

First cases of cannibalism in the Madeiran Wall Lizard, *Teira dugesii* (Milne-Edwards, 1829)

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Cannibalism is the process of consuming parts, or the entire body of conspecific individuals at any stage of their life cycle (Mateo and Pleguezuelos, 2015). It has been reported from various Squamata across the globe, with several cases documented in the Lacertidae family (Grano et al., 2011; Zagar and Carretero, 2012; Thanou and Kornilios, 2019). Lizards from insular populations in which intraspecific competition is high and resources scarce have demonstrated a tendency for conspecific aggression, leading to cases of cannibalism (Pérez-Mellado and Corti, 1993; Cooper et al., 2015). The benefits of cannibalism within such populations are diverse and include: additional nutrient intake, elimination of reproductive and resource-based competition, and/or control of territory (Madden and Brock, 2018).

The Madeira Wall Lizard *Teira dugesii* (Milne-Edwards, 1829) is a lacertid lizard endemic to the Madeiran Archipelago. Several populations have been reported outside the species' native range, probably introduced by human activity: in the Portuguese cities of Lisbon and Porto, in the Azores Archipelago, and in the Canary Islands (Ulfstrand, 1961; Sá-Sousa, 1995; Mateo et al., 2011; Ferreira et al., 2023). The diet of *T. dugesii*, as studied in native and non-native populations, is omnivorous consisting of different invertebrates, plant matter (Sadek, 1981), and sometimes vertebrates. Namely, predation on vertebrates has been reported for hatchlings of two seabird species, *Calonectris diomedea* and *Hydrobates monteiroi* (Matias et al., 2009; Neves et al., 2017, 2022) and for the Common Wall Gecko (*Tarentola mauritanica*) (Rato et al., 2022).

Here we report on two observations of cannibalism in

Teira dugesii from an introduced population in Lisbon, Portugal. Both observations were made on 28 September 2022, within a city park near the Lisbon harbour area (38.7044°N, 9.1626°E), from where *T. dugesii* was first reported in 1992 (Sá-Sousa, 1995). Madeiran wall lizards have colonised the few trees, bushes, and patches of grass present in this highly disturbed area, as well as wall cavities and a portion of a nearby railway. At the time of the observations, under favourable weather conditions, dozens of juvenile and adult Madeiran wall lizards were observed along a 20 x 3 m strip of low vegetation. The first predation event occurred at 09:40 h, when a subadult was seen chasing a smaller specimen around a tree trunk. The subadult individual reappeared soon after, holding a wriggling tail portion in its mouth and proceeded to consume it entirely (Fig. 1A). The second predation event occurred at 09:51 h. An adult specimen was observed chasing a juvenile in the grass, catching it on the neck (Fig. 1B), and then retreating under the vegetation. Hence, we could not confirm the consumption of the juvenile.

These observations are the first direct report of cannibalism for this species, which was proposed to occur by Neves et al. (2022). The occurrence of cannibalism raises potential concerns regarding ecological implications. Although these simultaneous observations could be unrelated opportunistic events, we speculate that they might be caused by strong levels of competition within a dense and isolated population occupying a narrow area in which resources are scarce.

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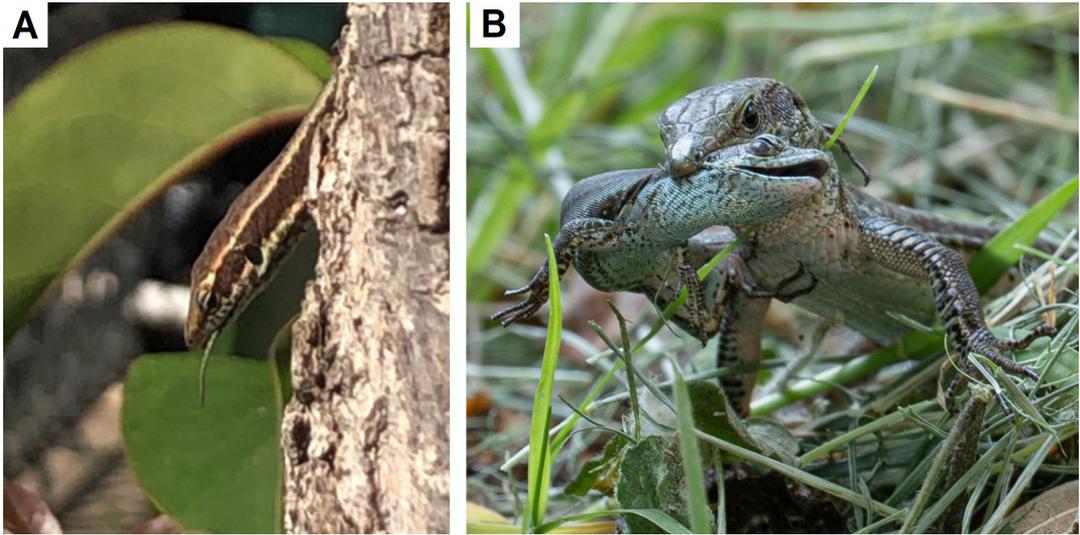


Figure 1. Consumption of the tail of an intraspecific individual by a subadult *Teira dugesii* (A). Adult *Teira dugesii* capturing an intraspecific juvenile (B). Photographs by Robin Gloor.

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