Acta Herpetologica 7(1): 41-47, 2012

Eryx jaculus (Reptilia, Boidae) north of Danube: a road-killed specimen from Romania

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Submitted on: 2011, 22nd October; revised on 2011, 6th November; accepted on 2011, 14th November.

Abstract. In September 2011 we identified a killed specimen of *Eryx jaculus* on the road between the towns of Turnu Măgurele and Corabia, in southern Romania. This seems to be the first record of the species north of the Danube. Although surprising, the identification of *E. jaculus* in the area is interpreted in the light of the presence of other species of herpetofauna in the Danube floodplain with similar ecological requirements, reaching here their northern distribution limit. Survival of the species appears to be favoured by the existence of some protected areas in the region.

Keywords. *Eryx jaculus*, Romania, first record, distribution, roadkill.

The javelin sand boa, *Eryx jaculus* in Romania is a species of community interest that requires strict protection (O.U.G. 57/2007). Nevertheless, it is the only species of Romanian herpetofauna which has not been included in any protected natural area (Iojă et al., 2010). This is due to the great rarity of the species in the country as it has only been recorded in four localities (Krecsák and Iftime, 2006). These localities are situated south of Danube, in Dobruja, most of the records being dated (see in: Krecsák and Iftime, 2006). *E. jaculus* is a rare species in Europe as well, being vulnerable especially at its northern distribution limit (Teynié, 1997), located in Romania. South of Romania, in Bulgaria, the species is also rare and has a scattered distribution (Naumov, 2006).

Given the available data on the species distribution in the country, its identification in the fall of 2011 in an area where it has not been reported before is quite surprising. In the evening of 4th September 2011 we found an individual of *E. jaculus* (Fig. 1A, B, C) killed by the road traffic on the route that connects the towns of Turnu Măgurele and Corabia. The finding was accidental as it happened while we were studying the impact of road traffic on the large whip snake, *Dolichophis caspius*. The individual was discovered around

ISSN 1827-9635 (print)
ISSN 1827-9643 (online)

