

ANOLIS SAGREI (Brown Anole). AQUATIC ESCAPE BEHAVIOR.

Native to the Caribbean, *Anolis sagrei* (Dactyloidae) is a highly successful, invasive lizard that has become established in large parts of Texas, USA (Dixon 2013. Amphibians and Reptiles of Texas: with Keys, Taxonomic Synopses, Bibliography, and Distribution Maps. Third edition. Texas A&M University Press, College Station, Texas. viii + 447 pp.). The unique radiation of *Anolis* species has resulted in the use of a variety of habitats, with six distinct ecomorphs identified (Williams 1983. *In* Huey et al. [eds.], *Lizard Ecology: Studies of a Model Organism*, pp. 326–370. Oxford University Press, Oxford, UK), and despite aquatic specialization evolving multiple times (Muñoz et al. 2015. *J. Nat. Hist.* 49:1717–1730), there is not support for a single convergent aquatic ecomorph (Leal et al. 2002. *Evolution* 56:785–791). Many aquatic *Anolis* occupy habitats adjacent to streams (e.g., Eifler and Eifler 2010. *Southwest. Nat.* 55:466–469) and often escape to the water when startled, with individuals swimming away (e.g., Heatwole 1961. *Herpetologica* 17:272–274; Birt et al. 2001. *J. Herpetol.* 35:161–166) or diving and remaining underwater (Boccia et al. 2021. *Curr. Biol.* 31:2947–2954). Here, I report additional details on aquatic escape behavior in wild *A. sagrei*, including a new maximum time submerged.

On 23 March 2021, at 1248 h, I observed an adult male *A.*



PHOTOS BY DREW R. DAVIS

FIG. 1. A) Adult male *Anolis sagrei* (white box) from Cameron County, Texas, USA after having dove underwater inside a standing metal planter when startled by the author; B) the *A. sagrei* remained motionless, ca. 6 cm underwater, for 10 min 14 sec before emerging.

sagrei (5.8 g, 61 mm SVL, 94 mm tail length [incomplete]) near the Barbara T. Warburton Education Center at the Gorgas Science Foundation Sabal Palm Sanctuary, Cameron County, Texas, USA (25.85227°N, 97.41803°W; WGS 84; 9 m elev.). The *A. sagrei* was perched along the edge of a standing metal planter filled with ca. 25 cm of water, adjacent to a vertical post that is part of the porch of the building. As I approached this individual, it dove into the water, swam to the bottom, oriented vertically, and clasped the inside of the planter, ca. 6 cm below the water surface. After taking a few photographs, I moved away from the planter in order to minimize my influence on when it would emerge and continued to observe the event. This individual remained motionless underwater (indicated by a calm water surface) for 10 min 14 sec (614 sec), after which it moved to the surface and extended his head out of the water. At this point, the individual was collected and subsequently vouchered (Biodiversity Collections, The University of Texas at Austin [TNHC] 115332 [DRD 7410]). While underwater, its eyes were closed and a thin layer of air was visible on this individual, particularly on the head. Though Mendyk (2020. Herpetol. Rev. 51:846–847) reported what was believed to be underwater respiration (through thoracic cavity movements), the individual I observed produced no such movements. This observed duration remains considerably shorter than a recent report documenting *A. barkeri* remaining submerged for 18 min, possibly due to individual rebreathing ability (Boccia et al. 2021, *op. cit.*); however, to my knowledge, this observation represents the longest duration *A. sagrei* has been recorded underwater, with previous reports documenting a much shorter duration of 120 s (Mendyk 2020, *op. cit.*).

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