

DENDROASPIS POLYLEPIS (Black Mamba). **DEFENSIVE BEHAVIOR.** The Black Mamba (*Dendroaspis polylepis*) is well known to show defensive behavior, such as raising the front part of the body and spreading a narrow hood (Ionides 1969. *Mambas and Man-Eaters: A Hunter's Story*. Postscript by Dennis Holman, Mayflower, London, pp. 1–236). On 27 February 2002, while conducting field studies in Botswana, we observed an unusual defensive behavior by a female *D. polylepis* that, to our knowledge, has not been recorded in this species. On 26 February at ca. 2100 h as we spotlighted, we sighted the snake climbing an acacia tree (5 m) at a private game ranch situated in the southeastern part of the country. Nocturnal activity by mambas is poorly understood and rarely recorded; this is the first individual we encountered active at night. After a minor chase the snake was captured, measured (ca. 2.5 m TL), and sexed, whereupon it was placed into a cloth bag to be photographed the next day. On 27 February, at about 0800 h, the snake was removed from the bag and allowed to climb another small tree where it was to be photographed. The snake moved in the tree and after about 15 minutes it descended to the ground. Because we also wanted photographs of it on the ground we approached it to within a distance of ca. 2 m whereupon it displayed its typical defensive behavior (i.e., raising of the front part of the body off the ground and spreading of a narrow hood). We remained still and the snake lost interest in us and moved into an open area. One of us investigated how the snake would react if it were constantly cornered (it was not allowed to approach any of the nearby thickets, which were ca. 10 m away). The snake again reacted by raising the front part of the body and spreading a hood. However, walking around the snake at a distance of about 2 m for 5–10 min made it impossible for it to reach the thickets. At the end of this exercise, the snake displayed a very peculiar defensive behavior. It coiled up and hid its head under the coils and raised the tail tip about 20–30 cm above the ground. The tail was constantly moving in the middle of the coiled snake, a behavior very similar to what has been described as defensive behavior in the garter snake *Thamnophis radix* (Arnold and Bennett 1984. *Anim. Behav.* 32:1108–1118). We are certain that this behavior was not caused by heat stress. Such tail displays have been suggested to divert attacks to a more ‘disposable’ part of the body compared to attacks directed to the head, which is common among several avian and mammalian predators (Jackson 1979. *Copeia* 1979:169–172). It is interesting to note that in a very thorough study of temporal and spatial ecology of *D. polylepis* in South Africa, individual identity of the specimens studied was based upon on scarring and bits of tail missing (Phelps 2002. *Herpetol. Bull.* 80:7–19). Thus, perhaps the latter injuries might have been due to predator attacks on individuals displaying behavior similar to tail-raising observed by us.

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ENULIOPHIS SCLATERI (Colombian Long-tailed Snake). **REPRODUCTION.** *Enuliophis sclateri* is a colubrid snake that occurs in evergreen forests from Nicaragua to central Colombia and

in southwestern Costa Rica to eastern Panama; it is diurnal and fossorial (Savage 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas*. The University of Chicago Press, Chicago. 934 pp.). There is, to my knowledge, no information on its clutch sizes. Herein I present information on ovarian activity from *E. sclateri* from Costa Rica deposited in the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California.

A female *E. sclateri* (LACM 150616) collected in 1991 (month unknown) in Puntarenas Province, Costa Rica (270 mm SVL) contained two oviductal eggs (mean egg length: 15.0 mm). The above represents the first reported data on potential clutch size for *E. sclateri*.

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ENULIUS FLAVITORQUES (Pacific Long-tailed Snake). **REPRODUCTION.** *Enulius flavitorques* is a colubrid that occurs from Jalisco, Mexico to Colombia; it is diurnal and fossorial (Savage 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas*. The University of Chicago Press, Chicago. 934 pp.). There is, to my knowledge, no information on its clutch size. Herein I present information on ovarian activity in *E. flavitorques* from Costa Rica deposited in the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California.

A female *E. flavitorques* (LACM 150628; 280 mm SVL) collected in the summer of 1961 from San José Province, Costa Rica, contained three enlarged ovarian follicles (mean follicle length: 14.7 mm \pm 1.5 SD, range: 13.0–16.0 mm) which would have presumably ovulated. The above represents the first reported information on potential clutch size in *E. flavitorques*.

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LAMPROPELTIS ALTERNA (Gray-banded Kingsnake). **DIET.** Although *Lampropeltis alterna* has been documented to feed on iguanids, teiids, anurans, and small rodents (Miller 1979. *A Life History of the Gray-banded Kingsnake, Lampropeltis mexicana alterna* in Texas. Master's thesis. Sul Ross State University, Texas. 91 pp.; Tennant et al. 1998. *A Field Guide to Texas Snakes*. Gulf Publ. Co., Houston, Texas. 211 pp.), detailed knowledge of its natural diet is lacking. Here, we report bird eggs in the diet of *L. alterna* for the first time. On 13 June 1997, at ca. 0100 h we found an adult female *L. alterna* crossing FM-170 (Presidio County, Texas, USA) 1 mi. W of the bridge in Panther Canyon. A row of five bulges, each approximately the size of a small ping-pong ball, were evident mid-body. The specimen was placed in a bag and several hours later five eggs were regurgitated. Although two eggs were slightly digested (as evidenced by their flaking shell casings) the outer membrane remained undamaged. The other three eggs

were in perfect condition, indicating that the clutch was consumed very recently. Dissection of one egg revealed a nearly fully developed Scaled Quail (*Callipepla squamata*). We thank Alan Tennant for identifying the bird.

