

NEW DISTRIBUTION RECORDS OF THE DANUBE CRESTED NEWT *Triturus dobrogicus* (KIRITZESCU, 1903) IN SOUTHERN ROMANIA

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Abstract. In the spring of the years 2016 and 2017 we identified seven new distribution localities of the Danube crested newt, *Triturus dobrogicus*, in southern Romania. All seven localities are situated in the Danube floodplain or in its close proximity, at an altitude below 100 m. Thus, the new distribution records are situated inside the species distribution range. Nevertheless, the locality from Olt County represent, compared with the previous data from the literature, the first mention of *T. dobrogicus* in the region. This underlines the precarity of the information concerning the distribution of *T. dobrogicus* in southern Romania, even nowadays.

Keywords: distribution, plain, newts, habitats, endemic species.

Abstract. Noi localități de răspândire a tritonului cu creastă dobrogean *Triturus dobrogicus* (Kiritzescu, 1903) în sudul României. În primăvara anilor 2016 și 2017 am identificat șapte noi localități de distribuție a tritonului cu creastă dobrogean, *Triturus dobrogicus*, în sudul României. Toate cele șapte localități sunt situate în Lunca Dunării sau în vecinătatea acesteia, la o altitudine mai mică de 100 de m. Astfel, noile localități de distribuție se află în interiorul arealului speciei. Totuși, localitatea din județul Olt, reprezintă, în raport cu datele anterioare din literatură, prima semnalară a speciei în regiune, subliniind precaritatea informațiilor despre răspândirea speciei în sudul României, chiar și în prezent.

Cuvinte cheie: distribuție, câmpie, tritoni, habitate, specie endemică.

INTRODUCTION

Although the knowledge about the distribution of amphibians in Romania improved greatly in the last decade (see COGĂLNICEANU et al., 2013), new and zoogeographical relevant information upon their distribution in the country are published even in present (e.g. CICORT-LUCACIU et al., 2017). From the five newt species that are present in Romania, only one, *Triturus dobrogicus*, is distributed exclusively in plain areas, the others being distributed either regardless of altitude or only in higher areas (COGĂLNICEANU et al., 2000, 2013). In Romania, *T. dobrogicus* is present in the plain areas from the western part of the country, and also in the plain areas from the southern part of the country alongside the Danube, until the Danube Delta (e.g. ARNTZEN et al., 1997; COGĂLNICEANU et al., 2013). In the Danube Delta the largest individual from this species was recorded (GHERGHEL & IFTIME, 2009). Those two distribution range segments are separated by the Danube Gorge, a region where the species is completely absent nowadays (e.g. COGĂLNICEANU et al., 2000, 2013; GHERGHEL & PAPEȘ, 2015), and also the other crested newt species present in Romania, *T. cristatus*, seems to be absent (e.g. COVACIU-MARCOV et al., 2009; COGĂLNICEANU et al., 2013). Nevertheless, two possible connections between those two distribution ranges segments were recently mentioned (GHERGHEL & PAPEȘ, 2015). Two subspecies were recognized in the past (LITVINCHUK & BORKIN, 2000), but previous authors accepted numerous varieties (FUHN 1953). Nevertheless, recent data suggests that *T. dobrogicus* must be considered a monotypic species (see in: WIELSTRA et al., 2016), even more because the species seems to have survived in two different glacial refuges, both situated in the Pannonian Plain (VÖRÖS et al., 2016). In Romania, the highest number of this species records are in the north-western part of the country (COGĂLNICEANU et al., 2013). Even if *T. dobrogicus* was rarely found in the Banat region (COGĂLNICEANU et al., 2013), it was recently identified in more localities, but the populations seems small and vulnerable (BOGDAN et al., 2013). Unlike western Romania, the records from the southern part of the country are much fewer (e.g. COGĂLNICEANU et al., 2013; GHERGHEL & PAPEȘ, 2015). In the western parts of the Danube floodplain, in Oltenia region, the species is even rarer; it seems absent from large areas because of a higher environmental resistance (GHERGHEL & PAPEȘ, 2015). Nevertheless, recent detailed studies in some areas from the eastern part of the Romanian Plain lead to the discovery of more populations (IFTIME & IFTIME, 2017). Thus, we have hypothesized that the species is not so rare also in Oltenia region, but only its distributions was not studied appropriately. As a consequence, this note mention some new *T. dobrogicus* populations in the Danube floodplain, and especially in Oltenia region, where this species was very rare and its distribution range seems even discontinuous (GHERGHEL & PAPEȘ, 2015).

