



FIG. 2. The larger of the two *Chelydra serpentina* consumes the *Ardea alba* after drowning it.

was observed attacking the egret (Fig. 1). The bird attempted to escape but was unsuccessful. Pecking at the turtles by the egret was similarly ineffective. At 1930 h, the egret was observed being dragged underwater and killed. It was at this point at least one of the turtles was observed consuming the egret (Fig. 2).

The initial primer of the observed interaction between *C. serpentina* and *A. alba*, be it the result of an active hunt or simply an opportunistic attack, is unclear. Regardless, it is worth noting that all of the predation observations we found (summarized in Bobbie et al. 2015, *op. cit.*), took place between June and August. *Chelydra serpentina* are typically active from April through October/November throughout their range, with a major spike in activity in July after the end of the nesting season (Brown and Brooks 1993. *Herpetologica* 49:311–318). Additional observations might be useful to clarify whether attacks on very large prey are perhaps a response to a lack of overall prey availability, simply occur opportunistically, or are an active attempt to restore certain nutrients post-nesting.

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CHELYDRA SERPENTINA (Snapping Turtle), **TRACHEMYS SCRIPTA** (Pond Slider), and **APALONE SPINIFERA** (Spiny Soft-shell Turtle). **ANTHROPOGENIC DAMAGE**. Human recreational

activities have become increasing stressors to turtle communities (Nemoz et al. 2004. *Biologia* 59:185–189; Polich and Barazowski 2016. *Chelon. Conserv. Biol.* 5:214–218). Types of anthropogenic damage to freshwater turtles include fishhook ingestion (Steen et al. 2014. *PLoS ONE* 9:e91368; Suriyamongkol et al. 2019. *Herpetol. Rev.* 50:776–777), motorboat injuries (Bennett and Litzgus 2014. *J. Herpetol.* 48:262–266; Galois and Ovellet 2007. *Chelon. Res. Found.* 6:288–293), and gunshot wounds (Thomas et al. 2014. *Zootaxa* 378:141–165; Suriyamongkol et al. 2019, *op. cit.*; Pierce et al. 2016. *In* Rhodin et al. [eds.], *Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN SSC Tortoise and Freshwater Turtle Specialist Group*, pp. 100.1–100.12). Herein, we report evidence of gunshot wounds and fishhook ingestion in three species of turtles at Berrendo Creek in the city of Roswell, New Mexico, USA. Berrendo Creek is a small tributary of the Río Hondo that is surrounded by privately owned farmland, with a portion open to the public through the New Mexico Department of Game and Fish (NMDGF) Open Gate Program. Recreational fishing from the shore is the only activity permitted through the program for this property (<http://www.wildlife.state.nm.us>; 3 March 2020).

In July 2019, we surveyed freshwater turtles along a 500-m stretch of Berrendo Creek near its confluence with Río Hondo using traditional hoopnet traps. We captured four species of turtles including nine *Pseudemys gorzugi* (Rio Grande Cooter), seven *Chelydra serpentina*, 16 *Apalone spinifera*, and 69 *Trachemys scripta*. For each turtle captured we took standard measurements and assessed for apparent external physical damage. We discovered specimens of *T. scripta*, *C. serpentina*, and *A. spinifera* that displayed evidence of anthropogenic damage (Fig. 1). The most common sources of damage appeared to be gunshot wounds and fishhook ingestion. Of 69 *T. scripta*, one had a gunshot wound and one had ingested a fishhook (Fig. 1A). Of 16 *A. spinifera*, one showed damage typically associated with fishhooks (e.g., deformed jaw and a missing eye; Fig. 1B). Of seven *C. serpentina*, five had gunshot wounds (Fig. 1C). In addition to gunshot wounds and fishhook ingestion, we noted a variety of damages for which sources could not be confirmed with certainty. For example, eight turtles showed carapace deformities (e.g., large dents and chipped scutes; Fig. 1D) and one *T. scripta* was missing a limb. Due to the Open Gate Program, fishhook ingestion is likely a result of accidental by-catch. However, recreational shooting of any kind is prohibited through the Open Gate Program (<http://www.wildlife.state.nm.us>; 3

