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An amelanistic spur-thighed tortoise *Testudo graeca* observed in the wild

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While colour aberrations and anomalies are known in captive turtles and tortoises, such occurrences are rarely reported in the wild. This is mainly due to the low survival rate of these animals, as individuals with colour aberrations such as albinism or leucism are more vulnerable to predation or are affected by diseases and other health issues (Jubber & Leyendecker, 2016; Perrault & Coppenrath, 2019). Various pigment anomalies have been documented in turtles and tortoises, including hypomelanism (Di Giuseppe et al., 2014), leucism (Rabbe et al., 2021), xanthism (Jubber & Leyendecker, 2016), partial albinism (Rocha et al., 2022), as well as albinism (Judd, 1971; Williams & Norden, 1992; Saumure & Rodrigue, 1998; Bringsøe et al., 2001; Perrault & Coppenrath, 2019; Escoriza et al., 2023). However, it is worth noting that some of the reported cases, especially albinism, could be considered rather as amelanism based on the criteria presented by Borteiro et al. (2021) on squamate reptiles. So far, cases of amelanism however, are very few but have only been reported for *Testudo hermanni* (Silvestre & Soler, 2001), *Trachemys grayi* (Mora et al., 2022) and recently for *Emys orbicularis* from Iran (Azarakhsh et al., 2025).

The spur-thighed tortoise *Testudo graeca* Linnaeus, 1758, is the most widely distributed species among Western Palearctic tortoises, primarily inhabiting Mediterranean environments across south-eastern Europe, north Africa, and the Middle East, extending as far as Iran (Türkozan et al., 2023). The species exhibits cryptic colouration, with the carapace often being lighter and more patterned than the rest of the body. In parts of Turkey and the Middle East, uniformly dark individuals are known, often associated with a burrowing phenotype (Fritz et al., 2007; Türkozan et al., 2023). However, colour aberrations in the wild are, according to our best knowledge, surprisingly undocumented.

We here report on a case of an amelanistic juvenile of *T. graeca* found by a local resident on 1 May 2023, in Gharfine, Jbeil District (34.153° N; 35.667° E, 272 m a.s.l.), Lebanon. The specimen weighed 22 g, with a carapace length of 45 mm and a width of 38 mm, and exhibited uniform pale yellow colouration and red eyes (Fig. 1), both of which are characteristics of amelanism (Borteiro et al., 2021). Given the time of year it was discovered, we infer that this individual likely hatched in 2022 and survived for at least six months in the wild despite the presence of common predators in the area, including *Felis catus, Canis aureus, Vulpes vulpes* and *Corvus cornix*.

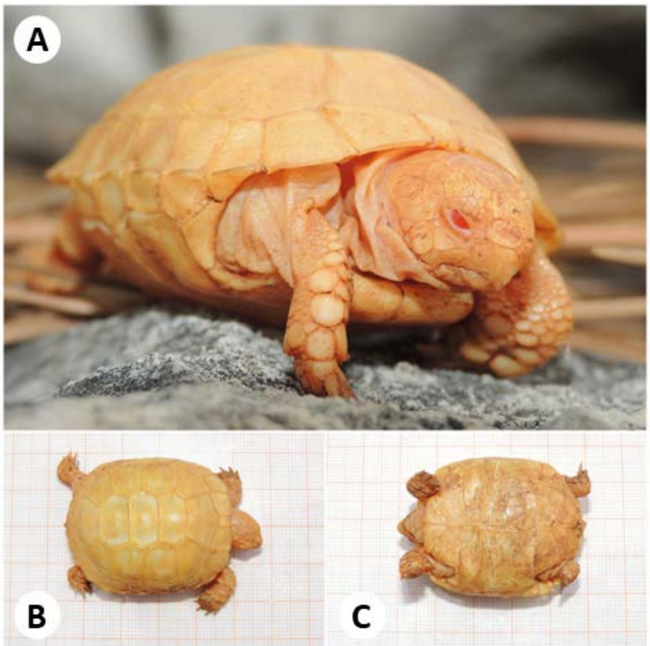

Figure 1. An amelanistic spur-thighed tortoise *Testudo graeca* observed in the wild in Lebanon - **A.** General view with red eye visible, **B.** Dorsal view, and **C.** Ventral view

Although our report represents the first, well-confirmed, wild-born, amelanistic individual of *T. graeca*, unfortunately, no further information about the survival of this individual is available. The individual was released back into the wild by the observer after photographic documentation, since it was deemed healthy and no proper facility in Lebanon currently exists where such a unique animal can be kept legally. If we consider only records of amelanism, we should mention another record reported from the Levant region, although from the captivity. While we could not find any well-documented published cases of amelanism in wild *T. graeca*, the International Centre for Tortoise Conservation has reported on their website a case very similar to ours, labelled as albinism, without any further details on the origin of the individual (ICTC, 2014). The individual died four months after hatching, while other juveniles (perhaps from the same clutch) survived and thrived. Hence, compared to other groups of reptiles, such as snakes or lizards (e.g. Borteiro et al., 2021), we consider similar observations in wild tortoises to be extremely rare and worth reporting if they occur in the future.

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