

*Documentation of the Smooth Snake, **Coronella austriaca** (Serpentes: Colubridae) from Euboea Island, Greece*

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Abstract. Euboea, the second-largest island of Greece, supports a diverse range of habitats and remains faunistically understudied, despite its proximity to the mainland and the capital of Greece, Athens. We document the first verified records of the Smooth Snake (*Coronella austriaca*) on Euboea, based on two individuals observed on Mounts Xirovouni and Dirfi. The species is known in Greece only from mainland areas and has also been historically reported from Samothrace Island based on a single museum specimen. The presence of *C. austriaca* on Euboea expands the known insular distribution of this predominantly mainland species. Our findings highlight the biogeographical importance of Euboea and underscore the need for further surveys to understand better the distribution, habitat use, and conservation status of *C. austriaca*, and possibly other overlooked reptile species on the island.

Key words: Evia, first record, herpetofauna, report, reptiles.

Euboea (Evia) is the second-largest island of Greece, with an approximate area of 3,680 km². It is separated from the Greek mainland by a strait that forms large gulfs along its western coastline. The strait's width varies from over 20 km to just 40 m at its narrowest point, near the city of Chalkida. The island's eastern shores are bordered by the Aegean Sea. Euboea encompasses a diverse array of habitats, including coastal wetlands, maquis shrublands, expansive forests, and montane grasslands (Trigas & Iatrou, 2006). Its highest elevation is found at Mount Dirfi (Dirfys), which rises to 1,743 m, in the island's central region.

Sea-level fluctuations during the Quaternary period (Rohling et al., 2014) resulted in repeated

changes in Euboea's connectivity with the adjacent mainland. According to Mariolakos & Bantekas (2002), Euboea last became a true island approximately 5,500 years ago. Due to the island's considerable size, proximity to the mainland, ecological heterogeneity, and relatively recent isolation, its fauna remains closely aligned with that of neighbouring continental areas (Strachinis, 2021).

Numerous records on the herpetofauna of Euboea have been published since the 19th century (e.g., Boettger, 1891; Werner, 1937, 1938; Chondropoulos, 1989; Sofianidou, 1997; Sillero et al., 2014). Nevertheless, the island remains relatively underexplored, as suggested by recent records of previously unreported species, primarily

resulting from opportunistic surveys (Christopoulos et al., 2019; Dufresnes et al., 2019; Strachinis, 2021; Pafilis & Kapsalas, 2024). In the present study, we report the occurrence of an additional reptile species on the island, the Smooth Snake, *Coronella austriaca* Laurenti, 1768, from the mountains of Xirovouni and Dirfi, in central Euboea.

The Smooth Snake is a rather small, ovoviviparous, aglyphous snake (Speybroeck et al., 2016), with a broad Eurasian range, extending from

Norway to the Perm Krai region (Russia) in the North, and from northern Portugal to the south coasts of the Caspian Sea in the South (Crnobrnja-Isailović et al., 2017). While the species' altitudinal range begins near sea level in the northern parts of its distribution, in Greece it is restricted to mountainous and semi-mountainous mainland regions (see Fig. 1A). A single historical record also exists for the island of Samothrace (Chondropoulos, 1989; see discussion below).

