



Seven new Tettigoniidae (Orthoptera) and a new Blattellidae (Blattodea) from the Durmitor area of Montenegro with notes on previously known taxa

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Table of contents

Abstract	2
Introduction	2
Methods	2
Systematic part	
Orthoptera	3
Tettigoniidae.....	3
Phaneropterinae	3
<i>Leptophyes intermedia</i> sp. n.	3
<i>Isophya modesta</i> Frivaldsky, 1867	5
<i>Isophya clara</i> sp. n.	5
<i>Poecilimon affinis-ornatus</i> group.....	12
Key to the species and subspecies of the <i>P. affinis-ornatus</i> group of Montenegro and nominate <i>P. affinis</i> and <i>P. ornatus</i>	17
<i>Poecilimon pseudornatus</i> sp. n.	18
<i>Poecilimon affinis affinis</i> (Frivaldsky, 1867).....	20
<i>Poecilimon affinis dinaricus</i> ssp. n.	23
<i>Poecilimon nonveileri</i> sp. n.	24
<i>Poecilimon rumijae</i> Karaman, 1972 stat. rev.	26
On the variation of the <i>Poecilimon elegans</i> group.....	26
<i>Poecilimon elegans</i> Brunner v.W., 1878	26
<i>Poecilimon albolineatus</i> sp. n.	28
<i>Poecilimon</i> sp. (near <i>P. elegans</i> Brunner, 1878)	32
Tettigoniinae	34
<i>Pachytrachis tumidus</i> sp. n.	34
Key to the species of <i>Pachytrachis</i>	38
Blattodea	38
Ectobiinae	38
<i>Phyllodromica montenegrina</i> sp. n.	38
Acknowledgements	40
References	40

Abstract

Eight new species or subspecies of orthopteroid insects discovered by the authors during expeditions to the Durmitor area in Montenegro are described; seven of them belong to Ensifera, Phaneropteridae: *Leptophyes intermedia* sp. n., *Isophya clara* sp. n., *Poecilimon pseudornatus* sp. n., *Poecilimon nonveilleri* sp. n., *Poecilimon affinis dinaricus* ssp. n., *Poecilimon albolineatus* sp. n., Tettigoniinae: *Pachytrachis tumidus* sp. n., and one to Blattodea, Ectobiinae: *Phyllodromica montenegrina* sp. n. Diagnostic keys to taxa of the *P. affinis-ornatus* group and to the species of *Pachytrachis* are provided. *Poecilimon elegans* Brunner v.W., 1878 is re-described and a lectotype selected. Diagnostic notes and images for species related to the new taxa are also given. Within the genera *Isophya*, *Poecilimon* and *Pachytrachis* stridulation is used to verify the status of the species studied.

Key words: Montenegro, Balkan Peninsula, new species, stridulation, Orthoptera, Blattodea, *Isophya*, *Leptophyes*, *Poecilimon*, *Pachytrachis*, *Phyllodromica*

Introduction

The variety of landscapes and habitats in Montenegro from the Mediterranean coast to the alpine zone provides the base for a rich orthopterous fauna. The first summary of the orthopterous insects of Montenegro is that of Krauss (1904) who gives a list of 33 species. Additional information was provided by the works of Burr (1906), Ebner (1911), Werner (1920), Us (1938), Bei-Bienko (1954), Beier (1954, 1955) and Čejchan (1963) that was summarised and extended by the synopsis of Us (1968), who lists 111 species of saltatorian Orthoptera (Ensifera and Caelifera) from Montenegro. Those works, as well as others by Willemse (1966), Us & Matvejev (1967), and Us (1970), include also sporadic information on the Durmitor area. A comprehensive study of the orthopterous insects of Durmitor has however never been done.

From 1985 to 1995 the authors undertook regular excursions to Durmitor, either as joint adventures or by the junior author alone. It was part of a comprehensive faunistic survey of Durmitor initiated by the late Prof. G. Nonveiller. Due to the breakup of the former Yugoslavia and later the death of G. Nonveiller, the project ceased. Our results on the rich orthopteroid insect fauna of that mountain (about one hundred species) have not been published so far. The investigation revealed several undescribed taxa. The aim of the present paper is to describe the new species and subspecies in comparison to the related taxa of the Balkan peninsula. For this, type material of some previously described *Isophya* and *Poecilimon* species was re-examined by the senior author. Bioacoustic comparisons are included to verify the identity of morphologically similar taxa.

In systematics and taxonomy we follow Harz (1969, 1975) and Harz & Kaltenbach (1976), considering new results and alterations proposed catalogued in Eades & Otte (2008) and Beccaloni (2009).

Methods

Recordings of stridulation: In the field, recordings were done with a portable cassette recorder (SONY WM3) and a Universum microphone on CrO₂-tapes; frequency range 0,05–15 kHz. In the studio, stridulation was recorded with a cassette recorder (Kenwood KX 880 HX) and an AKG D202 microphone with the low frequency range (< 100 Hz) switched off on pure metal tapes. The resulting frequency range was 0,1–20 kHz. For recording of stridulation in the ultrasonic range, a bat detector (QMS-mini) was used as a microphone.

Oscillograms were mainly produced by an Oscillomink (Fa. Siemens) after re-recording on an Uher Report M4200 tape recorder, partly by a FFT-Spectrum-Analyser (MEDAV). Some of the sound analyses were later done on computer using the software Amadeus Pro.

For the description of songs the following terminology is used:

syllable = one complete opening and closure of fore wings in Ensifera or one complete up and down movement of hind legs in Orthoptera s.str.;

echeme = first order assemblage of syllables;