

function of *A. sagrei* female (Vanhooydonck et al. 2009. *J. Evol. Biol.* 22:293–305) and *A. cristatellus* male (Leal and Rodríguez-Robles 1995. *Copeia* 1995:155–161) dewlap displays. However, we note that this anole's response followed human capture and handling, and therefore it may not be representative of a female *A. aquaticus* response to exposure to a natural predator.

Although the functions of *A. aquaticus* female display behaviors are yet unknown, we infer by their context that they may play a role in intraspecific communication or predator avoidance. There is some corroborating evidence that females of other *Anolis* species use head bobbing behaviors in territorial establishment and maintenance (e.g., *A. aeneus*: Stamps 1973. *Copeia* 1973:264–272) or in reproduction (Losos 2009. *Lizards in an Evolutionary Tree*. University of California Press, Berkeley, California. 507 pp.). This further suggests that females of anole species that are not predicted to have noticeable dewlaps (Harrison and Poe 2012, *op. cit.*) may nevertheless still perform “dewlapping” behaviors in a social context.

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ANOLIS SAGREI (Brown Anole). POLYDACTYLY. Naturally occurring polydactyly has been reported in a wide range of vertebrate taxa, but is infrequently observed in non-avian reptiles, especially lizards (Bauer et al. 2009. *Herpetol. Notes* 2:243–246). This account provides a first description of polydactyly in the lizard *Anolis sagrei*. On 16 May 2017, a polydactylous female *Anolis sagrei* (37 mm SVL, 1.24 g) was captured on a small cay (vegetative area of 324 m²) near Great Abaco Island in the Bahamas (26.4506°N, 77.0567°W; WGS 84; 1 m elev.). The anole displayed six digits on each forelimb (Fig. 1), which appeared to be the result of symmetrical duplication of the first metacarpal. Each additional toe appeared fully formed with a complete claw, and a few extra lamellae were present on the duplicate toe of the

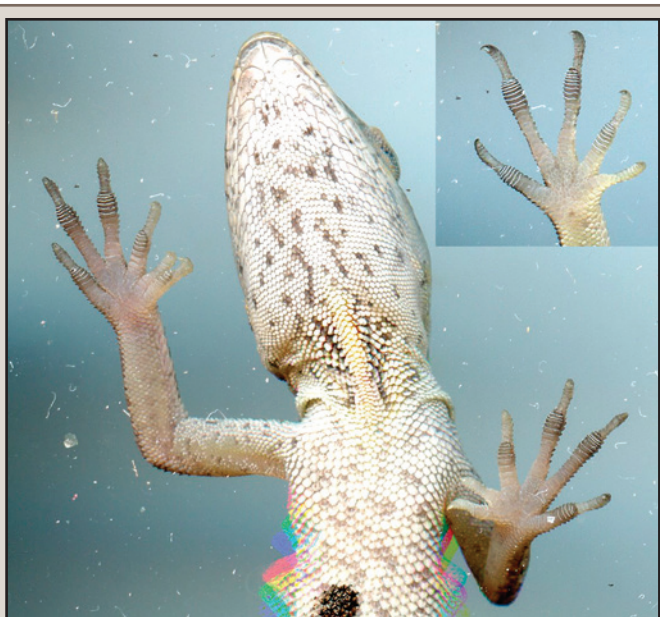


FIG. 1. Ventral scan of *Anolis sagrei* displaying polydactyly. Inset: typical *A. sagrei* anatomy of the right manus.

right forefoot (see Fig. 1 inset for an example of normal *A. sagrei* foot anatomy). The rarity of this condition is evidenced by the fact that this individual was the only polydactylous anole present in a sample of ca. 3500 *A. sagrei* captured from both natural and experimental island populations at our Abaco study site between May 2008 and March 2020. These data calculate a diminutive rate of 0.03% for anole polydactyly in this region.

Interestingly, while polydactyly may have been an expected result of inbreeding in some of the experimentally founded island populations represented among the *A. sagrei* sampled (Kolbe et al. 2012. *Science* 335:1086–1089), the sole polydactyl individual described here came from an established, naturally occurring population with a mean population size of 101.9 (SD = 27.2) lizards across 13 years of study. This is significant considering that the only previous mention of polydactyly in any species of anole lizard was in the context of an experimental hybrid cross of bark anole species (<https://www.anoleannals.org/2012/12/18/six-toed-anole>; 10 Sept 2020). As a result, this observation constitutes the first description of naturally occurring polydactyly in the genus *Anolis*.

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ANOLIS SAGREI (Brown Anole). UNDERWATER BREATHING. Many lizard species rely on diving and submersion in water as an anti-predatory escape tactic (e.g., Daniels and Oakes 1987. *Comp. Biochem Physiol.* 87A:487–492; Hare and Miller 2009. *Herpetologica* 65:227–236; Doody et al. 2014. *Herpetol. Conserv. Biol.* 9:48–56; Arrivillaga and Quinkert 2019. *Herpetol. Bull.* 148:45–46), yet little is known about what specific adaptations might facilitate or enhance such a strategy. One potential limiting factor that can impact a species' ability to evade predators through diving is the amount of time it can hold its breath underwater. As a potential way around this constraint, Swierk (2019. *Herpetol. Rev.* 50:134–135) recently described a remarkable underwater breathing behavior in the semi-aquatic anole, *Anolis aquaticus*. Although actual respiration could not be confirmed in the field, *A. aquaticus* expanded and contracted their midsections, appearing to utilize air pockets around their heads while submerged (Swierk 2019, *op. cit.*). Given the peculiarity of this behavior, it is of great interest as to whether this phenomenon occurs in other *Anolis* species.

Anolis sagrei was introduced to the United States from Cuba and the Bahamas, and became established in New Orleans, Louisiana, USA as recently as the late 1980s (Thomas et al. 1990. *Herpetol. Rev.* 21:22). On 5 August 2020, a live, adult male *A. sagrei* (ca. 50 mm SVL) was found floating in an empty aquarium that had filled with rainwater outside of the Audubon Zoo's Reptile Encounter building. It appeared to have fallen in the tank and was unable to climb out. When I attempted to retrieve the lizard by hand, it dove down ca. 3 cm under the water where it remained submerged for ca. 120 s. While submerged, a thin film of air covered much the animal's head and body including around the pelvic girdle and upper parts of the rear limbs, giving the animal a shiny, metallic and reflective appearance; a large air pocket had also formed on the rostrum posterior to the nostrils (Fig. 1),