



Sleep-site Fidelity in Cuban Green Anoles, *Anolis porcatatus* Gray 1840 (Squamata: Dactyloidae)

Luis F. de Armas

P.O. Box 4327, San Antonio de los Baños, Artemisa 38100, Cuba (luisdearmas1945@gmail.com)

Photographs by the author.

Sleep-site fidelity has been investigated for a few species of anoles, including Antillean (Grenada Bush Anole, *Anolis aeneus*; Grenada Tree Anole, *A. richardii*; Anguilla Bank Tree Anole, *A. gingivinus*; Jamaican Turquoise Anole, *A. grahami*; Stripe-footed Anole, *A. lineatopus*; Jamaican Twig Anole, *A. valencienni*; Puerto Rican Crested Anole, *A. cristatellus*; Yellow-chinned Anole, *A. gundlachi*; Clark and Gillingham 1990; Shew et al. 2002; Poche et al. 2005; Singhal et al. 2007; Henderson and Powell 2009); Central American (Costa Rican Cloudforest Anole, *A. leditzigorum*; Kaiser and Kaiser 2021); and South American (Agassiz’s Anole, *A. agassizi*; López-Victoria et al. 2011; Brown-eared Anole, *A. fuscoauratus*; Thomas et al. 2021) species. However, no Cuban anoles have been the subject of such studies.

Herein I present observations on a female Cuban Green Anole (*Anolis porcatatus*) (SVL = 45 mm) from 12 March to 28 April 2021 in the backyard of an urban residence in San Antonio de los Baños, Artemisa Province, Cuba (22.89347°N, 82.50978°W; 75 m asl). From 1700 h to 2000 h, I made observations every 0.5 h (sometimes continuously) and every 2 h during the remaining part of the night. I also present shorter-term observations of two males in the same locality.

The female showed strong sleep-site fidelity, using the same location 2.55 m above the ground for at least 48 consecutive nights. The sleep-site chosen was the limited space between the frosted glass of the central of three panes in a window and an iron plate (0.20 mm wide) functioning as its frame (Fig. 1). She arrived at this site each night between 1650 and 1905 h (usually after 1848 h), often staying awake for as much as 2 h, and left each morning between 0556 and 0757 h after awakening at about 0545 h. She typically changed her body orientation three to five times each night, usually in the first or last hours (Fig. 2), but I never observed her moving to another location. She was most frequently horizontal (which

conferred the maximum protection), less frequently inclined, and rarely vertical. When in a vertical or inclined position, her head was oriented either downward or upward, including both during some nights. She most frequently slept under the central area of the iron plate, less frequently 15 cm left of center, and, most rarely, 16 cm right of center (Fig. 3), but never farther than 16 cm from the most frequently chosen site during the 48 consecutive nights.



Fig. 1. General aspect of the study area (a window in the backyard of an urban residence in San Antonio de los Baños, Artemisa Province, Cuba). The small white oval on the window indicates the sleeping site chosen by a female Cuban Green Anole (*Anolis porcatatus*).



Fig. 2. Successive postures assumed by a female Cuban Green Anole (*Anolis porcatius*) through the night of 8–9 April 2021: At 1754 h (A); at 1832 h (B); at 1859 (C); at 0047 h (D); at 0635 h (E); at 0708 h (F); at 0726 h (G); and at 0726 h (H).

On one occasion, a House Sparrow (*Passer domesticus*), an occasional predator of some lizards (Bello 2000; Guerra-Solana and Armas 2017), flew near the window at 0618 h, triggering a quick postural change by the anole before she abandoned the sleep-site four minutes later.

After 24 days of observations, I marked the sleeping female with non-toxic paint on the base of her tail. Diurnal observations during the subsequent 23 consecutive days showed that her home-range was limited to about 2.4 m around the sleep-site, an area shared with a slightly larger female and an adult male. She also frequently entered the apartment, most commonly in the morning. When not at

the sleep-site, she was actively engaged in feeding, most frequently on winged termites and ants. At twilight, I twice observed a Tropical House Gecko (*Hemidactylus mabouia*) (visible in Fig. 3D) competing with the anole for prey.

