

pp.). Predatory fish such as bass have only infrequently been reported to eat hatchling turtles (Semlitsch and Gibbons 1989. *Copeia* 1989:1030–1031; Britson and Gutzke 1993. *Copeia* 435–440); however, it is not possible to state whether the specimen reported here was ingested alive or dead. Both studies reported that *Micropterus salmoides* (largemouth bass) eat dead hatchling turtles, but not live ones. The presence of the hatchling in a fish at this location indicates that there is nesting along Pushepatapa Creek by *G. gibbonsi*, and that nest emergence occurs in late summer-early fall.

We thank Randy Lanctot for saving the specimen and depositing it in the Museum of Natural History.

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## CROCODYLIA

**CAIMAN LATIROSTRIS** (Broad-snouted Caiman). **COMMUNAL NESTING.** Communal nesting is described for many squamates (e.g., Capula and Luiselli 1995. *Herpetol. Rev.* 26:38; Rand 1968. *Copeia* 1968:552–561; Shanbhag 1999. *Herpetol. Rev.* 30:166; Swain and Smith 1978. *Herpetologica* 34:175–177), but little is known about this behavior among crocodylians. Yanosky (1990. *Revue Fr. Aquariol.* 17:19–31) mentioned communal nesting in *Caiman latirostris*, but did not detail his evidence. Here, I describe evidence for communal nesting in *C. latirostris* from Estancia El Lucero in the northern part of Departamento San Cristobal, Provincia de Santa Fe, Argentina.

During harvest of caiman eggs for Proyecto Yacare in the unusually dry season of January 2000, I discovered a small (ca. 1 ha) lagoon within a dense bulrush (*Scirpus*) and cattail (*Typha*)-dominated marsh 8 km N Estancia El Lucero (29°54'43"S, 60°50'36"W). This lagoon was the only body of water within 20 km. During my survey of the lagoon, I found 23 *C. latirostris* nests scattered in its floating vegetation that contained a total of 879 eggs. Three of these nests exhibited evidence of oviposition by more than one female: egg numbers were higher than clutch sizes reported for *C. latirostris*, clusters of eggs of at least two different sizes were present, and nests were at least partly divided into two or more chambers. Two of the three nests had 59–67 eggs, two different sizes of eggs, and partial division of the nest into two chambers. The remaining nest had 129 eggs, was divided into four chambers, but had a central chamber with eggs of different sizes, some of which were broken. These data suggest that 2 or 4 females created these nests. Clutch size range reported for *C. latirostris* (23–44, mean = 37.1; Larriera 1991. *Rev. Asoc. Cienc. Nat. Litoral* 22:19–23) is similar to the number of eggs in the other 20 nests I found in the lagoon (19–41; mean = 31.2), which supports the idea that one female made each one. Nests with evidence of communal oviposition did not differ substantially in size and shape from remaining *C. latirostris* nests.

I thank Marc P. Hayes for his suggestions on the manuscript.

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**CROCODYLUS ACUTUS** (American Crocodile). **HATCHLING DIET.** Few field studies of hatchling crocodylian diets exist, and the feeding ecology of hatchling *C. acutus* is unstudied. We provide the first report on the diet of hatchling *C. acutus* based on data from Turneffe Atoll, Belize, a ca. 50-km island chain located 35 km E of the mainland.

On 9 July 1997, we captured 26 hatchlings from a black mangrove (*Avicennia germinans*) lagoon (<1 ha) next to a known *C. acutus* nesting beach (Platt and Thorbjarnarson 2000. *Copeia* 2000:869–873) on Northern Cay (17°29'N, 87°47'W). Despite recent heavy rainfall, salinity (measured with an Atago S-10E® optical refractometer) in the lagoon matched that of seawater (34 ppt). Hatchlings were captured by hand from 2000 to 2230 h with the aid of a headlamp. Two adult crocodiles also present in the lagoon did not respond to distress calls of hatchlings during the latter's capture. Hatchlings were measured (total length [TL]; snout-vent length [SVL]; and head length [HL]: measured dorsally from the tip of snout to median posterior edge of the cranial roof), permanently marked by notching a unique series of caudal scutes, and then released at the capture site the next night. Mean ( $\pm$  SD) hatchling morphometrics were: TL = 28.8  $\pm$  1.0 cm (range = 26.2–34.0 cm); SVL = 13.7  $\pm$  1.0 cm (range = 12.4–16.3 cm); HL = 4.3  $\pm$  3.1 cm (range = 3.9–5.0 cm); HL/SVL ratio = 0.31  $\pm$  0.004 (range = 0.30–0.32). Based on presence of an egg tooth and open umbilical scar, 20 of the hatchlings were probably < 7 days old; the remainder were estimated at 7–21 days old.

