

A NEW DISTRIBUTION RECORD OF *Darevskia praticola* (REPTILIA) IN THE POIANA RUSCĂ MOUNTAINS (ROMANIA): A CONNECTION BETWEEN THE PREVIOUSLY KNOWN POPULATIONS

FERENȚI Sára, COVACIU-MARCOV Severus-Daniel

Abstract. In July 2021 we identified a new distribution locality of the lizard species *Darevskia praticola* in the region of the Poiana Ruscă Mountains in western Romania. The meadow lizard was identified west of Zolt village, on the side of the road to Luncaii de Sus, in a heavily forested area. The new record completes the known distribution range of *D. praticola* in the northern region of the Poiana Ruscă Mountains. Also, it represents the first connection between the populations from the western areas of the Poiana Ruscă Mountains and the ones from their eastern areas, which previously seemed isolated.

Keywords: distribution range, Western Romania, forests, habitats.

Rezumat. O nouă semnalare a speciei *Darevskia praticola* (Reptilia) în Munții Poiana Ruscă (România): o legătură între populațiile cunoscute anterior. În iulie 2021 am identificat o nouă localitate de răspândire a speciei *Darevskia praticola* în zona Munților Poiana Ruscă din vestul României. Specia a fost identificată la vest de localitatea Zolt, pe marginea drumului care duce la Luncaii de Sus, într-o zonă puternic împădurită. Noua localitate completează arealul cunoscut al speciei în zona de nord a Munților Poiana Ruscă, fiind o primă legătură între populațiile din vestul masivului și cele din nord-estul acestuia, care anterior păreau izolate.

Cuvinte cheie: areal, vestul României, păduri, habitate.

INTRODUCTION

In recent years in Romania, new information regarding the geographic distribution of *Darevskia praticola* emerged (e.g., SOS et al., 2012; GACEU & JOSAN, 2013; BOGDAN et al., 2014; SUCEA, 2019; MAIER & CADAR, 2021; MAIER et al., 2022). Thus, the meadow lizard was recorded both in different regions inside its known distribution range (BOGDAN et al., 2011; SOS et al., 2012; SUCEA, 2019; MAIER & CADAR, 2021) but also in areas at the edge or outside that distribution range (IFTIME & IFTIME, 2006; GHERGHEL et al., 2011; SOS et al., 2012; GACEU & JOSAN, 2013). Thereby, recent data indicated that *D. praticola* occupied an important zoogeographical bridgehead north of the Mureș River, from where it seems to slowly expand in different directions (MAIER et al., 2022). Those data are of importance since the information from the past on this species' distribution was very scarce and apparently isolated (FUHN & VANCEA, 1961). Moreover, even 10 years ago, *D. praticola* was the penultimate lizard species in Romania regarding the number of distribution records (COGĂLNICEANU et al., 2013). A region in Romania with few and scattered distribution records of *D. praticola* seems to be the area of the Poiana Ruscă Mountains (BOGDAN et al., 2011). The meadow lizard distribution in that region appeared to be so scattered that even the question of its origin was raised, and inquiries were made as to the possibility that humans might have introduced it to the area (BOGDAN et al., 2011). Nevertheless, this assumption was indirectly invalidated by the subsequent identification of some populations further north (GACEU & JOSAN, 2013; BOGDAN et al., 2014; MAIER et al., 2022). With all that, the species distribution in the region of the Poiana Ruscă Mountains has remained fragmented even to our days, with a group of populations recorded in four localities (apparently isolated two by two) in the western part of the mountain (BOGDAN et al., 2011), and a distribution record isolated in the northern part of the mountain, at Deva (e.g., GHIRA et al., 2002). Although discussions about the causes of this situation and the species status in the region exist (BOGDAN et al., 2011), those populations are likely to be remnants of the fragmentation of a distribution range initially continuous as the result of the human impact on its habitat, namely forest (GHERGHEL et al., 2011). Nevertheless, this assumption is difficult to apply in the region of the Poiana Ruscă Mountains, where vast forests dominated by beech still exist (COLDEA et al., 2015). Thus, through the perspective of the new distribution records in Romania (e.g., SOS et al., 2012; GACEU & JOSAN, 2013; BOGDAN et al., 2014; SUCEA, 2019; MAIER & CADAR, 2021; MAIER et al., 2022), it seems difficult to accept that the present image on the meadow lizard distribution in Poiana Ruscă Mountains region is real. Consequently, the present note mentions a new distribution record of *D. praticola* in the region of the Poiana Ruscă Mountains, contributing to the knowledge of its distribution.

MATERIAL AND METHODS

The field activity took place in the year 2021, on 18 July. *D. praticola* was initially accidentally observed on a local road that crosses a densely forested region. Subsequently, other individuals were actively searched in that area, using the direct observation method, like in other cases (e.g., COVACIU-MARCOV et al., 2020; MAIER et al., 2022). The meadow lizard individuals were just observed without being affected in any way by our activity. At most, some individuals were photographed when this was possible. Also, we took pictures of their habitats.