MATERIAL AND METHODS

The field activity took place in the years 2016 and 2017, in each year in April. On the field we did not targeted explicitly the newts, but data upon their distribution were collected occasionally during field trips made in the plain areas from southern Romania, belonging to the Romanian Plain (POSEA & BADEA, 1984). During those field trips we investigated amphibians from different aquatic habitats in the region, with the help of a net with round opening, mounted on metal handles of approximately two meters length, used both from the shores and from the water. This net

was previously used to capture newts (e.g. CICORT-LUCACIU et al., 2017), but also other aquatic vertebrates (e.g. SAS-KOVÁCS et al., 2015). Nevertheless, the efficacy of the method is negatively influenced by the amount of aquatic vegetation (BØRRE et al., 2014), and the investigated habitats usually contained a lot of aquatic vegetation. After we established the captured individuals' species and sex, all newts were immediately released in their habitats. In some habitats, certain newts were photographed in a small aquarium before they were released. Also, we took photos of some of the newts' habitats.

RESULTS

T. dobrogicus was identified in seven localities in southern Romania (Figure 1): Gogoşu/Jiana (Mehedinţi County), Ursa (Olt County), Vieru (Giurgiu County), Căscioarele/Greaca (limit between Giurgiu and Călăraşi Counties), Băneasa/Pietrele (Giurgiu County), Berteştii de Jos (Brăila County) and Gighera (Dolj County). Totally, we captured 21 *T. dobrogicus* individuals, of which 11 were females and 10 were males. Beside *T. dobrogicus*, in the studied habitats were present *Lissotriton vulgaris*, *Bombina bombina* and *Pelophylax ridibundus* individuals. All seven localities where we recorded *T. dobrogicus* individuals are situated at altitudes between 5 and 81 meters. The Danube crested newts' habitats have generally small dimensions, being represented either of artificial channels or small water courses of the type of streams (Fig. 2), but which in their turn were partially arranged, deepened and regularized. Both habitat types were usually surrounded by agricultural areas. Nevertheless, generally willows are present on their shores, and a rich aquatic vegetation exists in the water. Usually the water is shallow, but with mud on the bottom. As an exception, the habitat between Giurgiu and Călăraşi Counties was represented by a pond area formed by a spring situated in the loess walls that bordered the floodplain to the north. The pond was situated in the middle of the loess wall, on the side of a dirt road, having clean water and a lot of aquatic vegetation.

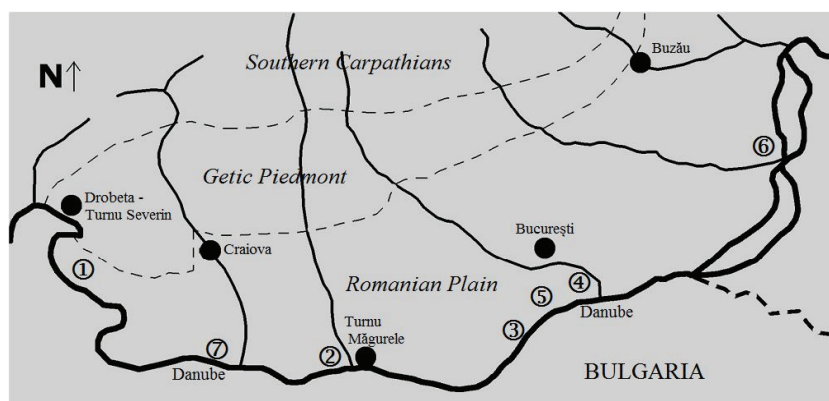


Figure 1. New distribution records of *T. dobrogicus* in southern Romania (1 – Gogoşu/Jiana, 2 - Ursa, 3 - Vieru, 4 -Căscioarele/Greaca, 5 - Băneasa/Pietrele, 6 - Berteştii de Jos, 7 - Gighera).



