

Keevil et al. 2017. Can. J. Zool. 95:393–402), this account details an in situ observation in *C. guttata*. Although I was unable to find any additional detailed accounts of this behavior in this species, I welcome other reports of this behavior and comment from those with behavioral expertise to review this account. Video of this observation may be viewed at: <https://www.youtube.com/watch?v=Tcg5uNgQjUU&t=7s>.

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DERMOCHELYS CORIACEA (Leatherback Sea Turtle).

NESTING. At ca. 0930 h on 6 June 2008, J. S. Walker located a set of *Dermochelys coriacea* tracks, 203 cm wide, leading from the high tide line to the base of the fore-dunes near the 48.8 km marker within Padre Island National Seashore (PAIS) on North Padre Island, Kenedy County, Texas, USA. Eight eggs were located at the nest site, including six eggs (5.7 cm diameter) on the ground surface near the nest (two broken) and two in the nest cavity. The two eggs found in the nest cavity were deemed viable and packed into a polystyrene foam box lined with clean sand and transported to the PAIS Incubation Facility for protective care. On 14 August 2008, the 70th day of incubation, the eggs were examined and considered unviable. Both eggs contained dead stage 29 embryos (Miller 1985. In Gans et al. [eds.], *Biology of Reptilia*, pp. 269–328. John Wiley & Sons, Inc., New York, New York), with maximum carapace widths measuring 38.2 and 40.4 cm. Tissue was collected from one embryo for archive at the NOAA-Fisheries Marine Turtle Genetics Laboratory in La Jolla, California. In the United States, *D. coriacea* primarily nest along the Atlantic Coast of Florida, and less frequently along the East Coast in Georgia, Maryland, North Carolina, and South Carolina (Rabon et al. 2003 Mar. Turt. News. 101:4–8). In the Gulf of Mexico, nesting has been documented on the Florida Gulf Coast (LeBuff 1990. *The Loggerhead Turtle in the Eastern Gulf of Mexico*. Caretta Research Incorporated, Sanibel, Florida. 236 pp.) and Gulf Coast of Mexico in Tamaulipas, Veracruz, and Yucatan (Marquez 2004. In Caso et al. [eds.], *Diagnostico Ambiental del Golfo de México*, pp. 173–197. Instituto Nacional de Ecología, México City, México, D.F.). This is the first record of *D. coriacea* nesting activity in Texas since the 1920s and 1930s; all prior records were at Little and Big Shell Beaches on North Padre Island, 7.0–32.7 km N of the new record (Hildebrand 1963. *Ciencia* 22:105–112). PAIS staff conducted all nest detection and protection activities under Texas Parks and Wildlife Department Scientific Permit SPR-0190-122 and U.S. Fish and Wildlife Permit TE-840727.

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ERETMOCHELYS IMBRICATA (Hawksbill Sea Turtle). EGG

PREDATION. We found three clutches of *Eretmochelys imbricata* that appear to have been partially predated by amphisbaenians of the recently described species *Amphisbaena littoralis* (Roberto et al. 2014. *Zootaxa* 3753:167–176). Our observations were made at three marine coastal sites with sand dune formations, located in the municipality of Touros, state of Rio Grande do Norte, Brazil: Praia de Monte Alegre (Clutch 1: 5.11942°S, 35.61384°W, 0 m elev.); Praia de Cajueiro (Clutch 2: 5.15516°S, 35.5062°W, 1 m elev.); Praia de São José (Clutch 3: 5.13682°S, 35.56441°W, 4 m elev.). Each of the three nests had been invaded by a single *A. littoralis*, which



FIG. 1. *Amphisbaena littoralis* foraging in nests and predating eggs of *Eretmochelys imbricata* in Praia de Monte Alegre, Municipality of Touros, Rio Grande do Norte, northeastern Brazil.

entered the nests using their own tunnel system; average depth at the point of predation was about 40 cm. Noted predation rates (predated eggs/total eggs per clutch) in the three nests was 2/132, 35/145, and 10/137. The eggs within each clutch that were not eaten by *A. littoralis* had apparently hatched successfully, based on eggshell counts. Our interpretation that these were predation events is based on direct observation of individual amphisbaenians removing egg contents (Fig. 1). It is possible that these eggs contained non-living embryos or were infertile, and thus this might be a case of scavenging.

Very few specimens of *A. littoralis* have been collected, and the species was restricted to Rio Grande do Norte by Costa and Bérnills (2018. *Herpetol. Brasileira* 7:11–57). It has been found in soft sand environments, in areas that have direct marine influence, especially in dune formations (Roberto et al., *op. cit.*). The amphisbaenian specimens were collected and preserved in Coleção Herpetológica e Paleoherpetológica da UFRPE (CHP-UFRPE/LEHP 6000).

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ERETMOCHELYS IMBRICATA (Hawksbill Sea Turtle).

NESTING. On 14 June 1998 at ca. 0900 h, C. Rubio located a set of *Eretmochelys imbricata* tracks leading from the high tide line to the base of the fore-dunes near the 95.3 km marker within the Padre Island National Seashore (PAIS), Willacy County, Texas, USA. This represents the first record of *E. imbricata* nesting and depositing eggs in Texas. One hundred and forty eggs were located and packed into two polystyrene foam boxes lined with clean sand, and transported to the PAIS Incubation Facility for protective care. The hatch success of this clutch of eggs was 95.7%. From 9–13 August 1998, 134 hatchlings were measured and weighed before release. Hatchlings had a mean length of 46.0 mm $\pm$ 1.1 SE (range: 42.1–48.7 mm) and mean weight of 20.5 g $\pm$ 0.9 SE (range: 15.4–22.4 g). One hundred and thirty-three hatchlings were released at PAIS. One hatchling was too weak for release and was sent to University of Texas Marine Science Institute (UTMSI)

Amos Rehabilitation Keep (formerly Animal Rehabilitation Keep) for rehabilitation. On 3 August 1999, the turtle was PIT tagged and released at the University of Texas Pier on Mustang Island, Texas. The largest nesting populations of *E. imbricata* in the western Atlantic are found in Mexico (Spotilla 2004. *Sea Turtles: a Complete Guide to Their Biology, Behavior, and Conservation*. Johns Hopkins University Press, Baltimore, Maryland. 250 pp.). PAIS staff conducted all activities under Texas Parks and Wildlife Department Scientific Permit SPR-0190-122 and U.S. Fish and Wildlife Service Endangered Species Permit TE-840727.