During mid-afternoon on 29 April, I opened the right and left panes of the window on either side of the lizard's sleep-site and left them open until 2300 h. That evening, the lizard did not return and “disappeared” until the mid-afternoon of 3 May. During the following 13 consecutive nights, it arrived at the same sleep-site between 1855 and 1912 h.

During 13 days (1–13 May 2021), I observed two adult male *A. porcatius* in the same backyard. One of those males

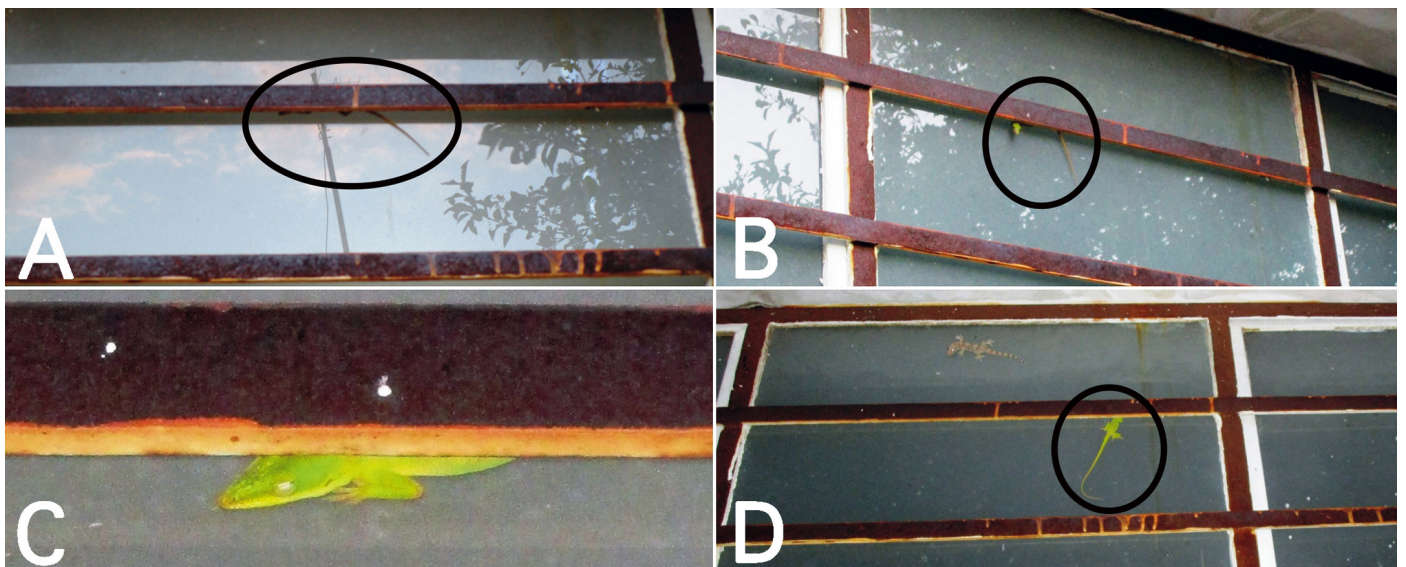


Fig. 3. Sleeping sites chosen by a female Cuban Green Anole (*Anolis porcatius*) between an iron plate and the frosted glass of a window in the backyard of an urban residence in San Antonio de los Baños, Artemisa Province, Cuba: The most frequently chosen site at 1840 h (A); less frequently chosen sites to the left (B at 0644 h; C at 2214 h) and to the right (D at 2213 h).



Fig. 4. Sleeping site chosen by a male Cuban Green Anole (*Anolis porcatus*) in the backyard of an urban residence in San Antonio de los Baños, Artemisa Province, Cuba, in a polyethylene tube (inside diameter 2.7 cm; height 1.6 m above the ground): At 0543 h just prior to emergence (A) and at 1850 h just after entry (B).

