sio greater volumes bility (Silveira and

as marshes, rivers. Pacific lowlands of diminished ranges Magnusson 1982 108-116. Gland. canals, dikes, and itats (Allsteadt and 994. In McDade et ory of a Neotropical Chicago, Illinois: d Reptiles of La Univ. California oter and Nanhoe The Amphibians na Between Two go Press, Illinois. territories in local e tenacity (Savage a sustainable food at use has not been observations imply eding opportunities ar. We present two In the first, caiman thin the permanent specifically forage forest. The second una, advance into panding shoreline. re trapped in pools predators, such as raditional channelis correct provides

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glands, so it is typically considered freshwater-dwelling (Platt and Thorbjarnarson 2000. Biol. Conserv. 96:21–29). Hence, here we provide observations indicating that *C. moreletii* may be more salinity tolerant than previously recognized.

During nocturnal crocodile surveys of La Mancha Lagoon, Veracruz, Mexico (19.5689°N, 96.3872°W; datum: NAD27; elev. 0 m.) in March 2007, we recorded the size range of C. moreletii in relation to water salinity. We measured salinity using a multiparameter YSI85. Following Platt and Thorbjarnarson (op. cit.), we classified crocodiles based on total length (TL) as hatchlings (TL < 29.9 cm), yearlings (TL = 30–50 cm), juveniles (TL = 51–100 cm), subadults (TL = 101–150 cm), and adults (TL > 150 cm). We observed 10 crocodiles, four yearlings, three juveniles, two subadults and one adult. Hatchlings were observed in 3.4 parts per thousand (ppt), juveniles in 10.8 ppt, subadults in 22.7 ppt, and adults in 21.4 ppt.

Taplin (1988. Biol. Rev. 63:333–377) suggested that *C. moreletii* tolerantes heavily brackish water (>20.0 ppt). However, in coastal Mexico and Belize where Morelet's and American crocodiles (*C. acutus*) occur in macrosympatry, the former is generally confined to freshwater, whereas the latter is found in saline habitats (Cedeño-Vázquez et al. 2006. Herpetol. Nat. Hist. 10:17–30). Our observations compliment the earlier report of Meerman (1992. Occ. Pap. Belize Nat. Hist. Soc. 1:1–5) from Chetumal Bay where fisherman captured an adult *C. moreletii* in heavily brackish water (22 ppt). Collectively, these data suggest that *C. moreletii* is physiologically capable of tolerating moderately saline conditions. Hence, its general absence from brackish coastal habitats may arise from conditions other than a limiting saline environment, such as those resulting from the poorly understood interspecific interactions with *C. acutus*.

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Submitted by ARMANDO H. ESCOBEDO-GALVÁN, Laboratorio de Análisis Espaciales, Instituto de Biología, Universidad Nacional Autónoma de México, 04510, México, D.F. (e-mail: elchorvis@gmail.com); VERÓNICA PALACIOS-CHÁVEZ, Posgrado en Manejo de Ecosistemas de Zonas Aridas, Facultad de Ciencias, Universidad Autónoma de Baja California; and ALEJANDRA VOVIDES-TEJERA, División de Posgrado, Instituto de Ecología A.C., Xajapa, Veracruz, México.

RHYNCHOCEPHALIA — TUATARAS

SPHENODON PUNCTATUS (Common Tuatara). PREY DETECTION. Sphenodon punctatus are generally regarded as nocturnal visual hunters that rely on movement to detect and capture prey (Dawbin 1962. Endeavour 21:16–24; Walls 1981. New Zealand J. Ecol. 4:89–97). They feed primarily on orthopterans, beetles, and arachnids (Ussher 1999. New Zealand J. Zool. 26:117–125), but are also known to eat the eggs (Gaston and Scofield 1995. Notornis 42:27–41) and chicks (Walls, op. cit.) of Fairy Prions (Pachyptila turtur), small burrowing seabirds that occur at high densities on many S. punctatus-inhabited islands. As S. punctatus and P. turtur often use the same burrows (Newman

1987. Herpetologica 43:336–344), *S. punctatus* are likely to occasionally encounter prion chicks when entering a burrow, and they may opportunistically consume them as well as any eggs present in the burrow. However, in the absence of movement cues, detection of certain food items such as carrion or isolated eggs may be more readily accomplished via olfaction (Walls, *op. cit.*). Here we report an observation of a male *S. punctatus* feeding on a *P. turtur* egg during which time it displayed behavior consistent with olfaction.