Figure 2. *Triturus dobrogicus* habitat at Ursa, Olt County.

DISCUSSION

The seven new distribution records of *T. dobrogicus* identified between the years 2016 and 2017 extend the knowledge regarding the distribution of this species in southern Romania. Thus, compared with the previous data from the literature that were centralized in the year 2013 (COGĂLNICEANU et al., 2013), the new distribution records represent almost a half from the total distribution records known at that moment in southern Romania. Nevertheless, in the meantime, new distribution localities of the Danube crested newt were recorded in south-eastern Romania, in Călărași County (IFTIME & IFTIME, 2017). However, even nowadays the information upon this species distribution is scarce. Thus, to our best knowledge, Ursa locality represents the first record of *T. dobrogicus* in the Olt County. This, alongside with the other localities from Oltenia region and especially the one from the Dolj County, have a special importance, because they prove that the species distribution range is southern Romania is continuous, even if the environmental resistance seems high for *T. dobrogicus* in this region (GHERGHEL & PAPEȘ, 2015), and the number of records are very reduced (COGĂLNICEANU et al., 2013). Our results proves clearly that *T. dobrogicus* is continues distributed in the Danube floodplain in Romania, as well as in Bulgaria, where is constantly present along the Danube, but only on its close proximity (NAUMOV & BISERKOV, 2013). Nevertheless, it is difficult to state how much the species distribution range extends to the north, because the known distribution localities are situated very close tot the Danube. At least in Dolj, in the county northern and central regions the other crested newt species *T. cristatus* is already present (LAZĂR et al., 2005).

Even if this species was generally observed in large aquatic habitats (e.g. LITVINCHUK et al., 1997; COGĂLNICEANU et al., 2000), we found it almost in all cases in small sized, generally artificial or modified habitats. Also, in other regions from Romania, *T. dobrogicus* was usually identified in such habitats, because of the antropogenic disturbance or even disappearance of natural habitats (e.g. COVACIU-MARCOV et al., 2006; BOGDAN et al., 2013). Thus, even if *T. dobrogicus* seems to be distributed continuously in the Danube floodplain in Romania, it has very few, both terrestrial or aquatic, habitats, because most of its favorable territory was transformed in agricultural terrains, like in other areas (e.g. ARNTZEN et al., 1997; LITVINCHUK et al., 1997). The survival of other crested newt species is insured by maintaining suitable aquatic and terrestrial habitats (GUSTAFSON et al., 2011). However, it is possible that in very large habitats from the Danube floodplain there are still large *T. dobrogicus* populations, which are impossible to encounter with our resources. Anyway, the remained available territory for this species is extremely reduced. The situation is valid also in the case of some herpetofauna species in the region, like *Dolicophis caspius*, which is present in the region's steep loess walls (e.g. COVACIU-MARCOV et al., 2012). Close to the habitats of the crested newts there are no roads with high traffic, and in some cases there are no roads, or they are not modernized. Thus we did not identified individuals killed by cars, even if this was mentioned in other regions (e.g. BOGDAN et al., 2013; CICORT-LUCACIU et al., 2012; COVACIU-MARCOV et al., 2017).

T. dobrogicus is one of the most protected amphibian species in Romania (O.U.G. 57/2007). Nevertheless, the species distribution in the country is less known even in the present, although its suitable areas can be easily intuited taking into account its ecological demands presented in the literature (e.g. COGĂLNICEANU et al., 2000). Moreover, the number of known distribution localities is biased, their majority being in the north-western part of the country (e.g. COGĂLNICEANU et al., 2013). Our results indicated that this situation is in the first place a consequence of the lack of detailed studies in the region, because even by accident we managed to identify some new distribution records, and recent studies dedicated to some regions in southern Romania mentioned even more localities (IFTIME & IFTIME, 2017). Thus, detailed field studies are needed in the future in order to clarify the species' distribution in southern Romania. In the same time, our result indicated that the territory that can be use by *T. dobrogicus* nowadays became very limited because of intensive agriculture. Thus, the aquatic habitats populated by this species in southern Romania should be protected otherwise its future will be uncertain.

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Received: March 15, 2018

Accepted: June 18, 2018