

moved occurred during October and averaged only 8 m/day. Movement ranges reported from Louisiana cottonmouths indicated distances of 10 m or more every night during summer periods and the beginning of a return to hibernacula in late November (Martin, *op. cit.*).

Three of the six snakes (two males and a female) migrated to a den site outside of their summer/fall activity range. The greatest distance moved from a location in a summer activity area to a den site was 436 m. All den sites were located within 10 m of Brier Creek or a tributary. Hibernacula were located in rocky outcroppings high on streamside banks, occasionally under embedded boulders. These habitats are superficially similar to rocky hillside hibernacula described for northern populations (Neill 1947. *Herpetologica* 3:203–205; Barbour 1956. *Trans. Kentucky Acad. Sci.* 17:31–41; Burkett 1966. *Publ. Univ. Kansas Mus. Nat. Hist.* 17:435–491). Four of the cottonmouths were periodically observed (1–3 times each) on the surface at the den site during the winter.

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**ARRHYTON EXIGUUM** (Puerto Rican Garden Snake). **REPRODUCTION.** I witnessed two adult *Arrhyton exiguum* engaged in what appeared to be courtship behaviors at 1240 h on 6 March 2007 in pastureland in the Río Grande region of northeastern Puerto Rico. The two snakes were entwined, but were not moving when first sighted. One individual appeared to be larger than the other. However, no chin rubbing, tongue-flicking, or aggressive behaviors were observed. I could not ascertain whether the male's hemipenes was intromitted without disturbing the snakes. The habitat consists of moist, clay-like soils with little vegetation cover, though the snakes were between small shrubs when observed. Ambient temperature at the time of observation was approximately 27.2°C, with both individuals exposed to sunlight. When encountered, the two individuals fled (still entwined) under a nearby piece of aluminum. To my knowledge, this is the first observation of reproductive behavior in Puerto Rico or any other West Indian location.

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**CORALLUS COOKII** (St. Vincent Treeboa). **FORAGING.** *Corallus cookii* is endemic to the Lesser Antillean (West Indies) island of St. Vincent, where it is widespread in a variety of habitats (including some that are dramatically altered) from sea level to at least 425 m (Henderson 2002. *Neotropical Treeboas: Natural History of the Corallus hortulanus* Complex. Krieger Publ. Co., Malabar, Florida. 197 pp.). Its diet is comprised of *Anolis* lizards and introduced rodents (*Mus* and *Rattus*), but specific details of foraging behavior are unknown, although young boas are known

to be active foragers and large adults are ambush strategists (Henderson, *op. cit.*).

On 6 June 2006, we observed a *C. cookii* (~755 mm SVL) stalk and capture an adult *Anolis trinitatis* at Ferret (St. Patrick Parish: 13.212°N, 61.251°W, datum WGS84; ~160 m elev.), an area of mixed agriculture and secondary forest. When first noticed (at 2220 h), the boa was at 2.0 m in a tree of undetermined species, about 15 cm from the sleeping lizard, approaching slowly from behind and slightly above it. As we did not want to disturb the boa, we only intermittently used diffuse light from a headlamp to monitor the snake's progress, and therefore were unable to determine whether or not the boa exhibited tongue-flicks. By 2230 h, the snake was within 2.0 cm of the anole and, for the next 15 min, movement by the boa was almost imperceptible. The *C. cookii* was virtually touching the anole before it grabbed it in the nuchal region, commenced to throw a coil around it, and subdue it. The stealthy manner in which the boa approached the anole, especially the almost imperceptible movement over the last 2.0 cm, closely parallels the foraging behavior of *C. grenadensis* on Grenada, a closely related species in which foraging behavior has been studied in some detail (Yorks et al. 2003. *Stud. Neotrop. Fauna Environ.* 38:167–172). At 2256 h, upon completion of swallowing the lizard, the boa ascended into the crown of the tree.

Fieldwork in St. Vincent was funded by a grant (DBI-0242589) from the National Science Foundation (USA) to Robert Powell.

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**ENULIUS SCLATERI** (White-headed Snake). **REPRODUCTION.** *Enulius sclateri* is an uncommon, neotropical, and fossorial amastidine colubrid (Savage 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas.* University of Chicago Press, Chicago. 954 pp.). Here we provide the first report of basic reproductive ecology in the wild.

On 09 May 2004 a torrential tropical storm caused a 25-m tall *Cordia alliodora* (Boraginaceae) tree to fall in the laboratory clearing of the La Selva Biological Station (Heredia, Costa Rica: 10.4327°N, 84.0080°W, 35 m elev.). Within 12 h of treefall, CLC excavated a tree hollow (ca. 10 cm deep and 16.4 m from the base of the tree) uncovering 5 nearly equivalent-sized snake eggs, later determined to be *E. sclateri*. The temperature of the canopy soil under the eggs was 24.8°C. Two eggs were punctured and no embryo present, possibly from predation. The three remaining eggs, adhered together along the longitudinal axis, were brought into the laboratory for size and weight measurements using calipers and a 5 g Pesola scale. On 09 May the three eggs measured 22.8 mm × 9.2 mm, 21.8 mm × 9.7 mm, and 21.1 mm × 8.6 mm, and all weighed exactly 3.6 g. The eggs were incubated in ambient outdoor conditions until they hatched. On 18 June 2004, a fungus infected one egg, but the hatchling actively emerged as we attempted to extract it from the egg. The other two hatchlings

emerged on 23 and 25 June. Upon hatching, the snakes were identified to species, measured, and weighed using a digital electronic balance. The hatchlings exhibited the same pattern and coloration as adults of this species. The unfed 11-day old hatchlings measured 89, 92, and 90 mm SVL, 58, 57, and 56 mm tail length, and weighed 0.79, 0.74, and 0.65 g. All three snakes were released on 27 June at the site of the treefall.