RESULTS

On 18 July 2021, we observed a *D. praticola* individual (Figure 1a) approximately 5 km east of Zolt village in Timiș county on the local road that leads to Luncanii de Sus village. Initially, we accidentally observed an individual who crossed the road. After that, actively searching in the area, we encountered another three individuals. The area populated by *D. praticola* (Figure 2) is situated at an altitude of 407 m, at the following geographic coordinates 45°45'03''N / 22°17'02''E. The meadow lizards were observed on the side of a recently asphalted local road, surrounded on both sides by deciduous forests. The road, only one lane wide, connects the villages Zolt and Luncanii de Sus, but, at the moment of the study, it was only partially asphalted until the point where it started to climb abruptly to Luncanii de Sus. On both sides of the road, there are vast forests composed of oaks, hornbeams, and beech. In many places between the road and the surrounding forests, there are a few meters of open grassy areas with many fallen leaves (Figure 1b). In such sectors the meadow lizards were present.

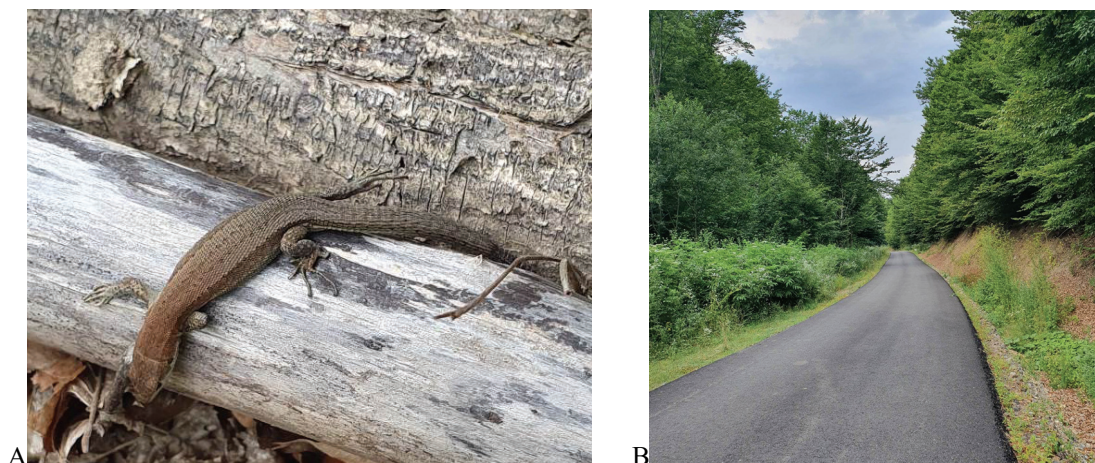


Figure 1. *Darevskia praticola* (A) and its habitat (B) at Zolt.

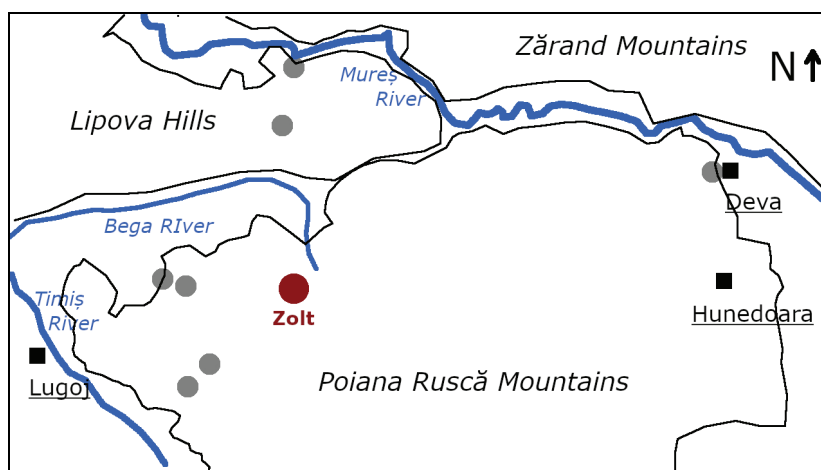


Figure 2. Distribution of *Darevskia praticola* in the Poiana Ruscă Mountains and Lipova Hills (red circle – the new record at Zolt, grey circles – old records after GHIRA et al., 2002; BOGDAN et al., 2011, 2014; and MAIER et al., 2022).

DISCUSSION

The distribution record of *D. praticola* at Zolt is more than a simple new record of this species in a region where it was previously mentioned (e.g., GHIRA et al., 2002; BOGDAN et al., 2011; SOS et al., 2012). Even if the new locality is situated in a region where the meadow lizard was previously encountered (e.g., GHIRA et al., 2002; BOGDAN et al., 2011; SOS et al., 2012) and which is potentially suitable for it (ĆOROVIĆ et al., 2018), the new record had a double meaning, as it is both a connection and an answer. Thereby, the distribution record from Zolt represents a connection, a bridge between *D. praticola* distribution records from the western areas of the mountains and the one from its northeastern areas (BOGDAN et al., 2011; GHIRA et al., 2002). In the past, meadow lizards were mentioned in the western areas of the Poiana Ruscă Mountains, in the Nădrag and Fârdea Strâmtori Dam regions (BOGDAN et al., 2011), and in the north-eastern areas at Deva (GHIRA et al., 2002). Consequently, the population from Zolt represents a connection between those populations, as it is located approximately 15 km eastwards from the

previously known populations from the Fârdea Strâmțtori Dam area (BOGDAN et al., 2011). Although there are still about 100 km from Zolt to Deva, the new locality clearly indicates that the species could really be continuously distributed in the northern regions of Poiana Ruscă Mountains (Figure 2).

