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**DEIROCHELYS RETICULARIA MIARIA (Western Chicken Turtle). REPRODUCTION.** Western Chicken Turtles are considered rare and declining throughout their range (Ryberg et al. 2017. *Herpetol. Conserv. Biol.* 12:307–320). Herein we present the first reproductive data for *Deirochelys reticularia* from Texas, USA. On 3 April 2018 at 1126 h, a female *D. reticularia* was found nesting by Ginger Falgoust in Fort Bend County, Texas, at Fulshear (29.70723°N, 95.90473°W). A total of 12 eggs were laid with mean size measurements (L × W) of 34 mm × 24 mm. On 7 April 2018, the eggs were gathered from the nest site and incubated in a mixture of vermiculite and perlite with a relative humidity of 70% at 82°F. After 67 days, seven neonates hatched; mean hatchling measurements were: carapace length = 32 mm, carapace width = 28.5 mm, plastron length = 28.5 mm, plastron width = 22.2 mm, shell height = 15.4 mm, and mass = 9 g. No sign of embryonic development was present in the remaining five eggs. On 1 July 2018, the baby turtles were released to the wetland adjacent to the original nest site.

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**EMYDOIDEA BLANDINGII (Blanding's Turtle). FEEDING.** Freshwater turtles have a soft, flattened eye lens enabling them to see well on land and in water (Moldowan et al. 2015. *Can. Field-Nat.* 129:403–408), and presumably enabling them to hunt and forage both terrestrially and aquatically. Nonetheless, most aquatic turtles feed underwater, employing suction-feeding (Claude et al. 2004. *Syst. Biol.* 53:933–948). Aquatic emydid turtles are not expected to feed on land because the low viscosity and density of air makes it difficult, perhaps even impossible, to swallow prey (Stayton 2011. *J. Exp. Biol.* 214:4083–4091). In nature, *Chrysemys picta* (Painted Turtles) have been observed foraging on bog mats (Moldowan et al. 2015, *op. cit.*) and *Clemmys guttata* (Spotted Turtles) have been observed plucking food from spider webs (Rasmussen et al. 2011. *Herpetol. Rev.* 40:286–288); in both instances, the prey was captured out of the water but prey consumption was not observed. Whether *Emydoidea blandingii* can feed on land is under dispute. Some authors argue that terrestrial food sources, such as berries and slugs, are consumed when on land, while others suggest that prey caught on land must be brought into the water to be consumed (Ernst and Lovich 2009. *Turtles of Canada and the United States*. Johns Hopkins University Press, Baltimore, Maryland. 827 pp.). An analysis of *E. blandingii* stomach contents and fecal matter yielded fresh prey items; however, visual observations during that same study indicated that prey items were scavenged from clumps of aquatic vegetation (Rowe 1992. *J. Herpetol.* 26:111–114), as observed for *C. picta* by Moldowan et al. (2015, *op. cit.*).

Here we describe an observation of a male *E. blandingii* in an immobile posture on a basking log with an adult *Plathemis*

*lydia* (Common Whitetail Dragonfly) in its mouth. On 21 May 2018, in central Ontario, Canada at ca. 1100 h, an adult male *E. blandingii* (CL = 23.8 cm; 1890 g), was observed on a log ca. 1 m long in an open water marsh (ca. 10.4 ha) in an area with a water depth of 1.2 m. For ca. 1 h the turtle did not move, and its neck was fully extended with its head up in the air. At ca. 1200 h, the turtle was captured and did not try to flee when approached, but appeared to be immobile. After being captured, the turtle dropped the deceased odonate from its mouth, and resumed regular fleeing behavior, including vigorous limb movement and scratching. Because the turtle did not move from its position on the log during our approach, we assume it had the adult *P. lydia* in its mouth for the entirety of the one-hour observation period.

Odonate larvae are common in the diet of *E. blandingii* (Kofron and Schreiber 1985. *J. Herpetol.* 19:27–40); however, adult dragonflies are much less common and are likely difficult to capture (Stayton 2011, *op. cit.*), though turtles may sometimes encounter them floating on the water's surface. The immobile posture employed by the turtle while it was presumed to have held the odonate in its mouth may have resulted for a number of reasons, including an inability or difficulty to consume prey out of water. Although odonates are not known to be poisonous or to possess stingers (Needham and Westfall Jr. 1955. *A Manual of the Dragonflies of North America* [Anisoptera]. University of California Press, Berkeley. 615 pp.), they do display abdominal spine growth and thickening in response to predatory cues in the wild (Arnqvist and Johansson 1998. *Ecology* 76:1847–1858) and these spines, along with size, may have caused the turtle to remain immobile as it attempted to secure a difficult-to-handle prey item in its mouth. Alternatively, the turtle may simply have forgotten about the prey in its mouth, as suspected in observations of feeding *Glyptemys insculpta* (Wood Turtles; J. Harding, pers. comm.). Our observation could be seen to corroborate studies on feeding behaviors of *E. blandingii* in the wild that suggest they drag prey back to the water before consumption (Ernst and Lovich 2009, *op. cit.*), but it does not support results from lab studies in which food was consumed on land when no water was present (Ernst and Barbour 1972. *Turtles of the United States*. University of Kentucky Press, Lexington, Kentucky. 347 pp.). Further research could illuminate the frequency and potential ubiquity of terrestrial feeding by certain aquatic turtles in the wild.