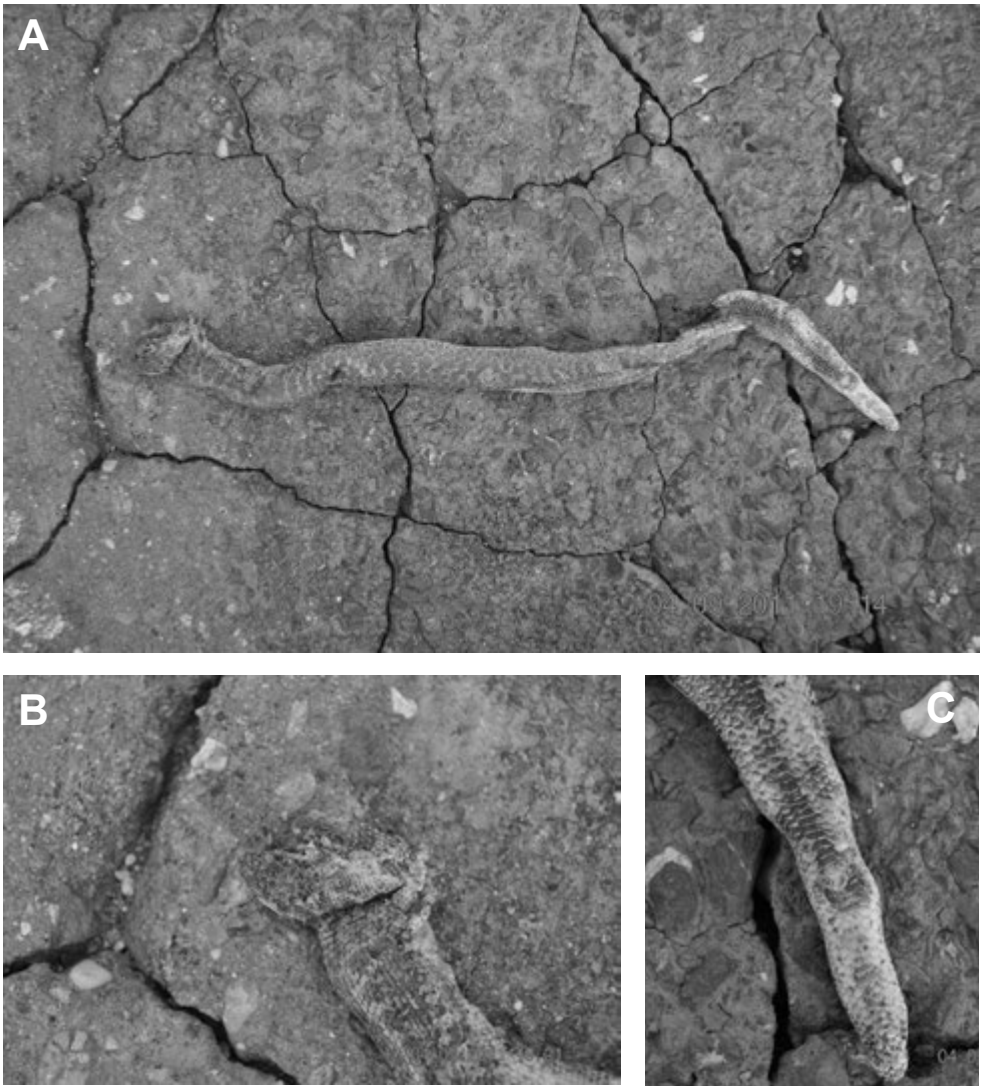

Fig. 1. *Eryx jaculus* from southern Romania (A – general view of the road kill specimen; B – details of the head; C – details of the tail) TO: Romania (A: general view of the road kill specimen; B: details of the head; C: details of the tail).

19:00, near the boundary among Teleorman and Olt counties, between Islaz and Gârcov villages. The area is located west of Olt River, close to the point where it flows into the Danube (Fig 2). The snake was dead for approximately 24 hours, being in a relatively good condition. It was crossing the road from south to north when it was run over by a single car, near the verge of the road. It displayed the species features (Fuhn and Vancea, 1961) and had a total length of 439.67 mm from which 36.98 mm being its tail.

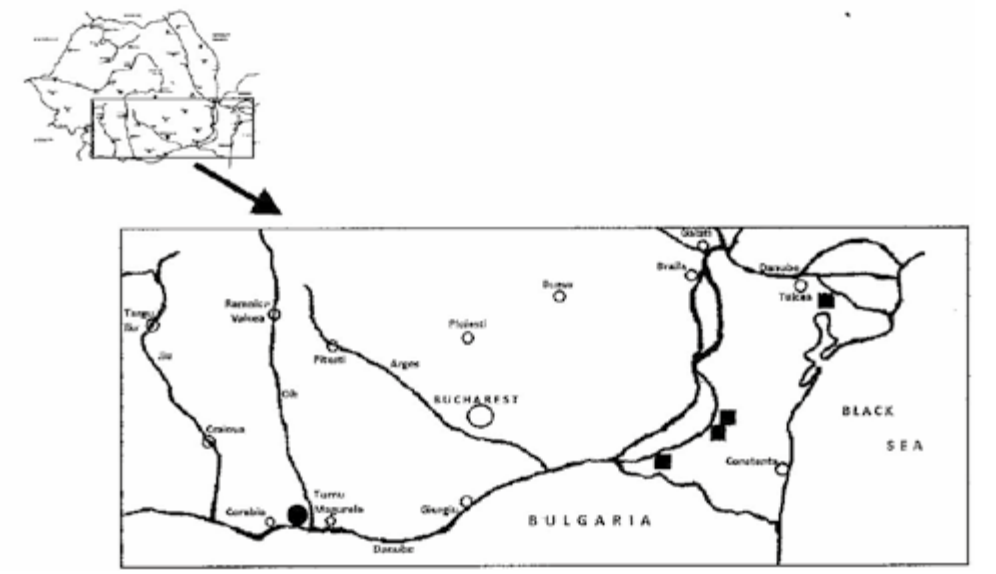

Fig. 2. New record of *Eryx jaculus* in Romania (filled circle). Previous records from Dobrogea after Krecsák and Iftime 2006 (squares).

