



# Communal Sleeping and Sleeping-Perch Fidelity in the Stream Anole, *Anolis (Norops) oxylophus*, in Costa Rica

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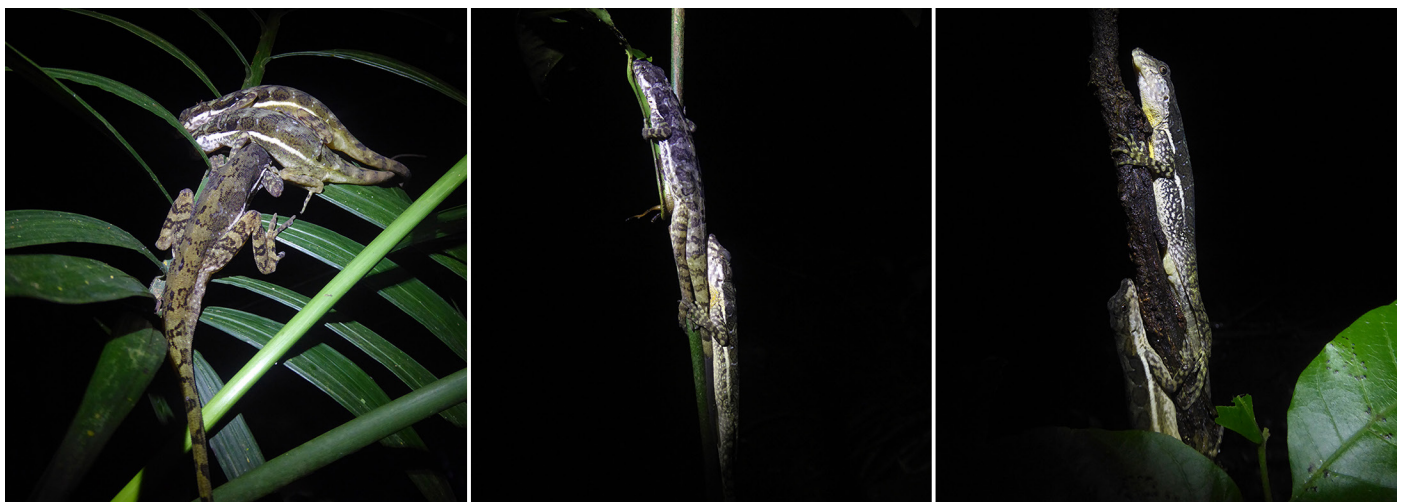
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The Stream Anole, *Anolis (Norops) oxylophus*, is a medium-sized anole that occurs on the Atlantic versant of eastern Honduras and Nicaragua, and both the Atlantic and Pacific versants of Costa Rica (Savage 2002). Anoles are generally considered to be solitary and territorial lizards, with research suggesting that intraspecific aggression in females is related to food, whereas in males it is related to both food and mates (Stamps 1997). *Anolis (Norops) oxylophus* is known to sleep at night on perches overhanging or in close proximity to streams, so that if disturbed by a potential predator they can drop into the stream to escape (Vitt et al. 1995). Sleeping-perch substrates used by these lizards are most commonly woody and leafy vegetation, though occasionally this species has been observed sleeping on boulders or on the ground (Muñoz et al. 2015; Lara-Resendiz et al. 2017).

Herein I report novel observations of communal sleeping and sleeping-perch fidelity in this species. Between 2100 h and 2200 h on 17 May, 18 May, and 20 May 2022, I observed three groups along a 200-m stretch of a stream in

the forest near Monteverde, Costa Rica. The first observation was a mixed-sex group of three adults with their bodies overlapping each other on a palm leaf and two juveniles sleeping separately on the same plant (Fig. 1A). The second group comprised four adults sleeping on a narrow vine. The body of one was overlapping the tail and legs of another, and the other two were in close proximity on the same vine (Fig. 1B). The third observation was of an adult male and female perched together on opposite sides of a woody stem (Fig. 1C). All three groups were seen each night perched on the same plants. Since the number of individuals, sex composition, and body sizes were consistent for each group across the three nights, they likely were the same individuals returning to the same sleeping perches each night throughout the observation period.

Observations of communal sleeping in anoles are rare (Brown and Arrivillaga 2018). The observations reported herein of two to five Stream Anoles sharing the same sleeping perches appear to be previously unrecorded, and contradict



**Fig. 1.** Observations of communal sleeping in Stream Anoles, *Anolis (Norops) oxylophus*; Three mixed-sex adults with bodies overlapping on a palm leaf (left), two adult males with bodies overlapping on a vine (center), and an adult male and female on opposite sides of a woody stem (right). These individuals were encountered on the same sleeping perches on three separate nights. Photographs by Joseph L. Oakley.

our assumption that anoles are solitary and territorial lizards. Reasons for communal sleeping are unknown, but might reflect reduced competition for breeding or food resources at the time of these observations. The occurrence of three instances of communal sleeping over three nights suggests that this behavior might not be as uncommon as previously thought.

Sleeping-perch fidelity has been reported in several species of anoles, with studies demonstrating that some individuals return to the same sleeping site over multiple nights (Clark and Gillingham 1990; Shew et al. 2002; Poche et al. 2005; Singhal and Johnson 2007; Kaiser and Kaiser 2021). Individuals might use the same sleeping perch for territorial defence, proximity to food, or safety from predators (Singhal and Johnson 2007; Kaiser and Kaiser 2021). To the best of my knowledge, this observation is the first record of sleeping-perch fidelity in Stream Anoles.

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