

First record of *Eryx jaculus turcicus*
(OLIVIER, 1801) on Kinaros Island,
Dodecanese, Greece

The Javelin Sand Boa, *Eryx jaculus* (LINNAEUS, 1758), a small boid with a snout-to-vent length generally less than 80 cm (VALAKOS et al. 2008; SPEYBROECK et al. 2016), is an elusive, nocturnal, semi-fossorial snake. It uses its wedge-shaped head to push through a diversity of ground substrates and often makes its home in rodent burrows (SPEYBROECK et al. 2016). In Europe, the distribution of the subspecies *turcicus* (OLIVIER, 1801) includes the Republic of Macedonia, Albania, Greece, Bulgaria, Turkey, Armenia, Georgia (SPEYBROECK et al. 2016) and, as most recently rediscovered, Romania (SAHLEAN et al. 2015).

This sole European boid is widespread in low elevations of mainland Greece and many of its Aegean islands. Due to its semi-fossorial, cryptic and elusive nature, its known distribution is still characterized by numerous gaps. The species is found throughout many of those Aegean islands that, during the last Ice Age, were either connected to the mainland of Europe (e.g., Spetses) or of Asia Minor (e.g., Chios, Kos, Lemnos, Leros, Lesvos, Samos), or were part of formerly extensive and now partially submerged insular Aegean land masses (e.g., Cycladia: Amorgos, Antikeros, Folegandros, Ios, Iraklia, Keros, Naxos, Paros, Sikinos and Tinos; Milos Cluster: Milos, Kimolos, Polyaios). In contrast, the species is notable in its absence from all of the old, deep-water islands of the southeastern Aegean that were never connected to Cycladia (CHONDROPOULOS 1989; TOKAR & OBST 1993; FOUFOPOULOS & IVES 1999; VALAKOS et al. 2008; SPEYBROECK et al. 2016).

On June 3, 2017 (at ca. 16:30 h) during a herpetological expedition to the island of Kinaros (36.977711°N, 26.286280°E; 10 m a.s.l.), the authors observed an adult *E. jaculus turcicus*. This individual was seen crawling slowly into a crevice at the base of a large rock in a small agricultural field surrounded by dry stone walls on the north, south and west sides. The field was not in use and consisted of dry soil and weedy vegetation. The weather was overcast at the time of the capture and the average air temperature was 28 °C. A large lump at the middle of the snake's body suggested the presence of a recently ingested meal. This individual also had a prominent healed scar on its dorsum, perhaps caused by a small mammal (*Rattus rattus*) or a raptor (*Falco tinnunculus*), both of which occur on Kinaros. The individual was sexed as female by its relatively short tail length and absence of hemipenes and was sent alive to the Natural History Museum of Crete where it is currently held in captivity. The snake had a SVL of 480 mm and a tail length of 40 mm.

Kinaros is a small island (area: 4.56 km², maximum elevation: 296 m a.s.l.) in the central Aegean Sea (37°00'34" N, 26°30'46" E, WGS 84 datum) between the island groups of the Cyclades (to which it belongs biogeographically) and the Dodeca-

nese (to which it belongs administratively), about 19 km northeast of Amorgos (from where *E. j. turcicus* is known - FIEDLER 1841), 9 km west of Levitha and 46 km southwest of Leros (from where *E. j. turcicus* is known as well - CHONDROPOULOS 1989). Kinaros is separated by at least 162 m deep waters from the closest, larger island (Amorgos) and was never connected to Cycladia during the last ice age. As observed by the authors, the island is presently inhabited by a single shepherd family, but there has been intermittent human settlement throughout the millennia. The sparse vegetation is strongly shaped by intense goat grazing pressure and is dominated by *Sarcopoterium spinosum* and *Juniperus phoenicea*. The island consists of dark limestone and much of its coastline is formed by high cliffs that allow access only at a limited number of protected bays. Both *Mediodactylus kotschyi solerii* and *Podarcis erhardii kinarensis*, described by WETTSTEIN (1937) from the Island of Kinaros, were observed during the authors' expedition.

Today, most of the island's red soil has disappeared by erosion, thus providing only marginal habitat for a fossorial species such as *Eryx* and permitting agriculture only at a few protected locations. However, widespread abandoned terraces indicate extensive cultivation during historic times. One may hypothesize that the Sand Boa on Kinaros has different ecological tolerances than on other islands (rather implausible) or is restricted to the few areas that have sufficient soil. According to the locals, the species is rare: one shepherd claimed to have seen the snake only twice over a 15 year period.

This record expands the number of islands *E. j. turcicus* is known to occur. However, it is noteworthy because this is the first record of *Eryx*, and for that matter of any snake, on a deep water island of the central Aegean such as Astypalea, Anafi, Syrna, Levitha and their satellites. Santorini is unique because resident snakes were brought in by humans. Molecular evidence suggests that *Zamenis situla* (LINNAEUS, 1758) was brought in from Crete (KYRIAZI et al. 2013). Given the small size of Kinaros, its time of isolation, and its distance from other islands inhabited by *E. j. turci-*

cus, further analyses are necessary to determine if this population is phylogenetically distinct or whether it represents a recent introduction to the island.

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