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New records of the Ocellated Skink, *Chalcides ocellatus* (Forskål, 1775), reveal possible human-mediated translocation to Syros Island, Greece

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Greece has long been a focal point of herpetological research, particularly on its island ecosystems (Pafilis, 2010; Lymberakis et al., 2018). In recent years, field studies have significantly contributed to filling distribution gaps for various species in the Aegean Sea (e.g., Bogaerts et al., 2018; Christopoulos, 2018; Christopoulos et al., 2019; Grano and Cattaneo, 2020; Tzoras et al., 2023; Foufopoulos et al., 2024; Grano et al., 2024; Pafilis and Kapsalas, 2024). Syros (also known as Syra), the most populous island (21,124 inhabitants) of the Cyclades Islands Complex in the Aegean Archipelago and the administrative centre of South Aegean Administrative Region, has recently been the subject of comprehensive herpetofauna research (Broggi, 2024). In Broggi (2024), however, the Ocellated Skink, *Chalcides ocellatus* (Forskål, 1775), was notably indicated as being unrecorded on Syros. While a previous record by Roussos and Densmore (2014) suggested the presence of *C. ocellatus* on Syros at a single location, no strong evidence about the origin of that population has been discussed. Furthermore, the Roussos and Densmore (2014) record appears to have been overlooked in most of the subsequent works such as *Atlas of Reptiles & Amphibians of Greece* (Pafilis and Maragou, 2020) and the latest species checklist (Broggi, 2024), as well as international databases such as GBIF (GBIF Secretariat, 2023), The Reptile Database (Uetz et al., 2024) and the IUCN Red List (Bowles, 2024). Syros appeared on a distribution map of the Ocellated Skink in only one published study (Cattaneo, 2023).

As the Roussos and Densmore (2014) record was only from a single location more than 10 years ago, we provide three additional independent observations of the Ocellated Skink and describe its habitat from three distinct localities across Syros. The first site (37.4496ºN, 24.9387ºE; elevation 75 m) is located in Ano Syra, just outside Ermoupoli, the island's main town and port, where humans and cargo arrive from the mainland and other islands by ship. The individual was observed early in the morning, foraging near a traditional dry-stone wall in scrubland (phrygana) with gardens (Fig. 1). The second site (37.3986ºN, 24.9430ºE; elevation 17 m) is located in cultivated fields, where the individual was seen foraging on a small mound of recently transported soil (Fig. 1). Finally, the third site (37.4039ºN, 24.8955ºE; elevation 45 m) is located at a plant nursery, where the animal was found hiding inside a plant basket (Fig. 1).

Given the discontinuous insular distribution of the species in the Aegean Sea (Valakos et al., 2008; Kornilios et al., 2010; Cattaneo, 2023) and the geological history of Syros (Drinia et al., 2021), we suggest that the Ocellated Skink has been introduced and well-established on the island. Indeed, the species is widely distributed across various regions due to human-mediated translocations (Kornilios et al., 2010; Itescu et al., 2016; Kornilios and Thanou, 2016; Bisbal-Chinesta et al., 2020; Pérez-García et al., 2022; Cattaneo, 2023). The multiple records from different localities on Syros, associated with human activities, might suggest that translocations may have occurred, even between sites on the island itself presumably facilitated by the transportation of soil, stones, and other materials (Cattaneo, 2023; P. Argyros, pers. comm.). For example, plant nurseries have already been suspected to play a role in the dispersal of this skink (Pérez-García et al., 2022) and of other reptilian and amphibian species (Zomora-Camacho, 2017; Hinsley et al., 2025). On Syros, plants are imported from other regions of Greece, such as Attica, as well as Spain and Italy (P. Argyros, pers. comm.), that fall

