

**First record of *Triturus macedonicus* (Karaman, 1922)  
(Amphibia: Salamandridae) in Bulgaria**

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**Abstract.** A record of *Triturus macedonicus* (Karaman, 1922) in Slavyanka Mt. (SW Bulgaria) from June 2007 is announced. This is a new species for Bulgarian fauna, and the locality is the easternmost for the species in general. A short description of the habitat and morphology are given.

**Key words:** *Triturus macedonicus*, distribution, morphology, Slavyanka mountain.

*Triturus cristatus* superspecies includes five species which are similar in morphology, and distributed in Europe and West Asia. Two species were already mentioned as occurring in Bulgaria - *Triturus dobrogicus* (Kiritzescu, 1903) and *Triturus karelinii* (Strauch, 1870). The first occurs along the Danube River and the second inhabits the rest of the country. In 2005 *Triturus cristatus* (Laurenti, 1768) was found (TZANKOV & STOYANOV, 2008). In this publication we report an occurrence of the fourth species – *Triturus macedonicus* (Karaman, 1922). The species distribution area includes the western part of the Balkan peninsula (ARNTZEN, 2003). This taxon used to be treated as a subspecies of *Triturus carnifex* (Laurenti, 1768), occupying the eastern part of the distribution range, but was recently elevated to a species status (ARNTZEN et al., 2007). Species distribution of *T. dobrogicus* and *T. karelinii* in Bulgaria according to NAUMOV & STANCHEV (2004) is given in Fig. 1, as well as the known localities of *T. cristatus* and *T. macedonicus*.

During the zoological expedition to Slavyanka Mt. (SW Bulgaria) on June 9, 2007, one female *T. macedonicus* was caught in a small pond, and another 4-5 individuals were observed. The pond is situated in Livade place at 1650 m a.s.l. (UTM: GL18), in a vast meadow in a Bosnian pine (*Pinus heldreichii* Christ.) forest. The pond is approximately 27 x 13 m, with a maximum depth of 0,9 m. About 1/3 of the surface is occupied by *Typha* sp., and the rest by the attached and natant plants and duckweeds. On June 26, 2007, another 16 specimens (9 males and 7 females) were captured, and on August 1, 2007, one male was observed. The same pond is inhabited by *Salamandra salamandra* (Linnaeus, 1758) (larvae), *Bombina variegata* (Linnaeus, 1758), *Bufo bufo* (Linnaeus, 1758), *Hyla arborea* (Linnaeus, 1758), *Rana dalmatina* Fitzinger in Bonaparte, 1838 and *Natrix natrix persa* Pallas, 1814.

Standard morphometric measurements were taken before releasing the specimens back. One male and one female were collected and are deposited in the collection of the National Museum of Natural History in Sofia (inventory numbers III-30-41 and III-30-42). Wolterstorff index

(WI) data ( $WI=100 \times \text{fore-limb length}/\text{inter-limb length}$ ) are presented in Table 1. Our data are in good agreement with the corrected values of WI (for *T. carnifex*), respectively 63.7-67.09 for males and 53.9-59.19 for females (ARNTZEN & WALLIS, 1999). Position of the palatine teeth and throat coloration were studied too. In most of the studied specimens, the two palatine tooth rows are nearly parallel, with a relatively large distance at the distal and proximal ends, and converging at the middle points (Fig. 2). For comparison, a *T. karelinii* specimen from Osogovo Mt. was studied (UTM: FM37). In this species, both rows are close to each other at their distal ends, and well separated at the proximal (BANNIKOV et al., 1977). In all observed specimens the throat coloration was nearly the same – orange/yellow with small dark grey spots. The coloration characteristics of *T. macedonicus* are particularly variable and individuals may resemble any member of the *Triturus cristatus* superspecies (ARNTZEN & WALLIS, 1999).

The new locality in Slavyanka Mt. is the easternmost for the species. The closest known locality of *T. macedonicus* is Livadia at the foot of the mountain Belasitsa (northern Greece) (ARNTZEN & WALLIS, 1999), situated 50 km southwest of the new locality. In Bulgaria the nearby localities of *T. karelinii* are Melnik (UTM: GL09, GEISLER & BRÜHL, 1980) and Levunovo (UTM: FL99, N.Tzankov pers. obs.). From the closest regions in Northern Greece there are two more (Lake Kerkini and Vrodou Mts., reported by JERRENTROP, 1990 and ASIMAKOPOULOS, 1994 respectively), but no information about the species status was given (*T. karelinii* or *T. macedonicus*). They are cited as *T. cristatus*.