Stomach contents were flushed using a modification of the technique Taylor et al. (1978. *J. Herpetol.* 12:415–417) described. A flexible plastic tube (30 cm long; 5.5 mm exterior diameter) lubricated with vegetable oil was eased down the esophagus and into the stomach. Water (ca. 4 cc) was slowly poured into the tube until the abdomen distended visibly. Gently palpating the abdomen caused a mixture of water and stomach contents to surge into the tube. The hatchling was then inverted and the mixture directed across a fine mesh screen. The process was repeated (usually 3–4 times) until only water free of stomach contents was observed.

We recovered prey items from 18 (69%) hatchlings; six of 20 (30%) hatchlings < 7 days old and two of six (33%) older hatchlings had empty stomachs, indicating that neonates initiate feeding within a week of hatching. Similarly, Platt (1996. *The Ecology and Status of Morelet's Crocodile in Belize*. Dissertation, Clemson University, Clemson, South Carolina) found hatchling *C. moreletii* began feeding 4–7 days post-hatching, and prey items have been recovered from 1–2-day-old *Caiman crocodilus* (JBT and T. Escalona, unpubl. data). Hatchling *C. acutus* with empty stomachs were not included in our dietary analysis. Stomach flushing suggests that hatchling *C. acutus* feed mostly on invertebrates. Insect remains were recovered from 12 (67%) hatchlings and consisted primarily of highly macerated bits of chitin and fleshy material unidentifiable to taxon, although one contained parts of a beetle (Coleoptera). The stomach contents of five (27%) hatchlings contained crustaceans, probably fiddler crabs (*Uca* sp.), which were abundant along the shoreline. Thorbjarnarson (1988. *Bull. Florida State Mus., Biol. Sci.* 33:1–86) found fiddler crabs to be the most important prey of juvenile (TL < 5 m) *C. acutus* in Haiti. A partially digested fish (length = 13. m) recovered from one (5%) hatchling was the only vertebrate found among the stomach contents we examined. We ex

consumption as this might be an important way for hatchling *C. acutus* to behaviorally osmoregulate in saline environments (Thorbjarnarson 1989. In P. M. Hall [ed.], *Crocodiles: Their Ecology, Management, and Conservation*, pp. 228–258. IUCN, Gland, Switzerland).

Fischer et al. (1991. *J. Herpetol.* 25:253–256) contend that hatchling *Alligator mississippiensis* cannot effectively capture small prey owing to a long snout in relation to body size (Mean HL/SVL ratio = 0.31; S.E. =  $\pm$  0.001; N = 288), and instead rely on metabolizing residual yolk as an energy source. However, no significant difference exists between the HL/SVL ratio of *C. acutus* and *A. mississippiensis* hatchlings (ANOVA;  $F_{1,312} = 0.002$ ;  $P > 0.05$ ), and the prevalence of prey remains among stomach contents indicates *C. acutus* neonates are adept predators, which begin feeding within 7 days of hatching. Therefore, failure of *A. mississippiensis* hatchlings to capture small prey might not be because of morphological constraints.

