Zootaxa 3682 (3): 441–453
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3682.3.5
http://zoobank.org/urn:lsid:zoobank.org:pub:69B9A846-616F-4774-B3F0-B796D2B90431

A revised taxonomy of crested newts in the *Triturus karelinii* group (Amphibia: Caudata: Salamandridae), with the description of a new species

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Abstract

We present a taxonomic revision of the crested newt *Triturus karelinii* sensu lato. Based on the presence of discrete nuclear DNA gene pools, deep genetic divergence of mitochondrial and nuclear DNA, and no indication of gene flow, we interpret this taxon as comprising two species: one covering the southern Caspian Sea shore, the Caucasus and the Crimea, i.e. the eastern part of the total range and another covering northern Asiatic Turkey and western Asiatic Turkey plus the south-eastern Balkan Peninsula, i.e. the central and western part of the total range. We acknowledge that the central/western species should likely be further subdivided into a central and a western taxon, but we prefer to await a more detailed genetic analysis of the putative contact zone, positioned in northwestern Asiatic Turkey. The name *T. karelinii* (Strauch, 1870) applies to the eastern species as the type locality is positioned along the coast of the Gulf of Gorgan, Iran. The name *T. arntzeni* has been applied to the central/western species with Vrtovać, Serbia as the type locality. We show that not *T. karelinii* sensu lato but *T. macedonicus* occurs at Vrtovać. Hence, the name *T. arntzeni* Litvinchuk, Borkin, Džukić and Kalezić, 1999 (in Litvinchuk *et al.*, 1999) is a junior synonym of *T. macedonicus* (Karaman, 1922) and should not be used for the central/western species. We propose the name *T. ivanbureschi* **sp. nov.** for the central/western species and provide a formal species description.

Key words: gene flow, phylogeny, *Triturus arntzeni*, *Triturus cristatus* superspecies, *Triturus ivanbureschi* **sp. nov.**, *Triturus karelinii*

Introduction

The genus *Triturus* (the marbled and crested newts) comprises five ‘morphotypes’, i.e. groups differing in relative body proportions (Arntzen, 2003). These five *Triturus* morphotypes are, arranged from a stocky to a slender built, composed of: 1) *T. marmoratus* (Latreille, 1800) and *T. pygmaeus* (Wolterstorff, 1905), 2) *T. karelinii* (Strauch, 1870), 3) *T. carnifex* (Laurenti, 1768) and *T. macedonicus* (Karaman, 1922), 4) *T. cristatus* (Laurenti, 1768), and 5) *T. dobrogicus* (Kiritzescu, 1903). The taxonomy of these five morphotypes is by now well established (Arntzen & Wielstra, 2010; Speybroeck *et al.*, 2010) with the exception of *T. karelinii* which, as previous studies suggest, comprises more than one species. For ease of communication we refer to the collective of species comprising *T. karelinii* as *T. karelinii* sensu lato (s. l.).

We here begin a revision of the taxonomy of *T. karelinii* s. l. We first review the phylogenetic studies that have been conducted on *T. karelinii* s. l. Second, we make the case that two species exist, distributed along the southern Caspian Sea shore, in the Caucasus and in the Crimea (referred to as the ‘eastern species’) and in northern Asiatic Turkey and western Asiatic Turkey plus the south-eastern Balkan Peninsula (referred to as the ‘central/western species’). Third, based on an analysis of published and newly collected data, we demonstrate that the name *T. arntzeni* does not refer to the central/western species but — as the bulk of the data indicates — is a junior synonym

Accepted by M. Vences: 30 May 2013; published: 28 Jun. 2013