

New data on the distribution of *Eryx jaculus* (Linnaeus, 1758) (Reptilia: Serpentes) in Bulgaria

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Abstract: We report three newly registered localities of the javelin sand boa – *Eryx jaculus* along the Black Sea Coast. The nearest known localities (outside of the study area) of the species are situated at a considerable distance (100–230 km) from the recently discovered ones. The data presented here confirm the presence of *E. jaculus* along the Bulgarian Black Sea Coast and expand the knowledge on its distribution both in the country and in the Balkans.

Keywords: Black Sea Coast, javelin sand boa, new records, range

Introduction

The javelin sand boa, *Eryx jaculus* (Linnaeus, 1758) is a medium-sized snake, rarely reaching more than 80 cm in length (see Naumov et al., 2020 and references therein) and is the only representative of the family Erycidae (formerly belonging to Boidae) in Europe. *Eryx jaculus* spends most of the time underground, burrowed in the soil or in rodent galleries. The species is occasionally active on the surface during the breeding season, at night or in cloudy and humid weather, or during dawn and dusk on warmer periods (Valakos et al., 2008; Speybroeck et al., 2016). The distribution range comprises parts of northern Africa, the Balkan Peninsula, Asia Minor and the Caucasus, and also the northern part of the Arabian Peninsula, and to Iran and Iraq in the east (Ananjeva et al., 2006; Speybroeck et al., 2016).

In Europe, the javelin sand boa is one of the rarest snake species and it is protected by the international

legislation (Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora: Annex IV; Convention on the Conservation of European Wildlife and Natural Habitats – Bern Convention: Annex III). The species is also listed in Appendix II of the “Convention on International Trade in Endangered Species of Wild Fauna and Flora”. According to Beshkov & Nanev (2002), the javelin sand boa is among the most endangered species of the Bulgarian herpetofauna; at the national level the species is strictly protected by the Biodiversity Protection Act (Annex III) and it is categorised as “Endangered” in the Red Data Book (Beshkov, 2015).

In Bulgaria, *E. jaculus* is found in the southern part of the Struma River Valley, parts of the Eastern Rhodopes and Sakar Mts, as well as sporadically in the Danubian Plain and in the periphery of the Thracian Lowland (Stojanov et al., 2011; Pulev et al., 2014; Beshkov, 2015). Although there are a few publications on the herpetofauna along the Black Sea Coast (e.g.