At ca 1200 h on 28 November 2006, an intact P. turtur egg was observed on a concrete slab at the base of a small bank on Stephens Island, Cook Strait, New Zealand (40.67°S, 174.00°E; elev. 215 m). The egg had likely been laid in one of the burrows dug into the side of the bank, and may have been displaced by the burrowing activity of a S. punctatus or seabird, whereupon it rolled out of the burrow and onto the slab. Though the eggshell was intact, it had evidently not been viable for some time as its odor was easily detectable to human observers. Importantly, we observed no flies near the egg at this point. At 1400 h, a male S. punctatus was observed and video-recorded consuming the egg. He broke the eggshell in his jaws and then proceeded to chew up and swallow the shell fragments. During this process, yolk dripped onto the concrete slab and spread out in a thin layer over about 5 cm², attracting numerous flies that swarmed around the yolk and the face of the S. punctatus. After having eaten all of the shell fragments, the S. punctatus proceeded to probe at the ground with his snout and the tip of his lower jaw and appeared to be searching for additional matter that could be consumed. He probed first in the vicinity of the spilled yolk, and then moved in a zig-zag pattern, first outward from the volk and then down the side of the concrete slab, before returning to probe again at the site of the yolk. The nose-probes were interspersed by motions in which the S. punctatus dragged his snout along the ground without breaking contact with the substrate. At no point did he display any tongue-flicking or mouth-opening behavior consistent with vomeronasal detection. In addition, the flies attracted to the broken egg were landing on the spilled yolk but not the surrounding area, and a search pattern by the S. punctatus based on the movement of the flies should have kept his attention on the flies at the spilled yolk. Instead, upon consuming the last of the eggshell, the S. punctatus searched the area independently of the location of the flies. Moreover, the S. punctatus immediately swatted with a forelimb at any flies that landed on his face, even during an agonistic encounter with an approaching male conspecific. The S. punctatus remained in the vicinity for ca. 35

Although *S. punctatus* are active primarily at night, they spend much of the day basking at their burrow entrances (Goetz and Thomas 1994. New Zealand J. Zool. 21:473–485; Walls 1983. New Zealand J. Zool. 10:309–318). As sit-and-wait predators, it is not surprising that they would also feed during the day if the opportunity arose, as it did in this observation. The behavior displayed here is consistent with prey detection via olfaction because we could identify no movement cues at the time the prey item was first detected by the *S. punctatus*; subsequent motion by flies was ignored; and the *S. punctatus*'s probing was consistent with olfactory, but not vomeronasal, detection.

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Submitted by **JEANINE REFSNIDER**, Department of Ecology, Evolution, and Organismal Biology, Iowa State University, Ames, Iowa 50011, USA (e-mail: j_refsnider@yahoo.com); **JENNIFER MOORE**, School of Biological Sciences, Victoria University of Wellington, Wellington, New Zealand; and **HENRY STREBY**, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota, St. Paul, Minnesota 55108, USA.

SQUAMATA — LIZARDS

ANOLIS UNIFORMIS (Lesser Scaly Anole). DIET. Anolis uniformis is a small lizard widely distributed in wet tropical rain forests from southern Tamaulipas, México through northern Guatemala and Belize to northern Honduras. It occurs in forest understory from near sea level to about 900 m (Campbell 1998. Amphibians and Reptiles of Northern Guatemala, the Yucatán, and Belize. University of Oklahoma Press, Norman, Oklahoma. 380 pp.; Campbell et al. 1989. Biotropica 21:237-243; Lee 1996. The Amphibians and Reptiles of the Yucatan Peninsula. Comstock Publishing Associates. Cornell University Press, Ithaca, New York. 500 pp.). The most observable lizard at Los Tuxtlas tropical rain forest, Veracruz, México, A. uniformis is thought to be a diurnal insectivore across its geographic range (Duellman 1963. Univ. Kansas Publ. Mus. Nat. Hist. 15:205-249; Villarreal 1997. In González et al. [eds.], Historia Natural de los Tuxtlas, pp. 495-500. Universidad Nacional Autónoma de México, México, D.F.; Villarreal and Heras 1997. In González et al. [eds.], op. cit., pp. 476–478). Here we report predation by A. uniformis on an anuran.