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**GEOCHELONE PLATYNOTA (Burmese Star Tortoise). MAXIMUM BODY SIZE AND GIANTISM.** *Geochelone platynota* is a critically endangered tortoise endemic to the Dry Zone of central Myanmar. Once abundant, populations were reduced to near-extinction by a combination of long-term chronic

TABLE 1. Morphometric measurements and reproductive output for six large female Burmese Star Tortoises (*Geochelone platynota*) held in a conservation-breeding center in Bagan, Myanmar. Tortoises examined and measured on 25 March 2018. Individual identification number followed by qualitative assessment of pyramiding in parentheses (EX = Extreme; MO = Moderate; MI = Minor/not-present). CL = straight-line carapace length; CW = maximum carapace width; PL = plastron length; SD = maximum shell depth. Reproductive data are from the 2016–2017 breeding season. Clutches = number of clutches produced by each female during the 2016–17 breeding season. Total eggs = total number of eggs produced by each female during the 2016–2017 breeding season.

Identification #/ (Pyramiding)	CL (mm)	CW (mm)	PL (mm)	SD (mm)	Annuli	Clutches	Total eggs
146 (EX)	455	310	385	234	20	0	0
137 (EX)	378	247	331	216	17	0	0
141 (MO)	365	247	313	194	18	0	0
002 (MI)	336	212	274	169	Worn	1	1
128 (EX)	320	211	270	165	16	4	26
096 (MO)	319	210	255	148	16	3	22

subsistence harvesting coupled with over-collecting to supply high-end international pet markets. As a result, by the early 2000s *G. platynota* was considered functionally extinct in the wild (Platt et al. 2011. Chelon. Res. Monogr. 5:57.1–57.9). A conservation-breeding program has since proven extremely successful, biological extinction now appears unlikely (Platt et al. 2017a. Herpetol. Rev. 48:570–575), and reintroduction is currently underway at two protected areas in Myanmar (Platt et al. 2017b. Turtle Survival 2017:38–43).

Successful conservation efforts notwithstanding, basic natural history information on *G. platynota* remains surprisingly sparse (Platt et al. 2011, *op. cit.*). Of particular interest is the upper asymptotic body size attained by *G. platynota*, which remains ill-defined despite the importance of such data for describing growth patterns and validating models of allometric relationships (Wilkinson et al. 2016. Copeia 104:843–852). Smith (1931. The Fauna of British India, including Ceylon and Burma. Vol. 1. Loricata and Testudines. Taylor and Francis, London. 185 pp.) gives the maximum carapace length (CL) of *G. platynota* as 260–280 mm and the largest wild-caught tortoise measured by Platt et al. (2003. Oryx 37:464–471) had a CL of 278 mm, leading Platt et al. (2011, *op. cit.*) to suggest that *G. platynota* attains a CL of “at least” 300 mm. We here present morphometric measurements of six female *G. platynota* with CL > 300 mm; as such, these individuals likely represent the upper asymptotic body size for this species.

The six female *G. platynota* are part of a large conservation-breeding group (ca. 200 tortoises) maintained at Lawkanandar Wildlife Sanctuary (LWS) in Bagan, Myanmar to produce offspring for head-starting and eventual reintroduction into the wild (Platt et al. 2017a, *op. cit.*). These females were obtained for the breeding program after being confiscated from illegal wildlife traffickers by the Forest Department during the early 2000s, hence their specific provenance is unknown; however, all six undoubtedly originated from the wild. The females are housed together with other tortoises in a large outdoor communal breeding enclosure where curatorial staff closely monitor the reproductive output of each individual (Platt et al. 2017a, *op. cit.*).

We examined the six large females as part of a routine veterinary health assessment at LWS on 25 March 2018. Unique numbers are painted on the carapace of each tortoise for individual identification. Using a pair of tree calipers we

measured (to the nearest 1.0 mm) the straight-line CL (from posterior marginals to anterior edge of nuchal scute), maximum carapace width (CW), mid-line plastral length (PL; from base of anal notch to posterior edge of gular scute), and maximum shell depth (SD; vertical distance from plastron to highest point of carapace) of each tortoise. Because plastral annuli were worn smooth precluding an accurate assessment, we instead counted the number of annuli on the anterior-most pleural scute of the carapace. Carapacial pyramiding (condition in which the carapacial scutes become raised and pyramid-shaped; Platt et al. 2014. Star Tortoise Handbook for Myanmar: Conservation Status, Captive Husbandry, and Reintroduction. Wildlife Conservation Society-Myanmar Program, Yangon, Myanmar. 90 pp.) was noted if present and subjectively ranked as extreme, moderate, or minor/not-present. The number of clutches and total number of eggs produced by each female during the 2016–17 breeding season were obtained from records maintained by curatorial staff at the facility.

