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2nd ed. Johns Hopkins University Press, Baltimore, Maryland. 827 pp.). Thus, the length of the hindlimb claws of the individual reported herein appears to be unusual and exceptional, especially considering the gender of the turtle. When in captivity, the claws of box turtles can grow to exceptional lengths (often requiring trimming) because the claws may not experience the typical wear that would occur in the wild. Therefore, perhaps this individual in some way does not encounter the conditions within its home-range that typically wear the claws of conspecifics. However, because other *T. c. carolina* in this population do not display exceptionally long hindlimb claws, and the population occurs within a relatively small (ca. 40 ha) wetland and forest fragment bordered on all sides by developed areas (i.e., other individuals in the population likely have overlapping home ranges), the long, curved hindlimb claws of this female might alternatively be attributed to some unique genetic or developmental factor contributing to exceptional growth.

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***TERRAPENE ORNATA* (Ornate Box Turtle). LONGEVITY.** The captive longevity record for *Terrapene ornata* is 28 yrs for a female (Slavens and Slavens 1999. Reptiles and Amphibians in Captivity Breeding—Longevity and Inventory January 1, 1999. Slaveware, Seattle, Washington. 400 pp.), although another female lived 22 years in captivity and was estimated to be 20 yrs old when first acquired (Ernst, in Ernst and Lovich 2009. Turtles of the United States and Canada. The Johns Hopkins University Press, Baltimore, Maryland. 840 pp.). In the field, Legler (1960. Univ. Kansas Publ. Mus. Nat. Hist. 11:527–669) speculated that *T. ornata* in Kansas might live to 50 yrs, but he lacked long-term recapture data to confirm this. Based on a 23-year study in Texas, Blair (1976. Southwest. Nat. 21:89–104) estimated his three oldest box turtles to be 31–32 yrs of age. Similarly, following 26 years of fieldwork in Kansas, Metcalf and Metcalf (1985. J. Herpetol. 19:157–158) estimated their oldest box turtles to be about 28 yrs, and they explicitly rejected Legler's (1960, *op. cit.)* 50-yr longevity estimate. Finally, at a site in New Mexico, Germano (2014. Chelon. Conserv. Biol. 13:56–64) recaptured three box turtles over a 22-year period that he estimated to be >40 years old. We here report that our field data from Nebraska confirm Legler's speculation.

During our mark-recapture study of turtles at and around Gimlet Lake on the Crescent Lake National Wildlife Refuge (Garden County, Nebraska) from 1981–2018, we individually marked 609 Ornate Box Turtles (plus over 2073 recaptures). We used counts of plastral annuli to estimate the age of each turtle at first capture (following Legler 1960, *op. cit.* and Blair 1976, *op. cit.*), although for turtles with more than ca. 12 annuli, we could only estimate a minimum age. A number of adult box turtles that were so aged in the early years of our study were captured as many as 37 yrs later, allowing us to estimate longevity in our population (Table 1).

Furthermore, of 19 females first captured as adults in 1981 or 1982, five were never seen again (presumably transients: see Kiester et al. 1982. Evolution 36:617–619); however, four were recaptured in 2018, after 37–38 yrs. Similarly, of 10 males first captured as adults in 1981 or 1982, two were never seen again, and one was recaptured in 2015 after 33 yrs. Hence, of 22 "resident" adults present in 1981–1982, at least five (23%) survived at least 33 yrs (an annualized survival rate of 99.2%, and four survived at least 36 yrs (an annual rate of 99.4%; see also Converse et al. 2005. Ecol. Appl. 15:2171–2179). These data clearly suggest that Ornate Box Turtles at the northern end of the species' range live well beyond 50 years, that females may outlive males, and that some box turtles may survive to six decades.

TABLE 1. Maximum carapace length (CL in mm; following Cagle 1946. Amer. Midl. Nat. 36:685–729), maximum plastron length (PL in mm), and estimated age (in number of winters) of long-term recaptures of *Terrapene ornata* in western Nebraska. Ages at initial capture were estimated from counts of plastral annuli and represent minimum ages. Letters after ID numbers indicate sex (M, male; F, female).

