

First record of hypopigmentary anomaly in the Moorish gecko *Tarentola mauritanica* with an overview of the cases reported for wild geckos

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Hypopigmentary anomalies (HAs) are chromatic disorders of various etiologies that result in lighter colourations due to a decrease or lack of pigments. A standardised terminology for chromatic anomalies in reptiles has recently been proposed by Borteiro and colleagues, including definitions for the main HAs such as amelanism, albinism, hypomelanism, leucism, and piebaldism (Borteiro et al., 2021). Among wild reptiles, HAs are mostly known in snakes while they are rarer in other squamates, including geckos.

In the case of wild geckos, HAs have been reported in less than 0.4 % of the known species (Table 1). There have been no previous reports of HA in the Moorish gecko *Tarentola mauritanica* Linnaeus, 1758, which may be a complex of six cryptic species (Rato et al., 2016). The species is chromatically variable with a grey or brown colouration dorsally, sometimes with yellowish tones, and a ladder-shaped dark pattern (Aprea et al., 2011). Moreover, *T. mauritanica* is able to quickly darken or lighten the dorsal ground colour and pattern in relation to the substrate and light conditions (Vroonen et al., 2012).

On 1 September 2022 at 22:40 h, in the seaside locality Triscina di Selinunte (Province of Trapani, Sicily; 37° 34'57" N, 12° 48'44" E; 10 m a.s.l.) a young Moorish gecko with a freshly shed tail (Fig. 1) was observed on the ground of a private garden. Specific identification was made on a

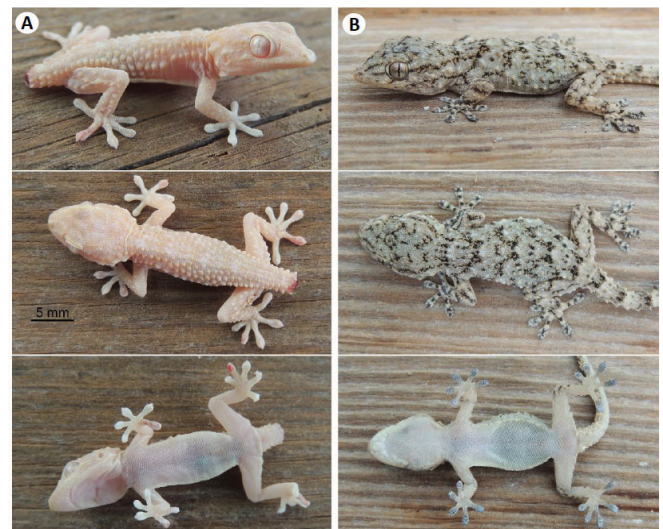


Figure 1. Two young Moorish geckos *Tarentola mauritanica* from Sicily - **A.** Dorsal and ventral views of a specimen affected by an hypopigmentary anomaly, and **B.** An individual of normal colouration and similar size observed at the same location

morphological basis (Aprea et al., 2011). The gecko snout-vent length (SVL) was 27 mm, which is compatible with a recently hatched individual (Martinez-Rica, 1974). The dorsal

Table 1. Overview of gecko species for which hypopigmentary abnormalities in the wild have been reported in scientific literature, there is only a single record in each case

Species	Family	Declared anomaly	Age class (sex)	References
<i>Woodworthia maculata</i>	Diplodactylidae	Leucism	Adult (female)	Baling, 2015
<i>Cyrtodactylus deccanensis</i>	Gekkonidae	Xanthism	Unspecified	Mayekar et al., 2022
<i>Lygodactylus capensis</i> *	Gekkonidae	Amelanism	Unspecified	Raw, 2021
<i>Homonota taragui</i>	Phyllodactylidae	Partial albinism	Unspecified	Courtis et al., 2015
<i>Tarentola boettgeri</i>	Phyllodactylidae	Piebaldism	Adult (male)	Rocha & Rebelo, 2010
<i>Tarentola mauritanica</i>	Phyllodactylidae	Amelanism	Young	This study
<i>Euleptes europaea</i>	Sphaerodactylidae	Albinism	Young	Delaugerre, 1981
<i>Gonatodes albogularis</i>	Sphaerodactylidae	Leucism	Adult (female)	Grisalez-Martínez & Arias-Alvarez, 2018

*The individual is likely young from what can be assessed from the photo

ground colour was whitish with pinkish hues, marbled with a very faint yellow pattern, while the ventral parts were whitish and slightly translucent. The subdigital lamellae also appeared depigmented (Fig. 1). The iris was pale pink, affected by a faded whitish part around the pupil, the latter appearing distinctly reddish when dilated. The chromatic condition of the gecko would appear to be amelanism sensu Borteiro et al. (2020; i.e. lack of melanin expression -dark colours-, including eyes).

Although *T. mauritanica* is a common, widespread, and adaptive species (Speybroeck et al., 2016), no cases of HAS have been described previously in the scientific literature suggesting a low survival rate of affected individuals in nature.

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