

Immersion in water as a potential component of thermoregulation in the South American collared lizard *Tropidurus oreadicus*, with a link to video evidence

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Reptiles are well known to employ behavioural mechanisms to keep their body temperature within a preferred range, even in the face of excessive heat (Sunday et al., 2014; Ortega et al., 2019). Less well known is the way that lizards may use immersion in water in this process, which has previously been described in the case of *Psammophilus dorsalis* (Veeranagoudar et al., 2010) although an alternative explanation for this has been proposed by Rao et al. (2014) who suggest the benefits of this behaviour may be water uptake via the skin as well as thermoregulation. We report here an observation of similar water immersion behaviour in the collared lizard *Tropidurus oreadicus* Rodrigues, 1987, a heliophile species, whose preferred microhabitat is the surface of rocks (Ortega et al., 2019).

On 15 November 2022 at 11:47 h, at the Mirante do Morro do Paxixi (-20.4485 °S, -55.6476 °W, WGS 84, elevation 720 m), Maracaju Mountains, Aquidauana municipality, Mato Grosso do Sul, Brazil, an adult *T. oreadicus* was observed near a puddle of rainwater that had accumulated in a small natural rock depression. It was a sunny day with an ambient temperature of around 27.8 °C. The lizard was photographed and videoed whilst executing typical postural adjustments associated with behavioural thermoregulation, keeping its tail and left hind limb elevated, not touching the rock. Thereafter, it moved towards the puddle (Fig. 1A) and began to interact with it (BHS video, 2025), initially moving in small circles along the edge of the puddle, entering and leaving the water repeatedly. In some instances, when passing through dry rocky areas, the animal wiped its snout on the rocky ground. At times, it remained with only its hind limbs and tail in the water and performed lateral movements with its tail in the water. This sequence of movements and posture appears to indicate a situation in which the lizard was using the puddle to cool off. Finally, the individual entered a deeper puddle region and, upon immersing its entire body in the water, performed vigorous movements (Fig. 1B), emerged from the water, wiping its

snout on the rocky outcrop and fled, due to the approach of another observer. The entire behaviour was recorded for 60 seconds.

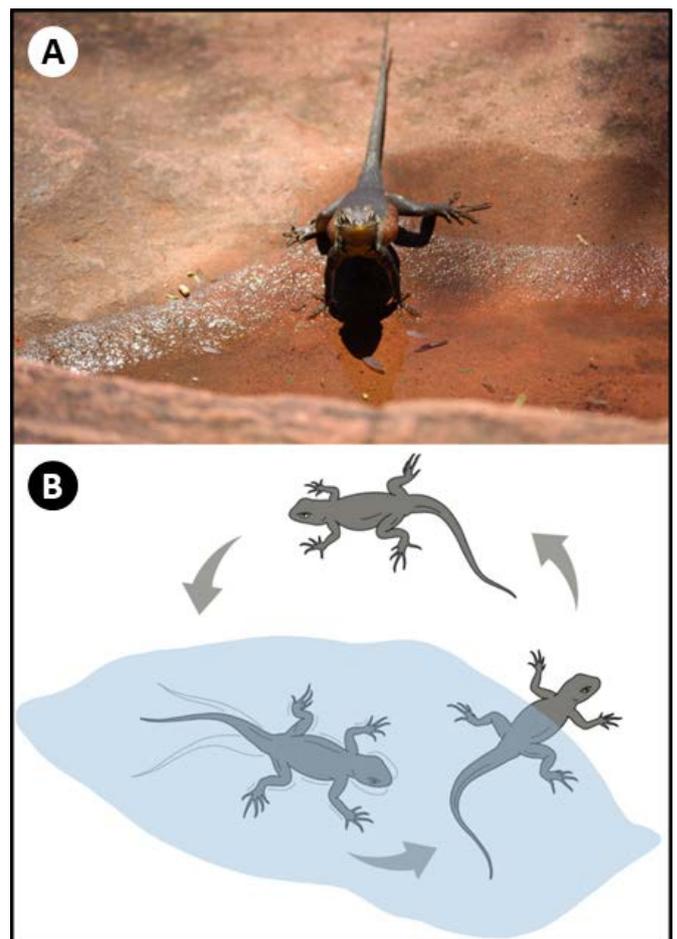


Figure 1. Adult South American collared lizard *Tropidurus oreadicus* in a sequence of thermoregulation including bathing in a rainwater puddle - **A.** In front of the puddle, **B.** Sequence of one of the movements performed by the lizard when diving into the puddle of water

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