The finding locality is nearly 300 km to the west than those previously known in Romania, and, more important, it is the first record of the species outside of Dobruja. Judging by its distribution in Europe (Teynié, 1997), this seems to be the first record of *E. jaculus* north of the Danube. Its identification in the Danube floodplain raises the issue of its actual distribution in Romania and, in a broader sense, at its northern range limit. It has been recently pointed out that the areas from Dobruja in which the species was recorded in the past are not necessarily the most favourable climatically for it (Gherghel et al., 2009a). Our finding seems to be located in an even more unfavourable area in terms of climate than those from Dobruja (Gherghel et al., 2009a). Thus, the territory of the country which would be climatically suitable for *E. jaculus*, has broadened to the whole Dobruja, Danube floodplain and eastern Bărăgan Plain, areas where also the soil meets the species requirements. It seems, however, very difficult to identify the species due to its nocturnal lifestyle (Fuhn and Vancea, 1961), not being previously reported in Danube floodplain although some extensive herpetological studies in the area were conducted (Iftime, 2005a; Iftime and Iftime, 2007; Török, 2001).

Though it seems possible that *E. jaculus* is presently extinct in Romania (Iftime, 2001), it appears that the species actually occupies a larger area than it was considered in the past. Although surprising, the fact can be logically argued by the present record and by the distribution of other species of herpetofauna with similar climatic requirements which are also at their northern distribution limit, but which are more easily to observe due to their lifestyle. This is the case of the eastern spadefoot toad, *Pelobates syriacus* (Džukić et al., 2008) and of the large whip snake, *Dolichophis caspius* (Covaciu-Marcov and David, 2010; Sahlean et al., 2010; Ferenti et al., 2011). Both spe-

cies reach their northern distribution limit in Romania, occurring mainly in Dobruja and in Danube floodplain.

The fact that we identified only one individual can raise the problem of its origin. There are known cases when reptiles were transported by human in new areas (e.g. Caputo et al., 1997; Wiles, 2000; Buden et al., 2001; Baldo et al., 2008). In other cases they spread along some communication roads, especially railroads (Covaciu-Marcov et al., 2006; Gherghel et al., 2009b). However, we do not consider that the identified *E. jaculus* individual has arrived accidentally in the zone, but it belongs to a population present there. Firstly, southern to Danube in Bulgaria there is a relative large neighbouring zone where the species was identified, even if it seems to be isolated in the present from other populations (Teynié, 1997; Biserkov, 2007). Minor changes in Danube riverbed probably allowed its distribution northward. On the other hand, the region where *E. jaculus* was identified does not seem to confirm the hypotheses of its accidental introduction. This is a rural, relatively poor region, in which probably there are no activities that allow the introduction of the species. Anyway, the problem could be solved properly only by later studies.

The area in which *E. jaculus* was identified, is surrounded by agricultural fields (Fig. 3). Situated at the limit between the Danube floodplain and the higher terraces which border it northward, it seems that at least the sectors north of the road are almost completely degraded and used for agriculture. But south of the road, near the Danube, it appears that there are large areas with sandy soils. According to literature data, the species is related to such areas (Fuhn and Vancea, 1961; Iftime, 2005b). Thus, the population is probably

Fig. 3. The area where the road-killed *Erix jaculus* was discovered.

located in that sector but some individuals can move on certain distances, this being also the case of the one found by us. The areas at the limit between the Danube floodplain and the higher terraces from plain are important for other species of snakes as well, such as the large whip snake (Covaciu-Marcov and David, 2010; Ferenti et al., 2011).

The finding of *E. jaculus* was accidental, road mortality having a great impact on snakes (e.g. Ciesiołkiewicz et al., 2006; Roe et al., 2006; Harris et al., 2010; Tok et al., 2011), with nocturnal species being frequent victims (Das et al., 2007). This discovery must be followed by detailed studies in all areas with favourable habitats from the region and with similar climatic conditions as that in which the species was found. The new locality could also solve the problem concerning the absence of the species from protected areas in Romania (Iojă et al., 2010), in close vicinity of the road where the dead sand boa was found being two protected natural areas (Corabia-Turnu Magurele, Confluence Olt-Danube). The moving direction of the identified snake allows us to assume that this is present in one of these protected areas. Their herpetofauna should be therefore investigated in detail, being necessary the accurate establishment of the species distribution. Besides, immediate measures have to be taken on the protection of *E. jaculus* in the region, the species being under high anthropogenic pressure in other areas (Naumov, 2006).

ACKNOWLEDGEMENTS

Our study was supported by Freies Europa Weltanschauung Foundation, to which we thank in this manner. Custodian of some protected natural areas from Romania, Freies Europa Weltanschauung Foundation encourages activities dedicated to the investigation of the biodiversity from Romania.

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