Contribution to the taxonomy of Poecilimon bosphoricus species group (Orthoptera: Phaneropteridae): two new species from its core range

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Abstract

The Poecilimon bosphoricus species group, representing the most diverse lineage of the bushcricket genus Poecilimon, has been studied in the Basin of Marmara Sea. Two new species, P. warchalowskae sp. n. and P. canakkale sp. n., are described morphologically and acoustically in comparison to their related taxa of the P. bosphoricus species group. Song type and morphology of the new species suggests that they are related to P. turcicus, P. turciae and P. athos and each of these five species can be distinguished by their specific male cerci. The diagnoses are supplemented with comparative figures of morphology and song. Additionally, a short account is given on the synonymy of P. anatolicus with P. sureyanus.

Key words: Genus Poecilimon, biacoustics, systematics, taxonomy, Turkey

Introduction

The extraordinary speciose bushcricket genus Poecilimon (Orthoptera, Phaneropteridae, Phaneropterinae) presently includes about 130 valid species (Eades et al. 2015 except the synonymous according to Kaya et al. 2012 P. boldyrevi Miram, 1938 and the undecided priority for the names P. tauricus Retowski, 1888 and P. flavescens (Herrich-Schäffer, 1838)) distributed mainly in the Aegean and the Black Sea Basins. The taxonomical arrangement in this genus has been unstable for the conflicts existing between different studies. A main reason for these conflicts may be considered the specific evolutionary history of the genus. In many cases species radiated in allopatry that led to weak morphological and/or acoustic differentiation or, in other cases, the rapid recent radiation events have been altered by subsequent hybridization in secondary contact zones (see Boztepe et al. 2013). In addition, the results may be distorted, when the systematic studies rely on unidirectional approaches or/and are restricted taxonomically or geographically.

After the bioacoustic study on Poecilimon by Heller (1984), a tendency of integrating different approaches for grouping taxa and studying their relationships developed resulting in a significant contribution to the systematics of this genus (e.g., Heller & Lehmann 2004; Heller & Sevgili 2005; Heller et al. 2006; Heller et al. 2008; Chobanov & Heller 2010; Ulrich et al. 2010; Heller et al. 2011; Kaya et al. 2012; Boztepe et al. 2013). First outlined as "Group VIII" by Ramme (1933) and later supported by Ulrich et al. (2010) as monophyletic, the Poecilimon bosphoricus species group has been reviewed by Kaya et al. (2012) as the largest group in the genus. Kaya et al. (2012) listed 21 valid species grouped in three subgroups according to the amplitude-temporal pattern of the male song. Later on Ünal (2012) rejected some synonymies and re-established the subspecific status of P. similis proximus Ünal, 2010, thus, presently the group counts 24 species (considering the above mentioned synonymy of P. flavescens and P. boldyrevi).

The highest diversity of species and morphotypes of the Poecilimon bosphoricus group is concentrated in the region of the Dardanelles—the Sea of Marmara—the Bosphorus straits system, which appears to be the main (core)