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MASTICOPHIS FLAGELLUM PICEUS (Red Racer). **CARRION FEEDING.** DeVault and Krochmal (2002. *Herpetologica* 58:429–436) summarized 35 literature reports of natural snake scavenging (spanning at least 24 snake species and assorted carrion) to show that snakes utilize carrion more often than commonly believed. Not unexpectedly, these reports reveal that snakes generally use olfaction to locate carrion, and they suggest that some snake species forage specifically for carrion.

On 24 July 1974 between 0700 and 1030 h I observed three unusual instances of opportunistic carrion feeding by two or three *Masticophis flagellum piceus* at a field collectors' campsite in Whitewater Canyon, Riverside County, California (33°57.422'N, 116°38.650'W, 536 m elev.). During the previous evening (23 July 1974) researchers at the camp prepared about a dozen museum study skins of local rodent specimens including field mice (*Peromyscus*) and pocket mice (*Perognathus* and *Chaetodipus*), all < 35g live mass. We skinned the animals, removed the heads, opened the abdominal cavities to evaluate reproductive condition, and discarded the carcasses randomly in sparse desert vegetation along a nearby road embankment. During the night the skinless carcasses desiccated rapidly in the high temperatures and extremely low humidity. They were also contaminated with desert gravel and the hardwood sawdust used during preparation.

The next morning (24 July 1974) at 0700 h, a *M. f. piceus* (ca. 1200 mm TL) was outstretched in open view in full sunlight along the above embankment, rapidly engulfing one of the desiccated mouse carcasses. An attempt to catch the snake failed and it escaped rapidly, still grasping the mouse carcass. Air temperature at 0700 h was 28°C, and ground temperature in direct sun was ca. 40°C. Three hours later we noticed a second *M. f. piceus* (1175 mm TL) engulfing a very dry mouse carcass at the same spot on the embankment where the first snake had been. The ground temperature (determined later) at the site was 44°C, and the shaded-bulb air temperature was 42°C. About 20 minutes later we saw a third *M. f. piceus* (1180 mm TL) outstretched and engulfing a mouse carcass < 2 m from the spot where the first snakes were seen. I collected the second and third specimens with dust shot and deposited them in the UC Davis Museum of Zoology (cat nos. 5331–5332). The stomachs of both specimens were empty, but I cannot be certain that either collected snake was not the specimen seen at 0700 h.

Cowles (1946, *Herpetologica* 3:121–122) and Small et al. (1994. *Herpetol. Rev.* 25:28) reported natural carrion feeding by *M. f. piceus*, respectively, on a poorwill (*Phalaenoptilus nuttali*) in an advanced state of putrefaction and on a road-killed Glossy Snake (*Arizona elegans*). Our observations and others support DeVault and Krochmal's (2002) contention that carrion is normal forage for some snake species, and they underscore the role of olfaction

in foraging even in snakes thought to rely primarily on prey movement and other visual cues.

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MICRURUS DISTANS (West Mexican Coral Snake). **TREE CLIMBING.** Snakes of the genus *Micrurus* are secretive and largely fossorial, and are often found under cover objects such as leaves, stones, and logs (Roze 1996. *Coral Snakes of the Americas: Biology, Identification, and Venoms*. Krieger Publ., Malabar, Florida). To our knowledge, there are no records of arboreality for this species. On 24 September 2001, at 1230 h, while conducting a survey on the herpetofauna of the Cuixmala-Chamela Biosphere Reserve on the coast of Jalisco, México, we observed a *M. distans* (790 mm TL) climbing a mature tree at ca. 4.5 m above the ground. The tree was part of a small patch of remnant dry forest immersed in a matrix of livestock grazing plots in different stages of regeneration. Air temperature was 29.1°C and humidity was 84.6%. Upon discovery the snake climbed down the tree and disappeared under the ground litter (specimen was photographed while climbing down). This observation suggests that this typically ground-dwelling species of coral snake may occasionally climb trees, perhaps to hunt prey not readily available on the ground. Two previous publications report the presence of *M. distans* in the area we describe herein but make no reference to arboreal habits (García and Ceballos 1994. *Guía de Campo de los Reptiles y Anfibios de la Costa de Jalisco, Mexico*, Fundación Ecologica de Cuxmala and IB UNAM, Mexico:184 pp.; and Ramírez-Bautista 1994. *Manual y Claves Ilustradas de los Anfibios y Reptiles de la Región de Chamela, Jalisco, México*. Cuadernos IB UNAM [23]:1–127).

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NINIA PSEPHOTA (Cope's Coffee Snake). **REPRODUCTION.** *Ninia psephota* is a colubrid that occurs in evergreen forests in Costa Rica and Panama (Savage 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas*. University of Chicago Press, Chicago. 934 pp.). There is, to my knowledge, no information on clutch size in *N. psephota*. Herein I present information on two egg clutches