Slavyanka Mt. together with southern Pirin Mt. were proposed for protected areas as part of the NATURA 2000 network. Furthermore, the largest part of the mountain falls within the already existing Alibotush reserve.

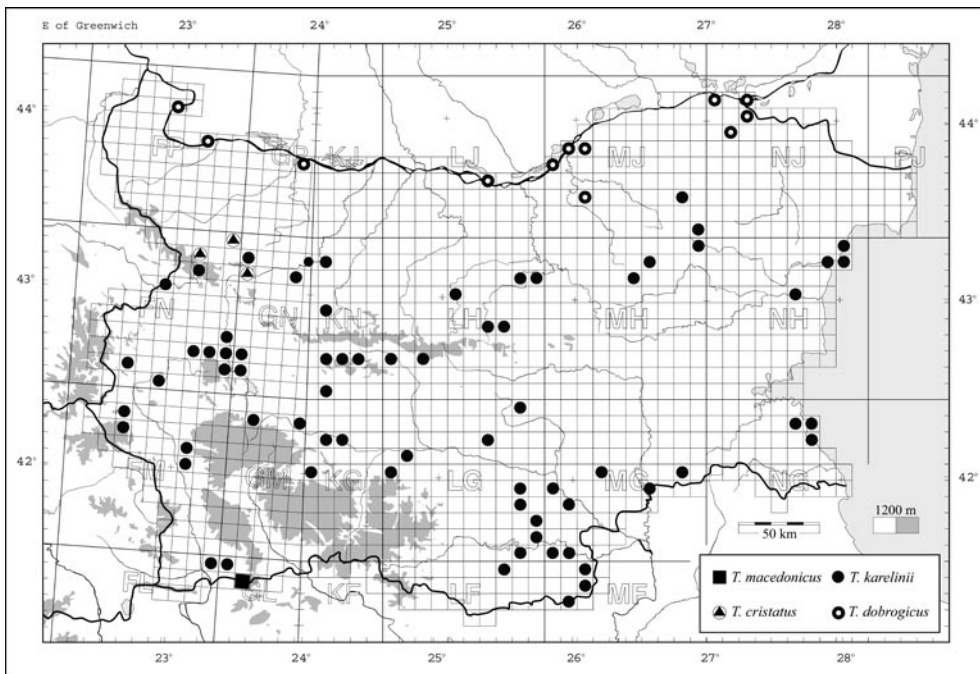


Fig. 1. Distribution of the *Triturus cristatus* superspecies in Bulgaria (UTM grid 10x10 km)

Table 1

Wolterstorff index in both sexes of *T. macedonicus* from Slavyanka Mts., sample size (n), minimum value (min), maximum value (max), arithmetic mean (mean), standard deviation (sd).

Sex	N	Min	Max	Mean	SD
♂♂	9	54.00	66.00	59.56	4.10
♀♀	8	49.00	56.00	52.63	2.50

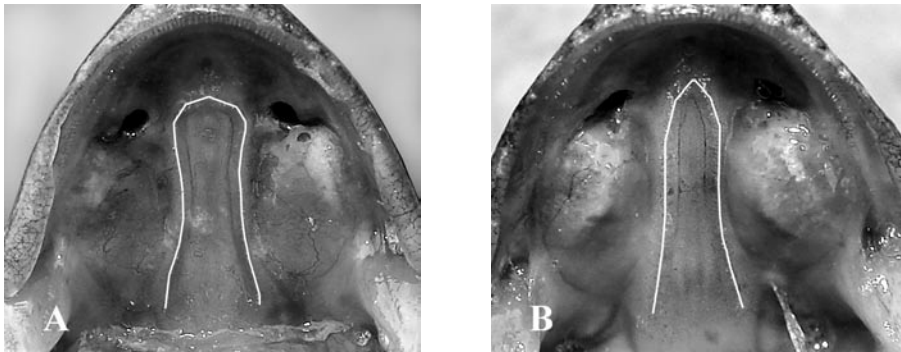


Fig. 2. Palatine teeth form in *T. macedonicus* (A) and *T. karelinii* (B)

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**Първо съобщение за намирането на *Triturus macedonicus* (Karaman, 1922) (Amphibia: Salamandridae) в България**

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(Резюме)

Съобщава се за установяването на нов вид за фауната на България – македонски гребенест тригон (*Triturus macedonicus* (Karaman, 1922)). Видът е намерен от авторите в малък водоем в планината Славянка. Дадено е кратко описание на хабитата и морфологията на уловените екземпляри. Представена е карта на разпространението на надвида *Triturus cristatus* в България.