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GOPHERUS AGASSIZII (Agassiz's Desert Tortoise). **PREDATION.** Throughout the Mojave and Colorado deserts, the federally threatened *Gopherus agassizii* has experienced a continuing and rapid decline across most of its geographic range (U.S. Fish and Wildlife Service [USFWS]. 1994. Desert Tortoise (Mojave population) Recovery Plan, Portland, Oregon; Allison and McLuckie 2018. *Herpetol. Conserv. Biol.* 13:433–452). One threat is from predators subsidized by human sources of food, water, perches, and nest sites. The Common Raven (*Corvus corax*) is one such predator and is well known for its negative effects on *G. agassizii* juveniles and for hyperpredation (e.g., Campbell 1983. Desert Tortoise Council Symp. Proc. 1983:80–88; Kristan and Boorman 2003. *Ecology* 84:2432–2443.)

The first evidence of predation by Red-tailed Hawks (*Buteo jamaicensis*) surfaced in spring of 2015 when the U.S. government funded a survey of Common Ravens in the Chemehuevi critical habitat in the Colorado Desert, San Bernardino County, California. The objectives were to locate active nests and perches of Common Ravens identifiable from roads with a spotting scope. Active raven nests were then regularly monitored to inspect for evidence of predation on *G. agassizii*. Pellets were collected weekly at all active raven nests. Pellet collection at inactive nest sites or those occupied by other species was opportunistic, and typically occurred only during the initial visit to nests. All pellets were inspected for the presence of *G. agassizii* scutes and bones. Forty-eight active nests of Red-tailed Hawks were observed and 79% (38/48) were located on steel and wood transmission line structures. Eighty-seven pellets were found and collected at 22 active nests. Three additional recent pellets were collected below inactive nests used as perches. Of the 90 hawk pellets collected, 4.4% (4/90) contained scutes of juvenile *G. agassizii*. Each such pellet was fresh and contained from one to several scutes (Fig. 1). Each scute consisted of the areola and 1 to 2 growth rings. The pellets were ca. 5.1 x 3.8 cm, contained no bones, and were consistent with published descriptions of Red-tailed Hawk pellets (Errington 1930. *Condor* 32:292–296; Fitch et al. 1946. *Condor* 48:205–237). All pellets were found between 17 and 21 March 2015 in upper Ward Valley within Chemehuevi critical habitat. All three sites with scutes in pellets were located beneath steel transmission line towers with an associated dirt access road (Water Road). It is unlikely that the pellets were from a single hawk, because the sites extended along a 41.6-km stretch of transmission lines and towers.

This is the first report of predation by Red-tailed Hawks on *G. agassizii*, although one record exists of a Red-tailed Hawk preying on a yearling Gopher Tortoise, *G. polyphemus* (Fitzpatrick and Woolfenden 1978. *Florida Field Nat.* 6:49). Red-tailed Hawks are generalists among hawk species, feeding on rodents, rabbits, hares, quail, snakes, lizards, and amphibians (Preston and Beane



FIG. 1. Several scutes of a juvenile *Gopherus agassizii* in a pellet of a Red-tailed Hawk (*Buteo jamaicensis*) found beneath a transmission line tower along Water Road in Chemehuevi Valley, San Bernardino County, California, USA.

2009. In Poole [ed.], *The Birds of North America*. Cornell Lab of Ornithology, Ithaca, New York. <https://doi.org/10.2173/bna.53.52>. Accessed 3 Mar 2019).

Our records are important because corridors with electric transmission lines and towers are common in habitats occupied by *G. agassizii* and are an important feature in this critical habitat in the Colorado Desert, as well as in other critical habitats in the Mojave Desert (USFWS 2010. Mojave population of the Desert Tortoise [*Gopherus agassizii*]. 5-Year Review: Summary and Evaluation. Reno, Nevada. 121 pp.) The towers have allowed Red-tailed Hawks to occupy and concentrate activity in areas with few natural perches and nest sites (Knight and Kawashima 1993. *J. Wildl. Manag.* 57:266–271). In sagebrush scrub (*Artemisia* spp.) habitat in the Great Basin Desert, electric transmission towers were the second most common places (26.7%) for Red-tailed Hawks to place their nests (Coates et al. 2014. *Condor: Ornith. Appl.* 116:341–356). Based on these observations, Red-tailed Hawks can be added to the list of subsidized predators and one of many causes of death for *G. agassizii*.

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GOPHERUS POLYPHEMUS (Gopher Tortoise). **DEFORMITY.** Gopher Tortoises occur in upland and dune habitats in the southeastern United States. These tortoises typically range from 31–39 cm straight-line carapace length (SCL), and show sexual dimorphism at adult sizes, with males exhibiting extended gular scutes and a curved plastron, used for combat and courtship purposes (Ernst and Lovich 2009. *Turtles of the United States and Canada*, 2nd Ed. Johns Hopkins University Press, Baltimore,