* (Fonscolombe, 1837)
Coenagrion puela (Linneus, 1758)	*Orthetrum cancellatum* (Linnaeus, 1758)
Ceriagrion tenellum (de Villiers, 1789)	*Crocothemis erythraea* (Brullé, 1823)
	Sympetrum flaveolum (Linnaeus, 1758)
	Sympetrum meridionale (Sélys, 1841)
	Sympetrum striolatum (Charpentier, 1840)
	Sympetrum sanguineum (Müller, 1764)
	Gomphus vulgatissimus (Linnaeus, 1758)
	Gomphus flavipes (Charpentier, 1825)
	Onychogomphus forcipatus (Linnaeus, 1758)

Family Coenagrionidae

Ceriagrion tenellum (de Villiers, 1789)

Material: Virpazar, 12.06.2006 (2/1/0); Podgorica, Mareza, 16.05.2007 (2/2/0), 12.06.2007 (4/2/0); Podgorica reg., Matica River, 11.09.2006 (1/1/0), 29.06.2007 (2/2/0); Danilovgrad reg., Sušica River, spring Oraška Jama, 06.06.2007 (3/2/1).

Distribution: Euro – Siberian subregion.

Suborder Anisoptera

Family Aeshnidae

Brachytron pratense (Müller, 1764) (Fig. 3)

Material: Danilovgrad reg., Sušica River, spring Oraška Jama, 10.04.2007 (2/0/3), 06.05. 2007 (1/1/0), 06.06.2007 (2/1/1), 12.07. 2007 (2/0/0).

Distribution: Euro – Siberian subregion.

Aeshna isosceles (Müller, 1767) (Fig. 4)

Material: Podgorica, Mareza,11.05.2006 (1/1/2), 05.05.2007 leg. Zeković (2/0/0), 12.06.2007 (2/2/1); Podgorica reg., Matica River, 12.07.2007 (2/1/1).

Distribution: Euro – Siberian subregion.

Family Libellulidae

Orthetrum coerulescens coerulescens (Fabricius, 1798)

Material: Lake Skadar, Karuč, 05.05.2007 (1/1/2), 26.05.2007 (2/1/2), 22.07.2007 (1/1/0); Lake Skadar, Plavnica, 25.08.2006 (1/2/3), 15.06.2007 (2/1/1); Lake Skadar, Malo Blato, 11.07.2007 (2/0/0); Podgorica, Mareza, 16.05.2007 (3/1/3), 12.06.2007 (1/1/0); Podgorica reg., Matica River, 24.08.2007 (1/2/2); Danilovgrad reg., Sušica River, spring Oraška Jama, 28.10.2006 (0/0/3), 24.05.2007 (2/0/0), 22.06.2007 (2/2/4), 23.07.2007 (2/1/0); Podgorica reg., Piperi, village of Gornji Crnci, 15.07.2007 (2/0/0).

Distribution: Mediterranean subregion.

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Figure 1. Sušica River

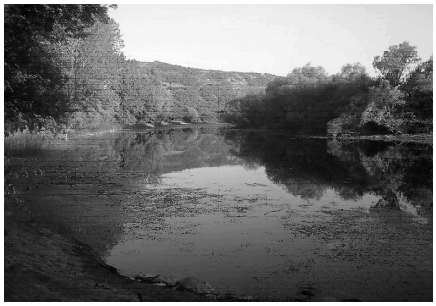

Figure 2. Matica River

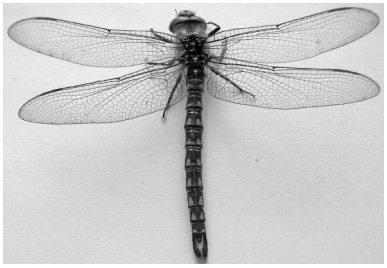

Figure 3. *Brachytron pretense* (Müller)

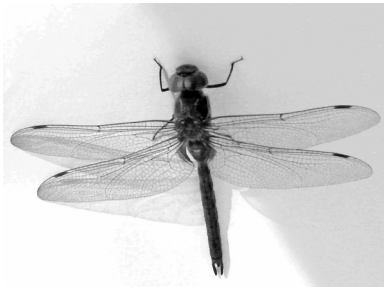

Figure 4. *Aeshna isosceles* (Müller)

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ПРИЛОГ ПОЗНАВАЊУ ФАУНЕ ВИЛИНСКИХ КОЊИЦА (ODONATA) СЛИВА СКАДАРСКОГ ЈЕЗЕРА (ЦРНА ГОРА)

БОГИЋ ГЛИГОРОВИЋ И ВЛАДИМИР ПЕШИЋ

ИЗВОД

У раду је дата листа вилинских коњица (Odonata) слива Скадарског језера која укључује 45 врста и подврста. Два таксона: *Sympecma fusca* (Vander Linden, 1820) и *Ceriagrion tenellum* (de Villiers, 1789) су нова за фауну Црне Горе, док су *Brachytron pratense* (Müller, 1764) и *Aeshna isosceles* (Müller, 1767) први пут регистровани у сливу Скадарског језера. Налаз *Orthetrum coerulescens coerulescens* (Fabricius, 1798) је од посебног значаја имајући у виду распрострањење двеју подврста врсте *O. coerulescens* у овом делу Европе.

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