slept inside a polyethylene tube (diameter 27 mm, inclination approx. 40°) 1.60 m above the ground (Fig. 4); the other male slept vertically with head up on one of two adjacent leaves (separated by 3 cm) of a Fragrant Aerides (*Aerides odorata*, Orchidaceae) 0.85 m above the ground (Fig. 5). Both males returned to their respective sleep-sites between 1840 and 1910 h each night and left them between 0550 and 0605 h the next morning. Both sleep-sites were near the peripheries of the males' diurnal home-ranges. The male that slept on the orchid leaf did not change its position during the night. The other male would enter the tube, turn, and, after 3–5 min, return to the mouth of the tube, showing its head and sometimes its neck (Fig. 4B) for 13–25 min before turning again to disappear in the tube. In the morning, it would show



Fig. 5. Sleeping site chosen by a male Cuban Green Anole (*Anolis porcatus*) in the backyard of an urban residence in San Antonio de los Baños, Artemisa Province, Cuba, along a leaf of an orchid (*Aerides odorata*) 0.85 m above the ground at 2120 h.

its head at the mouth of the tube (Fig. 4A) before leaving the tube some 15–25 min later.

In natural habitats, Rodríguez Schettino (1999) noted that Cuban Green Anoles sleep on long leaves, small branches, or tiny trunks, and suggested that they also might use tree bark and crevices as sleep-sites.

Literature Cited

- Bello, R.E. 2000. *Anolis* sp. and *Gonatodes albogularis* (Yellow-headed Gecko). Predation. *Herpetological Review* 31: 239–240.
- Clark, D.L. and J.C. Gillingham. 1990. Sleep-site fidelity in two Puerto Rican lizards. *Animal Behaviour* 39: 1138–1148. [https://doi.org/10.1016/S0003-3472\(05\)80786-9](https://doi.org/10.1016/S0003-3472(05)80786-9).
- Guerra Solana, J.L. and L.F. de Armas. 2017. Depredación de *Anolis porcatus* (Squamata: Dactyloidae) por *Passer domesticus* (Aves: Passeriformes) en Cuba. *Novitates Caribaea* 11: 103–105. <https://doi.org/10.33800/nc.v0i11.24>.
- Henderson, R.W. and R. Powell. 2009. *Natural History of West Indian Reptiles and Amphibians*. University of Florida Press, Gainesville, Florida, USA.
- Kaiser, C.M. and H. Kaiser. 2021. Coming home to roost: comments on individual sleep-site fidelity, sleep-site choice, and sleeping positions in *Anolis* (*Norops*) *leditzigorum* (Köhler et al., 2014) in Costa Rica (Squamata: Dactyloidae). *Herpetology Notes* 14: 375–378.
- López-Victoria, M., P.A. Herrón, and J.C. Botello. 2011. Notes on the ecology of the lizards from Malpelo Island, Colombia. *Notas sobre la ecología de los lagartos de la Isla Malpelo, Colombia. Boletín de Investigaciones Marinas y Costeras – INVEMAR* 40 (Supplement 1): 79–89. <https://doi.org/10.25268/bimc.invemar.2011.40.0.132>.
- Poche, A.J., Jr., R. Powell, and R.W. Henderson. 2005. Sleep-site selection and fidelity in Grenadian anoles (Reptilia: Squamata: Polychrotidae). Schlafplatzwahl und -treue bei Echsen der Gattung *Anolis* aus Grenada (Reptilia: Squamata: Polychrotidae). *Herpetozoa* 18: 3–10.
- Rodríguez Schettino, L. 1999. Systematic accounts of the species, pp. 104–380. In: L. Rodríguez Schettino (ed.), *The Iguanid Lizards of Cuba*. University Press of Florida, Gainesville, Florida, USA.
- Shew, J.J., S.C. Larimer, R. Powell, and J.S. Parmerlee, Jr. 2002. Sleeping patterns and sleep-site fidelity of the lizard *Anolis gingivinus* on Anguilla. *Caribbean Journal of Science* 38: 136–138.
- Singhal, S., M.A. Johnson, and J.T. Ladner. 2007. The behavioral ecology of sleep: Natural sleeping site choice in three *Anolis* lizard species. *Behaviour* 144: 1033–1052. <https://doi.org/10.1163/156853907781871860>.
- Thomas, O., G. Mangini, and J. Gualinga. 2021. Sleeping site fidelity in three neotropical species of herpetofauna. *Herpetological Bulletin* 155: 8–11. <https://doi.org/10.33256/hb155.811>.