This observation is the first known record of arboreal oviposition by a species commonly believed to be solely fossorial, providing evidence that some fossorial species use tree hollows and canopy soil on branches of trees in the third dimension of the forest. Facultative use of arboreal habitats has been described for other presumably "terrestrial" or "fossorial" snake species for foraging (Keller and Heske 2000. *J. Herpetol.* 34:558–564) and/or unknown reasons (Stidham 2001. *Herpetol. Rev.* 32:262) but thus far none has confirmed reproductive behavior in the canopy habitat.

There are two possible explanations for our observation. First, *E. sclateri* oviposition site depends on the drier more exposed microenvironment found in the canopy compared to the forest floor, or second, despite differences between canopy and forest floor habitats, the structural similarities are sufficient to make canopy oviposition desirable for *E. sclateri*. Predator or prey interactions likely underlie arboreal oviposition: deep tree holes or cover by canopy soil shield the eggs from potential predators, or place adults and/or hatchlings near a potential food source. Our observation confirms that some species are using a much larger range of forest microhabitats than previously considered. This observation of a putatively 'fossorial' snake ovipositing in the canopy is evidence that facultative use of arboreal habitats may be more widespread than commonly thought.

We thank H. W. Greene, the Mellon Foundation, the Organization for Tropical Studies, the National Science Foundation, and the Ministry of Environment and Energy (Costa Rica) for assistance and support.

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**HETERODON SIMUS** (Southern Hognose Snake). **HIBERNACULA**. The natural history of *Heterodon simus* is poorly known (Tuberville et al. 2000. *J. Elisha Mitchell Sci. Soc.* 116:19–40) and hibernacula have not been described. Between 11 October 1998 and 18 February 2006, we radio tracked three adult male and three adult female *H. simus* through a single winter each, and one adult female through two consecutive winters, in upland sandhill habitats (Scotland County, North Carolina, USA). In all cases ( $N = 8$ ), the snakes essentially excavated their own hibernacula, burrowing more or less vertically into sandy soil in inconspicuous spots. No obvious stump holes or other existing underground chambers were used, and entrance and exit holes were usually not vis-

ible after a few days. One male over-wintered in the road bank of a state maintained sand road (ca. 2 m from the edge of the road bed); all others hibernated in relatively open woods dominated by Longleaf Pine (*Pinus palustris*), Wiregrass (*Aristida stricta*), and scrub oaks (*Quercus* spp.). Dates of hibernaculum entry ranged between 26 October and 24 November, and dates of first emergence ranged between 24 March and 10 April.

Two females were excavated from their hibernacula for recapture to remove or replace failed transmitters. Both were found in damp, firmly packed sand in narrow tunnels, apparently of their own making. One entered her hibernaculum between 26 and 31 October and was excavated on 29 November at a depth of ca. 26 cm (ca. 23 cm of sand and ca. 3 cm of surface litter). The other entered her hibernaculum between 28 October and 4 November and was excavated on 16 February at a depth of ca. 38 cm (ca. 36 cm of sand and ca. 2 cm of surface litter). Both were active when uncovered. The female that was tracked through two winters did not exhibit hibernaculum fidelity, but spent the second winter ca. 306 m from the hibernaculum she occupied the previous winter.

These observations suggest that *H. simus* do not depend on stump holes or other existing subterranean chambers for hibernacula (though they were sometimes observed using such sites when not hibernating). Other relatively large-bodied snake species that we have observed overwintering in the same area (several instances each for *Coluber constrictor*, *Elaphe guttata*, *Heterodon platirhinos*, *Masticophis flagellum*, *Pituophis melanoleucus*, *Agkistrodon piscivorus*, and *Sistrurus miliarius*) in all cases used existing stump holes, old root channels, or mammal burrows as hibernacula. Hibernaculum fidelity was observed on several occasions in *M. flagellum* and *P. melanoleucus*.

For support and assistance, we especially thank the North Carolina State Museum of Natural Sciences, North Carolina Herpetological Society, Wake Audubon, Three Lakes Nature Center, North Carolina Wildlife Resources Commission, D. S. Dombrowski, M. E. Dorcas, V. K. Rice, and J. B. Sealy III.

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**HYPISIGLENA OCHRORHYNCHA CHLOROPHAEA** (Dusky-green Nightsnake). **DIET**. Previous records of the diet of nightsnakes have identified snakes and lizards, including eggs, as their primary prey items (Diller and Wallace 1986. *Southwest. Nat.* 31:55–64; Rodríguez-Robles et al. 1999. *Copeia* 1999:93–100; Setser and Goode 2004. *Herpetol. Rev.* 35:177). Here we provide observations on the diet of *H. ochrorhyncha chlorophaea* from Sonora and Coahuila collected as part of a survey of the herpetofauna of the Chihuahuan Desert and surrounding regions (Lemos-Espinal et al. 2004. *Bull. Chicago Herpetol. Soc.* 39:206–213; Smith et al. 2005. *Bull. Chicago Herpetol. Soc.* 40:66–70). We examined the gut contents of 18 specimens collected in the