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**CROCODYLUS INTERMEDIUS** (Orinoco Crocodile). **AGE AT FIRST REPRODUCTION.** Hunting pressure has extirpated or nearly extirpated many crocodylian populations. As a consequence, conservation efforts in many countries have focused on both protecting land and head-starting wild-caught or farmed neonates which are then reintroduced to protected areas. Orinoco crocodiles, *Crocodylus intermedius*, were nearly extirpated in the Venezuelan llanos prior to a ban on their commercial harvest during the 1970s (Muñoz and Thorbjarnarson 2000. *J. Herpetol.* 34:397–403; Thorbjarnarson 1992. *Crocodiles: An Action Plan for their Conservation*, IUCN/SSC. 136 pp.). Since 1990, conservation efforts have resulted in the release of > 1300 juveniles in protected private and public lands (C. Chávez, pers. comm.). To date, only modest efforts have been devoted to assessing success of reintroduced individuals. Available data show that animals survive and remain in protected areas (Muñoz and Thorbjarnarson, *op. cit.*), but whether re-introduced individuals were reproducing was uncertain. Here, we document the successful nesting of reintroduced crocodiles in two large cattle ranches located in Distrito Muñoz, State of Apure, Venezuela (7°30'N, 69°18'W).

Both ranches, Hatos El Frío (80,000 ha) and El Cedral (54,000 ha), are located in the flooded savannas of the Venezuelan llanos that previously harbored *C. intermedius*, where hunting pressure had locally extirpated the species (Arteaga and Hernandez 1996. *Proceedings of the 13<sup>th</sup> Working Meeting of the Crocodile Specialist Group*, pp. 207–222, IUCN). In 1990, an initial group of 31 juveniles 1–4 years of age was released in Hato el Frío. In 1994, five juveniles were released in Hato El Cedral; four of these were born in 1993 (sizes ranging roughly from 60 to 80 cm in

total length) and the remaining juvenile was between 3 and 5 years old. These reintroduced juveniles were regularly observed, but lack of appropriate nesting habitat in the near vicinity limited opportunities for reproduction. As a result, from 1996 to 2001 management built artificial nesting sites. These artificial sites consisted of ~1 m<sup>3</sup> holes excavated in the edges of the water bodies that were filled with river sand from beaches where *C. intermedius* had nested historically.

In March 1998, we found the first two nests (52 and 56 eggs) with fertile eggs. The females that laid these clutches were not captured, so their age is uncertain; however, this site had animals up to 12 years old. In March 2001, at least two of the females released in El Cedral laid eggs. Clutch fertility (30+ eggs in one case; predators destroyed the other nest) could not be assessed because ranch workers mistakenly removed the eggs and they were not incubated for any length of time.

Females that laid the eggs at El Cedral were not caught, but the only *C. intermedius* present were from the 1994 release. Thus, minimum reproductive age for females is no greater than 8 years because only one older *C. intermedius* was known to be present and two clutches were laid. Two of the released females caught in January 2001 were 322 and 342 cm total length, and weighed 145 and 175+ kg, respectively.

Some release sites selected for *C. intermedius* have been on public lands protected only on paper (Arteaga and Hernandez, *op. cit.*; Muñoz and Thorbjarnarson, *op. cit.*). Fishing and poaching have resulted, at best, in limited success for such public land reintroductions. Our data show that re-introductions on private lands where systematic protection is enforced can be successful, at least over a few years. Continued investigation of this promising pattern is needed to determine whether it will continue.

Estacion Científica Amigos de Doñana, Available Light, The National Geographic Society, and Association for Conservation Research and Education provided funding and logistic support; COVEGAN allowed us to work on their ranch; and Mauricio Urcera, Jose Ayarzagüena, Tulio Aguilera, Carlos Chávez, Pedro Azuaje, and John Thorbjarnarson helped in data collection.

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## LACERTILIA

**ANOLIS QUERCORUM** (Gray Anole). **GENERAL ECOLOGY.** An unfortunate consequence of the huge diversity in the genus *Anolis* (> 300 spp.; Guyer and Savage 1986. *Syst. Zool.* 35:509–631) is that ecology of many species is unknown. Sparse knowledge for anoles is marked in México, where few taxa have been studied (e.g., Ramírez-Bautista and Vitt 1997. *Herpetologica* 53:423–431). Here, we address this gap through provision of a few data on the infrequently observed anole *Anolis quercorum*, a species for which no data have become available since its description from Nochixtlán, Oaxaca, México (Fitch 1978. *Contrib. Biol. Geol., Milwaukee Pub. Mus.* 20:1–15).

Over 4 days (14 May, 12 July, and 2 and 22 September 1998), we collected six *A. quercorum* (four females [field numbers: JLE 3004-5, 3024; and LOL 014] and two males [JLE 2551 and LOL