At 2315 h on 3 September 2003 during a nocturnal herpetofaunal survey, we observed a young male *A. uniformis* (29 mm SVL) swallowing a very small (ca. 9 mm SVL) leaf litter frog (*Craugastor* sp.). The event occurred on the leaf of a medium-sized plant in a small bamboo and tropical rain forest remnant in the Los Tuxtlas region, Veracruz, México (18.6072°N, 95.1437°W; datum: WGS84; elev. 650 m). The anole was collected and deposited in Colección Nacional de Anfibios y Reptiles, Instituto de Biología, Universidad Nacional Autónoma de México (CNAR IBH 21138).

From September 2006 to July 2007, we also collected and dissected 30 A. uniformis adults at the Laguna Escondida rainforest remnant at Los Tuxtlas region (18.5909°N, 95.0883°W; elev. 150 m) as a part of a parasitological study. Examination of stomach and intestinal contents revealed only arthropod remains, mostly terrestrial and flying insects (flying Diptera, Hymenoptera, Hemiptera; terrestrial Orthoptera) and a few spiders. We found no amphibian remains in this sample.

Previous diet records for *Anolis uniformis* (Stuart 1948. Misc. Publ. Mus. Zool. Univ. Michigan 69:1–109; Villarreal, *op. cit.*; Villarreal and Heras, *op. cit.*) indicate that it preys on insects and litter-dwelling invertebrates, especially soft-bodied arthropods.

Our 2003 observation indicates that *A. uniformis* can prey on small amphibians and that it may sometimes feed at night.

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Submitted by ELISA CABRERA GUZMÁN and VÍCTOR HUGO REYNOSO, Colección Nacional de Anfibios y Reptiles. Instituto de Biología. Departamento de Zoología, Universidad Nacional Autónoma de México. Circuito exterior, Ciudad Universitaria. México D.F., C.P. 04510 (e-mail: anfisbenido@yahoo.com).

CTENOSAURA PECTINATA (Spiny-tailed Iguana). POPULATION STATUS. Ctenosaura pectinata is native to the west coast of Mexico and ranges from mid-Sinaloa to south Oaxaca, at elevations below 1000 m (Burghardt and Rand 1982. Iguanas of the World: Their Behavior, Ecology, and Conservation. Noyes Publ., Park Ridge, New Jersey. 504 pp.). During the last century, C. pectinata was introduced into Brownsville, Texas as well as south Florida (Conant and Collins 1998. A Field Guide to the Reptiles and Amphibians, Eastern / Central North America. Houghton Mifflin Co., Boston, Massachusetts. 616 pp.). Both populations have been established for nearly 40 years (Smith and Kohler 1978. Trans. Kansas Acad. Sci. 80:1-24; Meshaka et al. 2004. Exotic Amphibians and Reptiles of Florida. Krieger, Malabar, Florida. 155 pp.). The population in south Florida has been discussed in the literature numerous times (see Meshaka et al., op. cit. for a review) but little has been published about the Brownsville population. Here, we document the persistence of C. pectinata in Brownsville and their use of artificial microhabitat.

From 6–16 June 2007, we conducted eight searches for C. pectinata at the Gladys Porter Zoo (GPZ), Brownsville, Texas, USA (97.4952°W, 25.8831°N; datum: WGS84; elev. 6 m) and vicinity. Searches were conducted between 0800-1400 h, when iguanas would be basking. We searched the GPZ by slowly walking along exhibits, alleys, and buildings for ca. 3 h during each search. We also chose areas of the surrounding neighborhood that were within 0.5 km of the GPZ, and searched them by slowly walking along sidewalks and alleys for ca. 1 h. We used binoculars and digital photo equipment to find, observe, and record observations of C. pectinata. Photos and videos were reviewed to distinguish multiple sightings of an individual from sightings of several individuals based on coloration, markings, and head shape. Captures could not be made due to facility restrictions. We used a Garmin eTrex Vista C GPS unit to georeference C. pectinata locations (accurate to within ~5 m). GPZ staff assisted us in locating areas where C. pectinata were known to occur.

Though the GPZ staff has received reports of *C. pectinata* elsewhere in south Texas, the only known breeding population is centered at the GPZ in Brownsville. The GPZ (est. 1971) is a 10.5-ha facility dominated by open-area exhibits bordered by fences and artificial rivers and lagoons, and interconnected by artificial rock walls and sidewalks. Nine islands, some with artificial rock structures, have been built to exhibit zoo animals.

Reviews of photographs, videos, and GPS waypoints revealed a total of nine adult (ca. 1 m TL) *C. pectinata* and one juvenile (ca. 20 cm TL) within the zoo grounds. These individuals were located near or inside exhibits that were bordered with artificial