

Back in 30 years: A new record for the rare and highly elusive sand boa, *Eryx jaculus turcicus* (Reptilia: Boidae) in Romanian Dobruja

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The Javelin sand boa, *Eryx jaculus* (Linnaeus, 1758), is a medium-sized snake (~80 cm) (Fuhn & Vancea 1961) and the only representative of the Boidae family in Europe (Fuhn & Vancea 1961, Ananjeva et al. 2006). Its distribution range comprises northern Africa, the north part of the Arabian Peninsula, Asia Minor, the Middle East, the Caucasus Mountains, Iran and Iraq in the east and south-eastern Europe, north to Romania (Ananjeva et al. 2006) and there are 3 currently recognized subspecies: *E. j. jaculus*, *E. j. turcicus* (Olivier 1801) and *E. j. familiaris* Eichwald 1831. Conservation-wise, because the species is rare and at its distribution limit in Europe, it is featured in the Red Book of several countries (Iftime 2005, Ananjeva et al. 2006, Beron et al. 2011).

In Romania, the subspecies *turcicus* was recorded as early as 1902 based on individuals collected by Robert Dombrowski from Cernavoda and Giuvegea (Kirițescu 1903, 1930) and it was assumed that the species' distribution range in the country was limited only to Dobruja, based on the handful of individuals ever observed (Krečsák & Iftime 2006). The most recently reported specimen was recorded in 1986 between the villages of Beștepe and Mahmudia (Zinke & Hielscher 1990). Subsequently, for more than two decades, herpetologists considered the species probably extinct (Cogălniceanu & Venczel 1993, Iftime 2001, 2005, Gherghel et al. 2009).

In 2011 a road-killed specimen was found between on the Danube River meadow (Teleorman County, southern Romania) during a herpetological survey, putting an end to speculations regarding the persistence of *E. jaculus* in Romania and indicating the first record for the species north of

the Danube (Covaciu-Marcov et al. 2012). In 2014 more than 10 live individuals were again found in the Danube river meadow, but the location has not been published (Sos Tibor, pers. comm.).

Although the species was confirmed to persist in Romania, the question remained whether Dobruja still harbored any javelin sand boa populations or the species had disappeared from this region as a result of intense anthropogenic activity.

On the 18th of April 2015 at 1:53 P.M., during a herpetological survey on the administrative territory of Rasova commune, Constanța County (Figure 1), one dead javelin sand boa individual was identified (Fig.2). The individual was found on a mole heap lacking its head (Figure 2 2) and we assume that it was attacked and killed by a predator. The general habitat in which the animal was found is represented by steppe vegetation with rare trees and bushes (*Crataegus* sp., *Rosa* sp., *Robinia pseudacacia*) on south-eastern facing terraces created for vineyards, which are now abandoned, or as a result of animal grazing (Figure 3). The substrate was composed of loess, with bare calcareous rocks piercing the ground from place to place and ravines and gullies harboring numerous cracks and crevices. A rapid survey revealed that the herpetofaunal assemblage of the area also includes *Bufo viridis*, *Testudo graeca iberica*, *Podarcis tauricus*, *Lacerta viridis* and *Dolichophis caspius*. The habitat is relatively well protected from degradation and the only human activities observed were grazing with sheep and goats (but in low numbers), and the agricultural systems that exist in the low valley below. However, it is unlikely that these will have a direct impact on the species as the location is not suitable for agriculture.

Besides the fact that the species has not previously been recorded from the area, the finding confirms the continuous presence of *E. jaculus* in Romanian Dobruja and that at least one location is still inhab-

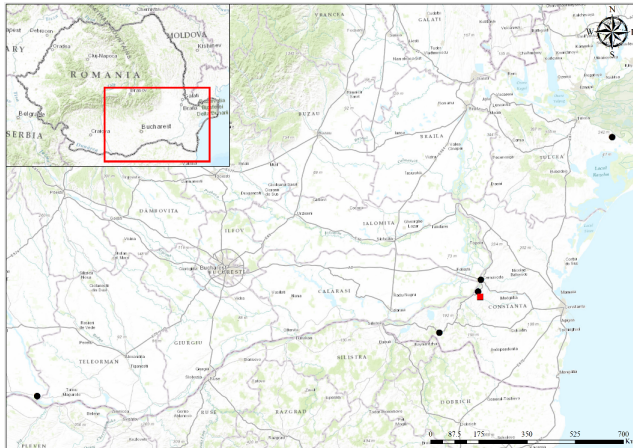


Figure 1. New location for *E. jaculus* in Dobruja (red square) and previous records for the species - Cernavodă, Cărpiniș-Giuvegea (Kirițescu 1903, 1930); Cochirleni (Fuhn & Vancea 1961, Fuhn 1969); Mahmudia (Zinke & Hielscher 1990); Turnu Măgurele - Corabia (Covaciu-Marcov et al. 2012) (black dots)