At the same time, the new populations also answer the previous questions regarding its statute in the region (BOGDAN et al., 2011). Thus, the fragmentation and the apparent isolation of the *D. praticola* population previously known in the Poiana Ruscă Mountains even led to the opinion that they were introduced by human activities (BOGDAN et al., 2011). The identification of the population from Zolt seems to plead definitively for its native status in the region, as *D. praticola* is well distributed there, although rare and very difficult to observe. Also in other cases, the meadow lizard, besides other species strictly connected with forests, was considered extremely difficult to detect (SLAVCHEV et al., 2019), as it was considered a very secretive species (GHIRA et al., 2002). These facts explain why *D. praticola* was observed so rarely in the region, despite the existence of a detailed study, which covered extensively at least the western areas of the Poiana Ruscă Mountains (BOGDAN et al., 2011). Thus, the presence of the species at Zolt, in a natural area, only slightly disturbed by human activities, correlated with the new distribution records in Romania (e.g., SOS et al., 2012; GACEU & JOSAN, 2013; BOGDAN et al., 2014; SUCEA, 2019; MAIER & CADAR, 2021; MAIER et al., 2022) indicated that *D. praticola* is distributed naturally and is really more common in the country, but was only occasionally observed due to its secretive life (GHIRA et al., 2002). At the same time, it indicates how necessary is for this species to be directly searched in the area, especially because the region is suitable for it (ĆOROVIĆ et al., 2018).

The habitat from Zolt is favourable for *D. praticola*, as it resembles the habitats in which the species was recorded in Romania in the last years: thus, there are forests in the area, but also a water course located approximately 20 meters from the road, both necessary for the species (FUHN & VANCEA, 1961; GACEU & JOSAN, 2013; MAIER et al., 2022), although it was also identified in areas without water courses in close proximity (SUCEA, 2019; MAIER & CADAR, 2021). *D. praticola* has also been reported in other areas with oak forests (SOS et al., 2012; VACHEVA et al., 2020; MAIER & CADAR, 2021), and oaks are present at Zolt, albeit besides other tree species. According to certain studies, it seems that in the region there were even glacial refuges for oak, but also for other tree species (FĂRCAȘ et al., 2006; FĂRCAȘ & TANȚĂU, 2012). This fact pleads once more for the native status of *D. praticola* in the region where oak forests have a long-standing presence (FĂRCAȘ et al., 2006; FĂRCAȘ & TANȚĂU, 2012). Nevertheless, nowadays, beech forests dominate in the region of the Poiana Ruscă Mountains (COLDEA et al., 2015), but this does not affect the species, as it was also encountered in areas with beech forests (COVACIU-MARCOV et al., 2009; SUCEA, 2019).

The new distribution record of *D. praticola* at Zolt is important because it is a rare species in Romania, of which few distribution records are known compared with other lizard species (COGĂLNICEANU et al., 2013). Nevertheless, the fact that in areas apparently well studied herpetologically (BOGDAN et al., 2011), new distribution records can be identified once more indicates how important future detailed studies are in the region. Probably studies dedicated to the entire herpetofauna of a certain region fail to properly record species as difficult to observe as *D. praticola* (GHIRA et al., 2002; SLAVCHEV et al., 2019). Even in the region north of Mureș River where the meadow lizard was recently identified (GACEU & JOSAN, 2013; MAIER et al., 2022), there were previous studies, but they did not mention the meadow lizard (COVACIU-MARCOV et al., 2005). At the same time, the region of Poiana Ruscă Mountains had certain biodiversity peculiarities, as it shelters low-altitude alpine newt populations, considered to have a glacial refuge there (COVACIU-MARCOV et al., 2010). As it is located at its northern distribution range limit (e.g., SILLERO et al., 2014), *D. praticola* is not in the same situation, but nevertheless, its presence increases the complexity of the herpetofauna in the region. In conclusion, in the region of the Poiana Ruscă Mountains, new and detailed studies are urgently needed to finally clarify the species distribution, a fact already indicated more than 20 years previously (GHIRA et al., 2002).

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Ferenți Sára

University of Oradea, Faculty of Informatics and Sciences, Department of Biology; 1, Universității, Oradea 410087, Romania.
E-mail: ferenti.sara@gmail.com

Covaciu-Marcov Severus Daniel

University of Oradea, Faculty of Informatics and Sciences, Department of Biology; 1, Universității, Oradea 410087, Romania.
E-mail: severcovaciul@gmail.com

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