	First capture				Last capture			
ID	Year	CL	PL	Age	Year	CL	PL	Age
2F	1981	111.1	118.1	>20	2018	110.3	119.9	>57
8F	1981	107.5	114.2	>20	2018	107.4	121.3	>57
129F	1981	104.9	115.9	>20	2018	104.9	118.9	>57
29F	1982	111.5	—	>20	2018	110.9	116.2	>56
138F	1983	116.8	120.5	>20	2017	115.2	120.7	>54
81M	1982	107.5	111.4	>20	2015	114.4	117.4	>53
233F	1988	110.5	116.3	>20	2018	110.3	122.0	>50
134F	1986	112.2	119.9	>20	2014	114.0	121.8	>48
132AF	1983	119.0	131.8	>20	2010	—	—	>47
538F	1990	105.2	114.0	>20	2017	109.8	116.3	>47
132BF	1985	119.0	126.4	>20	2010	—	—	>45

We thank the staff of the Crescent Lake National Wildlife Refuge (CLNWR) for allowing us to undertake this research. Turtles were captured and held under annual permits from the CLNWR as well as the Nebraska Game and Parks Commission. Our field methods adhered to the American Society of Ichthyologists and Herpetologists' Guidelines for use of Live Amphibians and Reptiles in Field and Laboratory Research, and in recent years to approved protocols from the Earlham College Institutional Animal Care and Use Committee.

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***TRACHEMYS ORNATA* (Ornate Slider). PREDATION.** *Trachemys ornata* is a large freshwater turtle endemic to the Pacific Coast region of western Mexico from southern Sinaloa and northern Nayarit (Parham et al. 2015. Proc. California Acad. Sci. 62:359–367). This species is listed as Vulnerable by the IUCN Red List (www.iucnredlist.org; 21 June 2018) and little is known about its natural history. Here I provide evidence of natural predation of an adult *T. ornata* by a Jaguar (*Panthera onca*) in Nayarit, western Mexico.

At 2307 h on 8 April 2018, a camera trap (Cuddeback Color C1) set by VHL at "El Pozo Chino" in the Municipality of Santiago Ixcuintla, Nayarit (21.69017°N, 105.45927°W, WGS 84; 8 m elev), captured an image of an adult female *Panthera onca* carrying an adult *Trachemys ornata* in its mouth (Fig. 1) in a seasonally flooded mangrove forest. With the exception of its head, the Jaguar was completely wet, which suggests that she had crossed a nearby body of water where she probably encountered the turtle. The presence of *T. ornata* in the area has been confirmed by VHL visually all across the Santiago River basin, including the wetland (El Pozo Chino) within 50 m of the location where the photo was recorded.

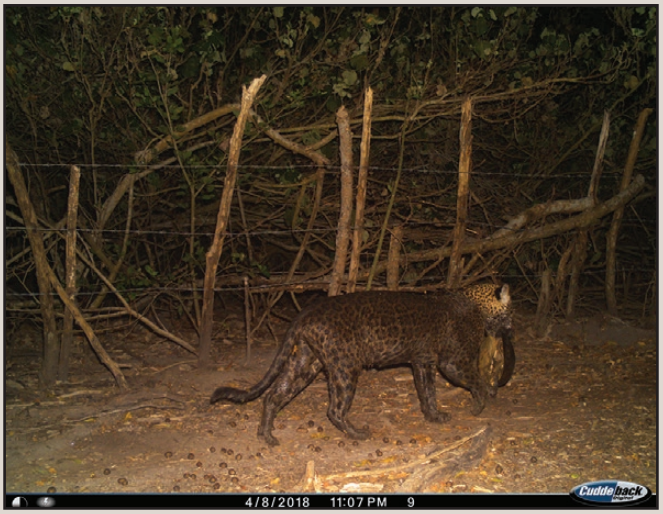

FIG. 1. A camera trap image of a female *Panthera onca* carrying an adult *Trachemys ornata*, Santiago Ixcuintla, Nayarit, western Mexico.

Jaguars are known to prey on turtles, with sea turtles (Veríssimo et al. 2012. Oryx 46:340–347), freshwater and terrestrial turtles (Emmons 1989. J. Herpetol. 23:311–314) having been documented as part of the Jaguar's diet. However, to our knowledge, this is the first evidence of Jaguar predation on *T. ornata*.

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CROCODYLIA — CROCODILIANS

***ALLIGATOR MISSISSIPPIENSIS* (American Alligator). NOVEL NESTING SITE.** *Alligator mississippiensis* occurs throughout Louisiana, USA, with abundant habitat and the highest nest densities being found in coastal marshes (McNease and Joanen 1978. Proc. Ann. Conf. SE Assoc. Fish Wildl. Agencies 32:182–186). In addition to nesting in the marsh proper, *A. mississippiensis* will also nest on levees (6.7% of 315 nests, Joanen 1969. Proc. SE Assoc. Game Fish Comm. Conf. 23:141–151) and spoil banks (9.4% of 53 nests, Platt et al. 1995. Proc. Annu. Conf. SE. Assoc. Fish Wildl. Agencies 49:629–639). In recent years, marsh restoration efforts have included construction of terraces, which are discontinuous narrow strips of created marsh, typically formed of dredge material from pond bottoms, often stabilized with emergent plants (O'Connell and Nyman 2011. Environ. Manage. 48:975–984, and references therein). Terraces might limit marsh losses, as they can increase marsh edge, presumably slow erosion, stimulate production of vegetation, and decrease excessive pond depths (O'Connell and Nyman 2010. Wetlands 30:125–135; O'Connell and Nyman 2011, *op. cit.*).