Figure 2. Javelin sand boa (*Eryx jaculus*) individual found dead on the administrative territory of Rasova commune. Photo by T.C. Sahlean



Figure 3. Habitat where the dead javelin sand boa individual was found. Photo by T.C. Sahlean

ited by the species. Moreover, the current habitat is not located very far from Cochirleni (less than 10 km), where it was found by Băcescu in 1937 (Fuhn & Vancea 1961, Fuhn 1969), confirming the persistence of the species in this region after a gap of almost 80 years.

Even though the species is not one that requires the designation of protected areas in order to ensure its conservation under the Habitats Directive, the authors propose that the area be designated as a Natura 2000 site or included in an existing protected area, making this the first site to feature *E. jaculus* in the standard data form (Ioja et al. 2010). One possible scenario would be the use of *Testudo graeca iberica* (which is enumerated in Annex II of the Habitats Directive) as an umbrella species to protect the javelin sand boa population along with its habitat. At the same time, considering the habitat is mostly unaffected by human activities, the authors feel it is best not to reveal the exact location where the animal was found until other populations are discovered.

As new populations of *E. jaculus* are found it is clear that the “mystery” surrounding the javelin sand boa in Romania is partly due to insufficient survey effort coupled with the elusive nature of the animal.

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References

Ananjeva, N.B., Orlov, N.L., Khalikov, R.G., Darevsky, I.S., Ryabov, S.A., Barabanov, A. (2006): The Reptiles of Northern Eurasia:

- Taxonomic Diversity, Distribution, Conservation Status. Pensoft Publishers.
- Beron, P., Zhivkov, M., Popov, A., Popov, V., Beschkov, V., Deltchev, C., Michev, T., Spassov, N. (2011): Red Data Book of the Republic of Bulgaria. Digital edition. Vol. 2. Animals. Bulgarian Academy of Sciences & Ministry of Environment and Water, Sofia.
- Cogălniceanu, D., Venczel, M. (1993): Considerații privind ocrotirea și conservarea populațiilor de amfibieni și reptile (in Romanian). *Ocrotirea Naturii și a Mediului Înconjurător* 37: 109-114.
- Covaciu-Marcov, S.D., Ferenți, S., Cicort-Lucaciu, A.Ș., Sas, I. (2012): *Eryx jaculus* (Reptilia, Boidae) north of Danube: a road-killed specimen from Romania. *Acta Herpetologica* 7: 41-47.
- Fuhn, I.E. (1969): Broaște, șerpi, șopârle (in Romanian). Scientific Publishing House, Bucharest.
- Fuhn, I.E., Vancea, Ș. (1961): Reptilia (Țestoase, Șopârle, Șerpi) (in Romanian). Romanian Academy Publishing House, Bucharest.
- Gherghel, I., Strugariu, A., Zamfirescu, C. (2009): Using maximum entropy to predict the distribution of a critically endangered reptile species (*Eryx jaculus*, Reptilia: Boidae) at its Northern range limit. *AES Bioflux* 1(2): 65-71.
- Iftime, A. (2001): Lista rosie comentată a amfibienilor și reptilelor din România. *Ocrotirea naturii și a mediului înconjurător* 44-45: 39-49.
- Iftime, A. (2005): *Eryx jaculus*. p. 183. In: Botnariuc, N., Tatole, V. (eds.), *Cartea Roșie a Vertebratelor din România* (in Romanian). Romanian Academy Publishing House, Bucharest.
- Iojă, C.I., Pătroescu, M., Rozyłowicz, L., Popescu, V.D., Vergheleș, M., Zotta, M.I., Felciuc, M. (2010): The efficacy of Romania's protected areas network in conserving biodiversity. *Biological Conservation* 143: 2468-2476.
- Kirișescu, C. (1903): Sur la presence d'*Eryx jaculus* en Roumanie. *Buletinul Societății de Științe* 11: 620-626.
- Kirișescu, C. (1930): Cercetări asupra faunei herpetologice a României (in Romanian). Romanian Book, Bucharest.
- Krečsák, L., Iftime, A. (2006): A review of the records of the Sand boa (*Eryx jaculus*) in Romania. *Herpetological Bulletin* 98: 31-34.
- Zinke, O., Hielscher, K. (1990): Nachweis der Westlichen Sandboa (*Eryx jaculus turcicus* [Olivier]) in Rumänien (Reptilia, Serpentes: Boidae). *Faun. Abhandl. Staatl. Mus. Tierk* 17: 191-192.
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