

A new island record for  
*Chalcides ocellatus* (FORSKÅL, 1775)  
from Kythnos, Greece

The skink genus *Chalcides* LAURENTI, 1768, comprises 31 species that are found in Africa (mainly in the Maghreb), the Canary Islands, west Asia and Europe (UETZ & HOSEK 2014). Europe hosts four species that occur exclusively in the south of the continent (SCHNEIDER 1997; SINDACO & JEREMČENKO 2008). Among them, the Ocellated Skink, *Chalcides ocellatus* (FORSKÅL, 1775), is by far the most widespread (SINDACO & JEREMČENKO 2008). Its range includes Asia (from India to Turkey and Israel) and Africa (from Egypt and Kenya to Morocco and Mauritania). European populations are located in Italy (Sardinia, Sicily, Lampedusa Island, Naples area), Malta and Greece (UETZ & HOSEK 2014). Recently, it has also been introduced to the USA (GUNN et al. 2012). In Greece, the distribution of the species is discontinuous. It occurs in northeastern Peloponnese, in Attica in a restricted area of the western Greek mainland (coastal Etolia and Akarnania) and on very few islands, namely some Argo-Saronic Islands (Aegina [WETTSTEIN-WESTERSHEIMB 1968], Hydra [CLARK 1967], Makronisios [WERNER 1937], Metopi [BOETTGER 1888], Poros [CLARK 1967] and Salamina [BRINGSOE 1985]), Chios (ANDERSON 1898, albeit never recorded since), Crete (BOETTGER 1888), Dia (WETTSTEIN 1953), Evvoia (BOETTGER 1888), Karpathos (WETTSTEIN 1953), Kos (LAMBERT 1970), Nisyros (CATTANEO 2006), Pentanisos (WETTSTEIN-WESTERSHEIMB 1965) and Rhodes (ERBER 1868). In the Cyclades, the island group to which Kythnos belongs, the species was recorded from Kea (BOETTGER 1888), Spanopoula (GRILLITSCH & TIEDEMANN 1984) and, recently, Naxos (BELASEN et al. 2012) (Fig. 1).

During field work on June 21, 2014, some of the authors (YI, RS and AS) visited Kythnos Island in the Cyclades Archipelago. At the side of the road leading from Merichas to Episkopi (37°23'31.6"N, 24°23'51.7"E), a specimen of *C. ocellatus* was detected under a flat stone at about 08:20 a.m. The individual was a large, gravid, female [snout-vent length (SVL) 107 mm,

tail length (TL) 83.2 mm, mass 24.6 g]. Another specimen, dead and in very poor condition, was found later that day (17:20 h) under a wooden plate in an a dried agricultural field near the village of Driapis (37°22'47.5"N; 24°25'42.1"E).

The live female lizard was transferred to the laboratory facilities of the Biology Department at the University of Athens. Two weeks later it gave birth to five juveniles (juvenile #1: SVL 31 mm, TL 20 mm, mass 0.32 g, #2: SVL 36 mm, TL 35 mm, mass 0.66 g, #3: SVL 36 mm, TL 35 mm, mass 0.77 g, #4: SVL 37 mm, TL 39 mm, mass 0.79 g, #5: SVL 43 mm, TL 42 mm, mass 0.84 g). The lightest juveniles (#1 and #2) died within 24 hours while the other three survived and continued to grow.

New island records of the Ocellated Skink in the Aegean (BELASEN et al. 2012 and this report) raise the possibility that the species is present in some of the Cyclades and perhaps in other island clusters that were connected by landmasses until the near geological past, e.g., the Sporades and Dodecanese Islands were connected to mainland Greece and Asia Minor, respectively, until the Middle Pleistocene (DERMITZAKIS 1990). Alternatively, the present finding could be the result of a recent introduction of this species to Kythnos. As in other cases of the Aegean herpetofauna, further genetic investigation is required to clarify the origin of unexpected and not well explained reptile populations on the islands (BROGGI et al. 2014).

The gap in our knowledge, regarding the distribution of *C. ocellatus*, can be attributed to its particular life pattern. The Ocellated Skink is an inconspicuous species that spends most of its life within burrows or under stones and emerges only when preying on its invertebrate food (LO CASCIO et al. 2008; CIÇEK & GÖÇMEN 2013, authors' personal observation). During summer it adopts nocturnal activity, making observations even harder. Furthermore, it prefers soft or sandy substrates (dunes, farmlands, meadows) where it can dive into the soil to avoid its enemies (MERMER 1996; authors' personal observation). Indeed, on some islands (e.g., Kea, Rhodes, Crete), the sandy coastal regions are densely populated by Ocellated Skinks. However, in the mostly



Fig. 1: Known distribution of *Chalcides ocellatus* (FORSKÅL, 1775) in Greece (species range in black, Greece in dark gray). An arrow points to the new record on Kythnos Island (in white with black coastline).

stony and steep Aegean Islands such habitats are uncommon; thereby limiting successful colonization events. For all the above reasons, while it is frequently found in regions with more favorable habitats (e.g., in Israel; pers. obs. of the authors), it requires patient fieldwork to encounter *C. ocellatus* in the Aegean islands. For instance, Augusto CATTANEO, an experienced researcher of the Greek herpetofauna, did not encounter this skink while surveying Kythnos for snakes (CATTANEO 1990). However, he may not have found *C. ocellatus* individuals simply because they were not present on Kythnos when he surveyed the island 25 years ago. Though the herpetofauna of the Greek islands is quite well known, thanks to 180 years of extended research (PAFILIS 2010), new records constantly enhance the body of literature (BROGGI 2008; 2010; BELASEN et al. 2012; PAFILIS & SKELLA 2012; SPANELI & LYMBERAKIS 2014).

The new reports on the distribution of *C. ocellatus* raise interesting biogeographical questions. The Aegean range area of the Ocellated Skink is largely restricted to land-bridge islands close to both sides of the Aegean Sea and the south Aegean arc islands of Crete and Karpathos (VALAKOS et al. 2008; KORNILIOS et al. 2010). By several authors,

this highly disjunct Aegean range was ascribed to human introductions (KORNILIOS et al. 2010; LYMBERAKIS & POULAKAKIS 2010). *Chalcides ocellatus* is indeed known to be translocated by humans (SCHNEIDER 1981; CAPUTO et al. 1997) and supposedly reached the east Mediterranean region as a hitchhiker (KORNILIOS et al. 2010). If more records from other Aegean islands come to enhance the range list, one may need to reconsider the distributional model of the species. Along with its well-proven stow-away skills (KORNILIOS et al. 2010), complementary biogeographical scenarios could imply vicariance or dispersal from mainland Greece and Asia Minor. A phylogeographical analysis of the insular populations would shed light on this biogeographic conundrum.

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