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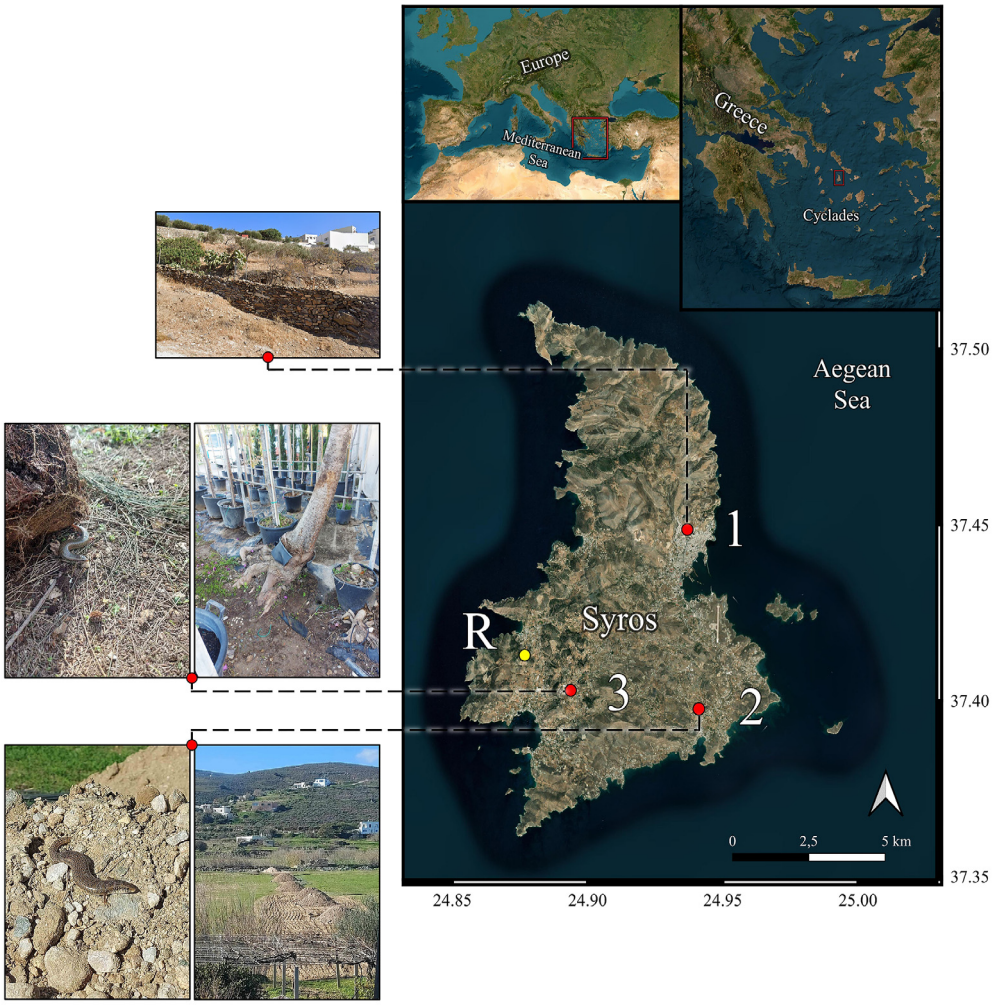

Figure 1. Map of Syros Island, Greece. Sites marked with numbers (red dots) correspond to localities listed in Table 1, while site R (yellow dot) represents the only record documented by Roussos and Densmore (2014). Photos of the recorded animals and their habitats are shown for Sites 2 and 3. For Site 1, no photo of the recorded animal was taken. Photos by Petros Stefanou.

within the species range (Kornilios et al. 2010).

In the extended Aegean region, a place of historical significance for trade and transportation until nowadays, human-mediated translocations have shaped the distribution of other lizard species such as the Common Wall Gecko (*Tarentola mauritanica*; Harris et al., 2004), the Mediterranean House Gecko (*Hemidactylus turcicus*; Carranza and Arnold, 2006), the Pelasgian Rock Lizard (*Anatololacerta pelasgiana*; Kornilios and Thanou, 2016; Christopoulos et al., 2022), the Starred Agama (*Laudakia stellio*; Karameta et al., 2022), and snake species, such as the Caspian Whip Snake (*Dolichophis caspius*; Javorčík et al., 2024), the Dice Snake (*Natrix tessellata*), the Leopard Snake (*Zamenis situla*), and the Cat Snake (*Telescopus fallax*) (Kyriazi et al., 2012; Kornilios and Thanou, 2024).

Island and coastal regions are characterised by high alien species richness (Dawson et al., 2017), raising the need for further management and protection. Genetic studies at small geographic scales (e.g., Mori et al., 2022) could help assess the origin and status of the Ocellated Skink's populations across Aegean islands (Kornilios and Thanou, 2016). Furthermore, the documented variation in habitat types and environmental variables including seasonal temperature extremes (Table 1), highlights the adaptability of *C. ocellatus* to new habitats outside its

Table 1. Overview of recent records of Ocellated Skink, *Chalcides ocellatus* (Forskål, 1775), on Syros Island with field data.

Locality	Date	Time	T (ºC)	Land Cover (CORINE)	Behaviour
Ano Syra (1)	27 Jul 2023	08:10 h	30	Sclerophyllous vegetation (323)	foraging
Vari (2)	21 Dec 2024	13:30 h	16	Complex cultivation patterns (242)	foraging
Vissa (3)	2 Jan 2025	11:20 h	14	Complex cultivation patterns (242)	hiding

native range. Thereby suggesting that the species could be a potential invasive candidate (Kornilios et al., 2010; Pérez-García et al., 2022), similarly to other successful invasive skinks (Harris et al., 2024).

Finally, despite evidence suggesting possible translocation, at this moment we cannot ignore the possibility that the species has long existed on the island, but at a low population density that has made it difficult to detect until now. Although insular lizard populations tend to reach higher densities (Novosolov et al., 2015), we cannot reject the hypothesis of a native species origin without proper genetic analyses.

In conclusion, our findings warrant the need of constant monitoring of insular populations while aspects of their ecology remain undiscovered. Also, we suggest the implementation of strict controls on the transportation of materials to prevent the potential spread of non-native species and mitigate their ecological impact. Following the confirmed presence of the Ocellated Skink and the local extinctions of the Balkan Terrapin, *Mauremys rivulata* (Valenciennes, 1833), and the Marsh Frog, *Pelophylax ridibundus* (Pallas, 1771), Syros is currently home to 11 reptile and 1 amphibian species (Broggi, 2024).

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