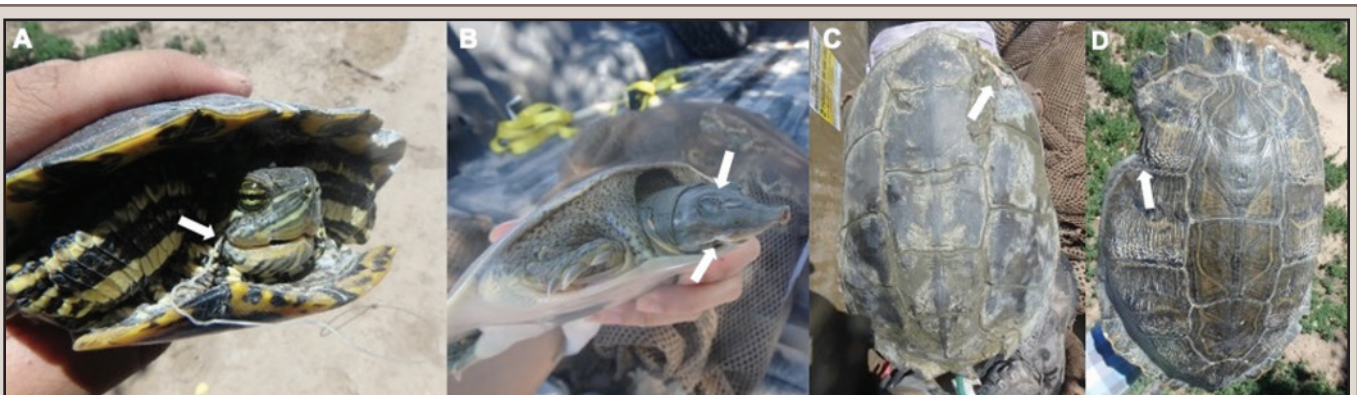


FIG 1. Four examples of damage and deformities in turtles caught at Berrendo Creek, Chaves County, New Mexico, USA: A) fishing line protruding from *Trachemys scripta*; B) deformed jaw and missing eye of *Apalone spinifera* indicating fishhook damage; C) suspected bullet wound on carapace of *Chelydra serpentina*; D) carapace deformity in *T. scripta*.

March 2020). The recreational activities at Berrendo Creek could be of concern to the conservation of freshwater turtles, especially in light of the recent discovery of the state-threatened *P. gorzugi* (Suriyamongkol et al. 2020. *Herpetol. Rev.* 51:536–537).

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CHRYSEMYS PICTA MARGINATA (Midland Painted Turtle). HEAD ABNORMALITY. Head abnormalities are not uncommon in turtles and are often characterized by swelling in portions of the head, particularly the tympanic area (e.g., aural abscesses). These can be due to nutritional deficiencies and/or bacterial infections (Holladay et al. 2001. *Ecotox Environ. Saf.* 48:99–106; Dodd and Griffey 2004. *Herpetol. Rev.* 35:233–235; Smith et al. 2009. *Herpetol. Rev.* 40:213–214). On 25 July 2020, we captured an adult male *Chrysemys picta marginata* in Preston County, West Virginia, USA (39.52648°N, 79.80546°W; WGS 84) using a Promar TR-502 turtle trap. Upon inspection of the turtle, we noticed that the individual appeared to either lack or have malformed tympanic membranes. The epidermis was wrapped into the ear cavity, resulting in a large depression on both sides of the head (Fig. 1). No external signs of injury, infection, or disease



FIG. 1. Head depression in *Chrysemys picta marginata* as a result of missing or malformed tympanic membranes, found in Preston County, West Virginia, USA.

were apparent, although it is possible that the cavities were the result of ruptured tympanic membranes from a previous aural infection. To our knowledge, this is the first report of a head depression in *C. picta* as a result of missing or malformed tympanic membranes. Since 2016, we have captured 422 *C. picta* in Preston County, and have not observed any other turtles with this abnormality.

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GLYPTEMYS INSCULPTA (Wood Turtle). DIET. *Glyptemys insculpta* is an omnivorous species with a varied diet consisting of plants, fungi, algae, and animal matter (Ernst and Lovich 2009. *Turtles of the United States and Canada*. Second edition. The Johns Hopkins University Press, Baltimore, Maryland. 827 pp.). Ophiophagy has been reported in several species of chelonians (Ernst and Lovich 2009, *op. cit.*; Lovich et al. 2010. *Southwest. Nat.* 55:135–138). Adult female *G. insculpta* have been reported to ingest snakes, including shed skin of what appeared to be gartersnake (*Thamnophis* sp.; Tamplin et al. 2009. *Herpetol. Rev.* 40:74–75). Here, we report on an observation of a juvenile *G. insculpta* eating shed snake skin.

On 17 June 2020 at 1324 h, we observed a juvenile *G. insculpta* biting at a shed snake skin at the edge of a stream in Sullivan County, New York, USA (197 m elev.). The *G. insculpta* was estimated at 2–3 yrs of age by counting growth rings on scutes (Harding and Bloomer 1979. *HERP: Bull. New York Herpetol. Soc.* 15:9–26). This observation occurred with the turtle underwater and the skin near the surface. The shed skin was determined to be from *Nerodia sipedon sipedon* (Northern Watersnake) based on faint patterning and scalation. Bite marks were also visible on the shed skin. Due to the opportunistic feeding strategy of *G. insculpta*, it may be that this behavior is relatively common among age classes, although probably rarely observed.

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GLYPTEMYS MUHLENBERGII (Bog Turtle). PREDATION. *Glyptemys muhlenbergii* is one of North America's smallest turtles (Ernst and Lovich 2009. *Turtles of the United States and Canada*. Second edition. The Johns Hopkins University Press, Baltimore, Maryland. 827 pp.). It is a species of conservation concern throughout its range, and is listed as federally threatened in the northern portion of its range (USFWS 1997. *Fed. Reg.* 62:59605–59623). Although habitat loss and degradation and collection for the pet trade are probably the most important threats to this species, adult *G. muhlenbergii* (because of their small size) may be more vulnerable to predators than many other species of turtle (USFWS 1997, *op. cit.*; Ernst and Lovich 2009, *op. cit.*).

Over the course of several decades of research, we have documented a few instances of *Canis familiaris* (Domestic Dogs) biting and sometimes killing adult *G. muhlenbergii* in Virginia and North Carolina, USA. Because we found no previous reports of this in the literature, we summarize those observations here. In Virginia, on 10 July 2008, JBF and field assistants were tracking