On 12 June 2107, aerial surveys were conducted by helicopter to locate *A. mississippiensis* nests on Rockefeller Wildlife Refuge in Cameron Parish, Louisiana, USA, to obtain eggs for various research studies. Due to time constraints and expense associated with helicopter surveys, we attempted to locate as many nests as possible in the best habitat, to limit flight time required, and work most efficiently. Thus, neither fixed transects nor systematic grids were flown; we simply focused searches on areas known to have the best quality nesting habitat, in one of the marsh management unit systems (Unit 6 off the Superior canal), and located approximately 150 nests in this and surrounding units. One *A. mississippiensis* nest was observed incidentally on a terrace (Fig. 1) while "deadhead" flying back to the refuge headquarters to refuel the aircraft. Construction of the earthen terrace was completed in November 2015, and it was subsequently planted with *Paspalum vaginatum* (Seashore Paspalum) and *Scirpus californicus* (Giant Bulrush or Bullwhip) in spring of 2016 (Louisiana Department of Wildlife and Fisheries 2015 – 2016 Annual Report. 144 pp.).

On 14 June 2017, we collected *A. mississippiensis* eggs from many of the nests found on 12 June, including the one located on the terrace. This nest contained 26 eggs, all of which were fertile, and approximately 6 days old. The female *A. mississippiensis* actively defended the nest. The eggs were collected and placed in a field incubator. On 20 June we returned to the nest site to collect an adult female *A. mississippiensis* for a research study. The female alligator again defended the nest, was captured, and measured 211 cm total length. The nest was constructed of *P. vaginatum* (Fig. 2) and dimensions were 145 cm x 152 cm across (slightly smaller than the average nest diameter of 182 cm in Joanen, *op. cit.*), and nest height was 43 cm. The surrounding *P. vaginatum* on the terrace measured approximately 53 cm high. The terrace was 6.7 m wide and approximately 290 m long.

The 26 eggs from the nest described were provided to a university researcher on 23 June. Three eggs died during incubation, two eggs were sacrificed, and the remaining 21 hatched successfully (hatch rate at least 80.8%, possibly 88.5% had the two eggs sacrificed hatched successfully).

Due to abundant wetlands habitat in Louisiana (2–3 million acres; Elsey and Kinler 2011. *In* P. S. Soorae [ed.], Global Reintroduction Perspectives: 2011. More Case Studies from around the Globe, pp. 125–129. IUCN/SSC Re-introduction Specialist Group, Gland, Switzerland and Environment Agency-Abu Dhabi, Abu Dhabi, UAE). *Alligator mississippiensis* may not "need" to nest on terraces, but an additional benefit of marsh restoration projects to conserve and protect fragile wetlands might also be to incidentally provide additional alternate nesting habitat sites

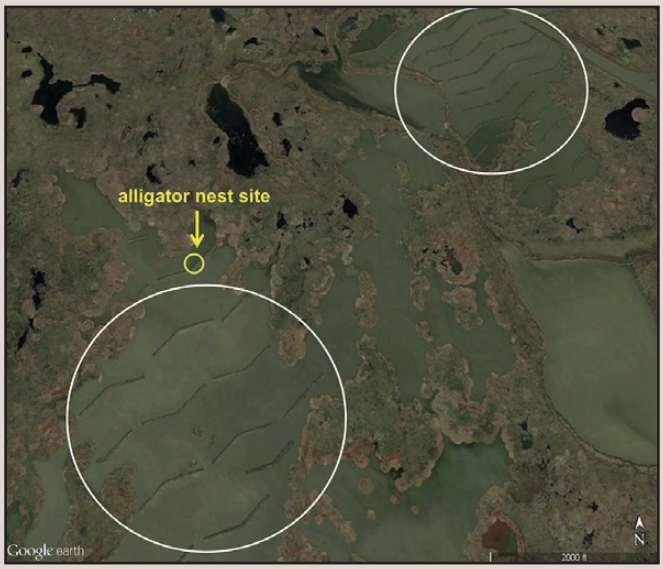

FIG. 1. Map illustrating location of *Alligator mississippiensis* nest (yellow circle) on a terrace in Cameron Parish, Louisiana. Note other terraces south and northeast of the one with the nest (white circles).