The CL of these large female *G. platynota* ranged from 319 to 455 mm (Table 1) with the largest individual (Fig. 1) exceeding the previously assumed size maxima (ca. 300 mm; Platt et al. 2011. *op. cit.*) by 150 mm. Excessive to moderate carapacial pyramiding was present on all but one of the tortoises. Pyramiding is common among the assurance colony founders, and although the underlying causes remain poorly understood, the condition may be a response to genetic factors, incubation temperatures, xeric conditions during early growth, or a protein-rich diet (reviewed by Platt et al. 2014, *op. cit.*). Our discussions with tortoise hunters in different parts of the Dry Zone (Platt et al. 2018. Nat. Hist. Bull. Siam Soc. 63:67–114) anecdotally suggest there is also a geographic component to this condition; i.e., tortoises from certain regions are more likely to exhibit carapacial pyramiding. The number of carapacial annuli on five females ranged from 16 to 20 with the largest female exhibiting the greatest number of annuli; however, the assumption that annuli counts correspond to age has yet to be verified in *G. platynota*. The annuli of one female proved too abraded and faint for us to accurately count.

Interestingly, only the two smallest females in this group produced clutches containing typical numbers of eggs (mean clutch size for *G. platynota* is 4.4 eggs [range = 1–11] with multiple clutches/season; Platt et al. 2011, *op. cit.*) during the

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FIG. 1. Record-sized female *Geochelone platynota* (CL = 455 mm) at a captive-breeding center in Bagan, Myanmar. Note extreme pyramiding of the carapace.

2016–17 nesting season, while a third female deposited one clutch consisting of but a single egg. The three largest females produced no eggs during the most recent nesting season, and according to breeding records, have never produced a clutch in the past. Observations by the staff suggest that males are unable to successfully copulate with these three females owing to their large body size. Pyramiding can also interfere with copulation (Platt et al. 2014, *op. cit.*). Nonetheless, we assume these females would regularly produce eggs even if these are unfertilized. Excessively large body size coupled with an apparent inability to reproduce leads us to suggest the three very large females probably suffer from gigantism, a condition in which large body size results from a growth hormone disorder such as acromegaly (Woodward et al. 1995. *J. Herpetol.* 29:507–513; Verburch. 2018. *The Longevity Code. The Experiment Publishing, New York.* 309 pp.). We therefore posit that the upper functional asymptotic CL in female *G. platynota* is approximately 320 mm.

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### ***GOPHERUS POLYPHEMUS* (Gopher Tortoise). PREDATION.**

*Gopherus polyphemus* is listed as a threatened species by the Florida Fish and Wildlife Commission (Florida Wildlife Code Chap. 68A-27 F.A.C.), and the eastern population (including Florida) is under consideration for listing as threatened by the US Fish and Wildlife Service (USFWS 2011. Federal Register 74:46401–46406). *Canis latrans* (Coyote) are invasive in Florida, and have been expanding their range across the state (Hill et al. 1987. *Wildl. Soc. Bull.* 15:521–524; Thornton et al. 2004. *J. Mammal.* 85:973–982). Here we report on the predation of an adult *G. polyphemus* by *C. latrans*.

At 2031 h on 4 April 2018, a camera trap (Reconyx PC800 Professional) set to trigger on motion detection captured an image of an adult *C. latrans* carrying an adult *G. polyphemus* in its mouth (Fig. 1). The camera was set to capture bursts of three pictures 5 seconds apart, with the *C. latrans* and *G. polyphemus* captured only in the first picture of the three. This camera was located on the fence-line of a soft-release enclosure for translocated *G. polyphemus* in Okaloosa County, Florida (30.47535°N, 86.76312°W; WGS 84), as part of a paired design of cameras located inside, on the fence, and outside of the enclosure, to capture images of potential predators. Although we have no direct proof that the *G. polyphemus* in the picture was killed by the *C. latrans*, we suspect this tortoise was a female that had been encountered in late February at a burrow near the fence camera that captured the picture. In early May, the remains of that female were found on the outside of the enclosure between the fence camera and the paired outer camera.

*Canis latrans* are considered predators of hatchling and juvenile *G. polyphemus* (Smith et al. 2013. *J. Wildl. Manag.* 77:352–358; Dziadzio et al. 2016. *J. Wildl. Manag.* 80:1314–1322). Previous reports of predation by *C. latrans* on *G. polyphemus* include finding the gular projection of the plastron from a two to three-year-old *G. polyphemus* in *C. latrans* scat (Moore et al. 2006. *Herpetol. Rev.* 37:78–79). While many other predators are thought to prey on eggs, hatchlings, and juveniles (e.g. snakes, birds, mammals; Butler and Sowell 1996. *J. Herpetol.* 30:455–458), there are fewer known predators of adult *G. polyphemus*, although predation on an adult *G. polyphemus* by feral dogs has been reported (Causey and Cude 1978. *Herpetol. Rev.* 9:94–95).



FIG. 1. A camera trap image of a *Canis latrans* carrying an adult *Gopherus polyphemus*, near the fence of a soft-release translocation site in Okaloosa County, Florida.