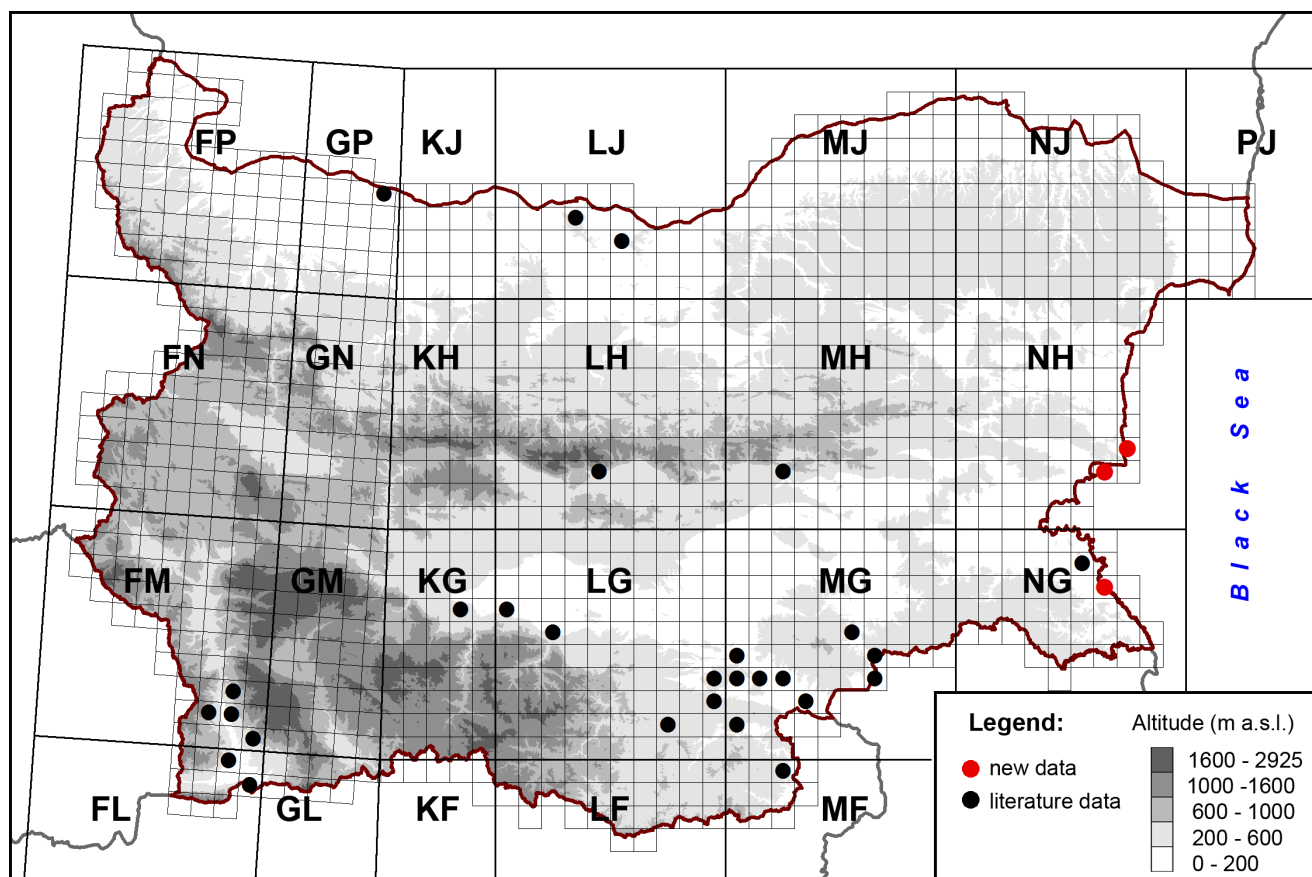


Fig. 1. Distribution of *Eryx jaculus* in Bulgaria, based on a 10 km UTM grid. “New data” refer to the localities given in this study; “literature data” – to a compilation after Stojanov et al. (2011), Pulev et al. (2014) and Beshkov (2015).

Nöllert et al., 1986; Schlüter 2006; Tzankov et al., 2009), the only evidence of the presence of *E. jaculus* is given by Moeller (1990). The author reported the finding of one dead individual on the road near Arkutino (a swamp and a camping site with the same name, situated close to each other). Note that this locality is marked with a question mark on the respective map in the work of Stojanov et al. (2011), and on the map in Beshkov (2015) it is not shown at all, i.e. these authors considered the locality to be uncertain or invalid (on the assumption that since only one specimen is known, it may have ended up there by accident).

The main aim of this work is to present newly registered localities of *E. jaculus* along the Black Sea Coast. Since the species is “sensitive” (it is of interest for illegal collecting) the localities are described only as settlement names (without exact geographical coordinates of the snakes’ actual locations) and are mapped in a 10x10 km UTM grid (Fig. 1).

Results and discussion

In the period 2018–2021, during field trips along the Bulgarian Black Sea Coast, three new localities of *E. jaculus* were established, as follows: 1) Near the village of Velika – a dead specimen (photographed, but not measured) found in 2018 by P. Belev (Fig. 1: NG67; Fig. 2: A); 2) Near the village of Irakli – an adult specimen (photographed, but not measured) observed on 17 July 2020 by K. Milanova (Fig. 1: NG73; Fig. 2: B); 3) Near the village of Elenite an adult specimen (with a total length of 45 cm) captured on 26 May 2021 by M. Stanchev on a dirt road in an open deciduous forest with many scattered piles of stones (Fig. 1: NG62; Fig. 2: C).

The new data presented here confirm the presence of *E. jaculus* along the Bulgarian Black Sea Coast and expand the knowledge on its distribution both in the country and in the Balkans. In these sense, “Arkutino” (Fig. 1: NG58) should also be considered as a valid



Fig. 2. The three individuals of the javelin sand boa found at the villages of Velika (A), Irakli (B), and Elenite (C), respectively.

locality of the species. The nearest (outside of the study area) known localities of *E. jaculus* are situated at a considerable distance from the newly established ones, respectively ca. 100 km west-southwest of Velika, ca. 140 km west and ca. 230 km northwest of Elenite (see Beshkov 2015), ca. 150 km north of Irakli (see

Cogălniceanu et al., 2013), and ca. 130–150 km south and southeast of Velika (see Yaşar et al., 2021). It should be mentioned that there are not significant natural geographic barriers between these localities. Therefore it can be assumed that the range of the species is probably not as fragmented as many authors

suggest (e.g. Beshkov & Nanev, 2002; Naumov 2006; Beshkov 2015). The absence of data on *E. jaculus* in part of the vast territories located between the localities with proven presence (at least in eastern Bulgaria) is probably in a much greater extent due to insufficient research (due to the hidden way of life of *E. jaculus*) than to a real absence.

Acknowledgements

We are grateful to Peter Belev and Kristina Milanova for the provided data, including the informative photographs.

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