

First report of albinism in *Macroprotodon brevis*

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Fecha de aceptación: 28 de diciembre de 2023.

Key words: aberrant coloration, anomalies, Colubridae, snakes.

RESUMEN: En esta nota describimos el primer caso de albinismo en la culebra de cogulla occidental (*Macroprotodon brevis*), correspondiente a un ejemplar adulto encontrado en mayo de 2023 en el Campus de la Universidad Pablo de Olavide (Sevilla).

Albinism is a chromatic anomaly that occurs when there is a lack of melanin in the pigment-producing cells of the skin, stemming from a genetic modification (Álvarez de Villar *et al.*, 2007). This anomaly has been widely documented across various organisms, encompassing all vertebrate groups. Wild individuals, especially mature ones, may be uncommon to spot in their natural habitat due to the drawbacks associated with their atypical skin pigmentation (McCardle,

2012). Animals with albinism can be, for instance, more conspicuous to predators, frequently experience visual impairments, and/or encounter challenges in regulating body temperature, among various other issues (Prüst, 1984).

Albinism in amphibians and reptiles has been described in a multitude of species (Bechtel, 1995; Broghammer, 2000). In ophidians of the Iberian Peninsula, it has been reported in *Coronella girondica* (Martínez-Silvestre *et al.*,

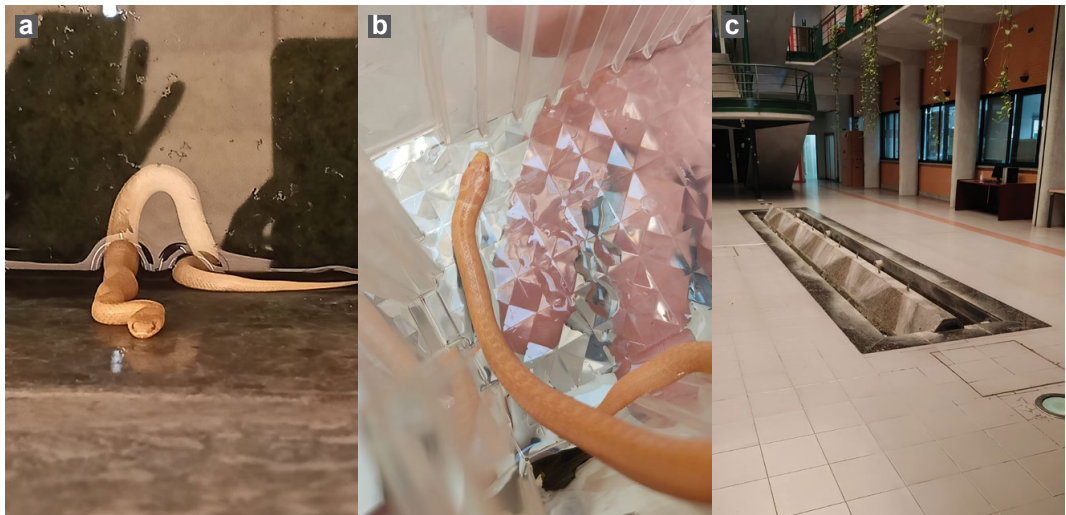


Figure 1: a) Photograph of the specimen *in situ*. b) Dorsal photograph of the specimen. c) Place where it was found inside the "Centro Andaluz de Biología del Desarrollo". Photos: Gloria Brea Calvo & M. Mercedes Pérez Jiménez.

Figura 1: a) Fotografía del espécimen *in situ*. b) Fotografía dorsal del espécimen. c) Lugar donde se encontró, dentro del "Centro Andaluz de Biología del Desarrollo". Fotos: Gloria Brea Calvo & M. Mercedes Pérez Jiménez.

2009), *Coronella austriaca* (Boulenger, 1913), *Zamenis scalaris* (Lesparre, 2001; Manjón, 2011; Atance & Meijide, 2020; García-Roa, 2020), *Natrix maura* (Pérez & Collado, 1975; Alaminos & López, 2011), *Malpolon monspessulanus* (Martínez-Silvestre & Soler, 2018) and *Vipera latastei* (Fábio Santos, personal communication).

The western false smooth snake (*Macroprotodon brevis*) is an Ibero-North African colubrid (Family Colubridae) that inhabits soft soils, which facilitate its mining work, usually with stones, under which it thermoregulates (González de la Vega, 1988; Salvador *et al.*, 2021).

A melanic specimen was previously documented for this species in Málaga, Spain (Fernández & Millán, 2022). However, it is the contention of the authors of this note that the observed specimen might represent a dark individual undergoing shedding rather than a true melanic specimen.

In this note we report the first case of albinism for the western false smooth snake (Figure 1). On 18 May 2023 at 15:00 hours, at the “Centro Andaluz de Biología del Desarrollo” within Pablo de Olavide University (Sevilla,

Spain), an adult false smooth snake was found inside a building (37°21'N / 5°56'W). The snake was found trapped inside a water tank and was consequently released outside the building. The individual displayed a size within the average range for an adult of the species.

The landscape surrounding Pablo de Olavide University is characterized by the presence of buildings, cultivated fields, artificial ponds, degraded natural vegetation, and gardens. Notably, the area is in close proximity to the Guadaíra river and the 'Canal del Bajo Guadalquivir'. The area exhibits a Mediterranean climate at an approximate elevation of 15 meters above sea level.

Albino snakes in the wild are often associated with low survival rates and reduced fitness (Krecsák, 2008), with most albino snake records corresponding to juveniles (Ferri & Bettiga, 1992). However, our hypothesis posits that due to being a thigmothermal species and having fewer natural predators (e.g. birds of prey, mesocarnivorous mammals), pigmentary anomalies of *M. brevis* might demonstrate a higher likelihood of survival compared to other snake species.

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