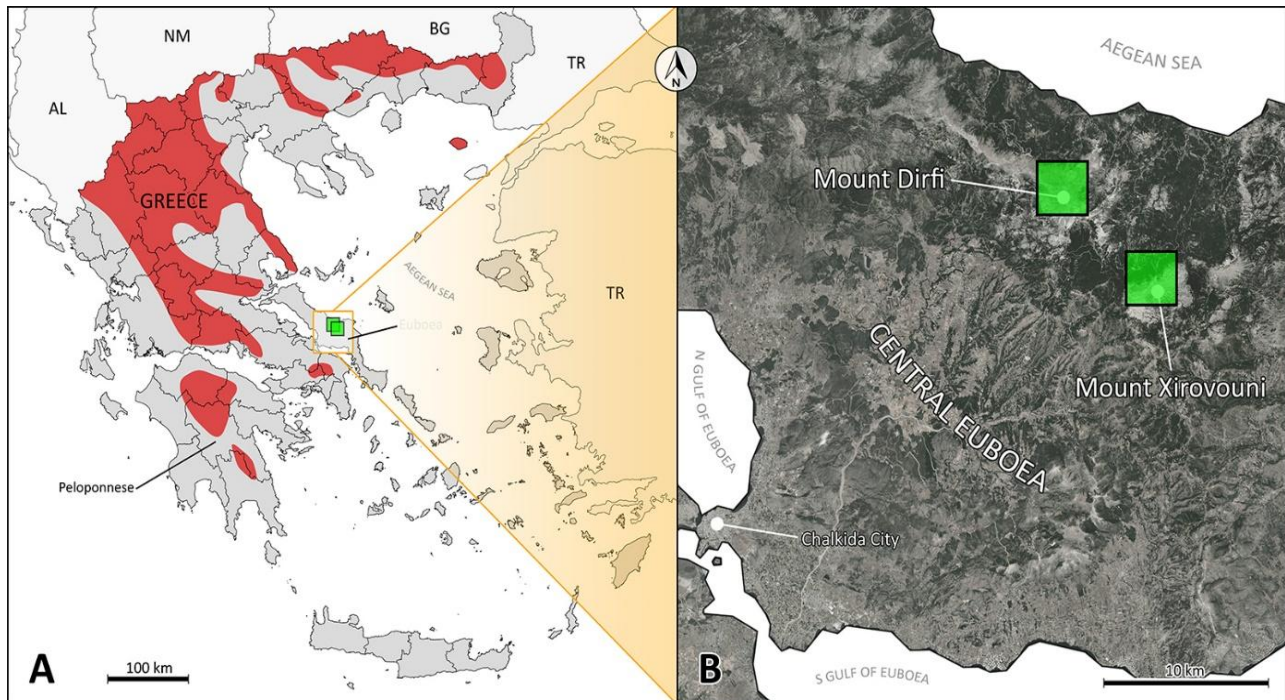


Fig. 1. A) Approximate distribution of the Smooth Snake (*Coronella austriaca*) in Greece, highlighted in red, based on data from Chondropoulos (1989), Engelmann (1993), Tryfonopoulos (2012), Sillero et al. (2014), Annousis et al. (2021), the Hellenic Ministry of Environment and Energy (2022), and unpublished records from the authors. Newly confirmed occurrences on Euboea Island are indicated by green squares. **B)** Close-up map of central Euboea showing the Dirfi and Xirovouni Mountains, where the species was recorded (green squares).

Maps were generated using QGIS v3.22.9 "Białowieża" (2022).

During a one-day herpetological expedition on 27 May 2019, we observed an adult Smooth Snake (Fig. 2A) basking on a dry-stone wall in a meadow, at an elevation of 1,050 m on Xirovouni Mountain, which is located approximately 6 km southeast of Mount Dirfi on Euboea Island.

Six years later, during a faunistic survey on 17 May 2025, a gravid female Smooth Snake was recorded on Mount Dirfi (Fig. 2B). The snake was found moving through herbaceous vegetation

near a dense fir (*Abies cephalonica*) forest at 1,090 m elevation.

Buccal swabs were collected from both individuals for DNA analysis. Each specimen was immediately released at the site of capture with minimal disturbance. To prevent potential poaching, the precise coordinates of these observations are withheld herein, but can be made available upon request for legitimate scientific purposes. Only the broader area of our findings is depicted in Fig. 1B.



Fig. 2. The two *Coronella austriaca* individuals recorded on Mount Xirovouni (A) and Mount Dirfi (B), on 27 May 2019, and 17 May 2025, respectively. Photographs by I.S. (A) and E.T. (B).

Chondropoulos (1989) lists Samothrace as the only Greek island that hosts a population of *C. austriaca*, citing Werner (1938) and Gruber (1979). However, Gruber (1979) also references Werner (1938) as the source of this information, while he further speculates that the species “could with certainty be expected also on Thasos” (sic). Werner (1938), in turn, attributes the occurrence of the Smooth Snake on Samothrace to a single specimen from a pre-war animal collection housed in the Zoological Museum of the National and Kapodistrian University of Athens (NKUA). Notably, the specimen remains part of the NKUA collection to this day (E.D. Valakos pers. comm.).

Coronella austriaca has not been documented on Samothrace in any subsequent studies for almost a century since the specimen’s collection. Given the above, a dedicated field survey is warranted to assess the current status of the species on the island and to confirm whether a viable population persists.

Our records constitute the first confirmed occurrence of the species on Euboea Island published in the scientific literature. Consequently, Euboea is currently the second Greek island with verified presence of the Smooth Snake.

Our findings contribute to the growing list of the island’s herpetofauna and expand the known distribution of *C. austriaca*, by adding one more of the few insular populations documented across its

global range. A more comprehensive survey of Euboea’s mountainous regions is likely to provide valuable insights into the species’ local distribution, population dynamics, habitat preferences, and ecology.

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