

On 25 September 2018, I captured an adult male *Sternotherus carinatus* (114.3 mm SCL, 215 g; Fig. 1) in George County, Mississippi, USA and on 26 May 2019, I captured a small male *S. peltifer* (73.3 mm SCL, 65 g; Fig. 2) from Lamar County, Mississippi. Both turtles exhibited some degree of tail bifurcation, with the *S. carinatus* exhibiting a more pronounced bifid tail than the *S. peltifer*.

In non-autotomous forms of lizards, Etheridge (1967. Copeia 1967:699–721) suggested that tail regeneration was stimulated by damage to vertebrae and not because of intervertebral separation (see also Kuchling 2005, *op. cit.*). The *S. carinatus* had damage to the posterior marginal scutes of the carapace in close proximity to the tail, and it is possible that the tail was injured at the same time. The *S. peltifer* did not have visible signs of damage to the posterior carapace, but other species of *Sternotherus* are known to exhibit male-male aggression (Jackson 1969. Herpetologica 25:53–54; Pignatelli et al., unpubl. data). Of the eight turtle species now reported with bifid tails (Kuchling 2005, *op. cit.*; Rahman 2011, *op. cit.*; Rodrigues and Silva 2013, *op. cit.*; this report), seven were males. This might suggest that male-male combat and/or aggression is a possible cause of tail bifurcation events, but this is conjecture, as many turtle species are also sexually dimorphic, with males having longer tails that could be more prone to injury.

Although not all tail bifurcations can be attributed to the regenerative process (e.g., Siamese twinning and axial bifurcations; Kuchling 2005, *op. cit.*), a radiograph would be necessary to determine the root cause. Neither of these turtles were radiographed, nor was there further study of their histology. Of the previously mentioned bifurcation events in turtles, only Kuchling (2005, *op. cit.*) radiographed the bifid tail, thus additional observations with radiographs of tail bifurcation events would be informative.

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**STERNOTHERUS MINOR (Loggerhead Musk Turtle). MORTALITY.** Faunal surveys are necessary to understand the diversity, distribution, biology, and conservation of organisms. Numerous trapping methods have been developed and optimized for various groups of animals. Despite targeting particular taxa of interest, the capture of non-target organisms (“bycatch”) is a common occurrence. One example is the bycatch of vertebrates resulting from invertebrate sampling methods. Vertebrate bycatch is most often seen in pitfall, ramp, or glue/sticky traps (Pearce et al. 2005. Can. Entomol. 137:233–250; Weary et al. 2019. Pan-Pac. Entomol. 95:21–32). Much less often does vertebrate bycatch occur in UV light pan traps. UV light pan traps consist of a shallow white pan filled with ethanol and a UV light attached to a power source and are used to monitor a wide array of insect taxa (Calor and Mariano 2012. EntomoBrasilis. 5:164–166). When such bycatch does occur, frogs appear to be the most frequent victims. Here, we report the first (to our knowledge) instance of turtle mortality due to a UV light pan trap.

The reported mortality event occurred during an ongoing aquatic invertebrate survey of the Upper St. Marks River Basin, Leon County, Florida, USA. The trap was deployed ca. 1 m from the margin of the St. Marks River near Horn Spring (30.31692°N, 84.13275°W; WGS 84) on 28 October 2020 at 0815 h and recovered at 2100 h. Upon recovery of the trap, an adult specimen of *Sternotherus minor* (sex undetermined) was encountered deceased in the 80% ethanol. The turtle was carapace-down

on the margin of the pan, its head submerged in ethanol, and surrounded by many insects including large moths. The turtle was removed from the pan prior to the photograph in hopes that it was still alive.

We speculate that this individual of *S. minor* was attempting to predate upon the many insects attracted to the UV light, climbed over the lip of the pan to access the flying insects, and in doing so rolled onto its back. Given that this species exhibits bimodal respiration and obtains some of its oxygen cutaneously underwater (Gatten 1984. Herpetologica 40:1–7), the specimen likely succumbed to the ethanol.

The mortality incident here is certainly a notable instance of vertebrate bycatch. For example, one of the authors (AKR) has been UV light pan trapping for over 25 years (> 1000 sampling events) and has never witnessed a trap-related turtle mortality event. Although extremely rare, it is possible that this means of death could impact other kinosternids that also demonstrate bimodal respiration. To minimize vertebrate bycatch when using UV light pan traps to sample aquatic insects near waterbodies, frequent monitoring of the light trap, a physical barrier around the perimeter of the trap, and/or a wide-diameter mesh hardware cloth covering the pan might be effective while still allowing successful insect capture.

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**TERRAPENE BAURI (Florida Box Turtle). ATTEMPTED PLASTIC INGESTION.** The ingestion of plastic by wildlife has received increasing attention due to both the ubiquity of plastic waste in the environment and the mortality and morbidity associated with ingestion. Consumption and entanglement in anthropogenic litter, largely comprised of plastics, is a recognized threat to marine and estuarine reptiles (reviewed by Stafferi et al. 2019. Environ. Sci. Pollut. Res. 26:1238–1249), but few observations have been reported for terrestrial chelonians. Herein, I report the observation of attempted ingestion of plastic waste by a wild *Terrapene bauri*.

On 27 November 2020 at 1023 h, I investigated a noise alongside a path at the Carter Creek tract of the Lake Wales Ridge Wildlife and Environmental Area, Highlands County, Florida, USA (27.54911°N, 81.41324°W; WGS 84; 33 m elev.) which led me to an adult male *T. bauri* that was repeatedly biting at a partially melted plastic beverage container (Fig. 1A). The discarded polyethylene terephthalate (PET) bottle was likely burned during a prescribed fire that is commonly used to manage the xeric scrub habitat of this area. Strikes from the turtle were directed towards the melted portion of the bottle, but were unsuccessful in gripping the bottle, causing it to be pushed through the vegetation. The plastic was sufficiently hard making it unlikely that what remained could have been dislodged and consumed. The melted portion was disfigured and both black (charred) and white, with some soil and plant debris embedded (Fig. 1B). This may have resulted in the plastic superficially resembling a gastropod or fungi, both of which are known to be consumed by *T. bauri* (Krysko et al. 2019. Amphibians and Reptiles of Florida. University Press of Florida, Gainesville, Florida. 706 pp.).

Of the 8.3 million tons of plastics produced through 2015, 79% is estimated to be in landfills or the natural environment (Geyer et al. 2017. Sci. Adv. 3:e1700782). Ingestion of trash by terrestrial che-

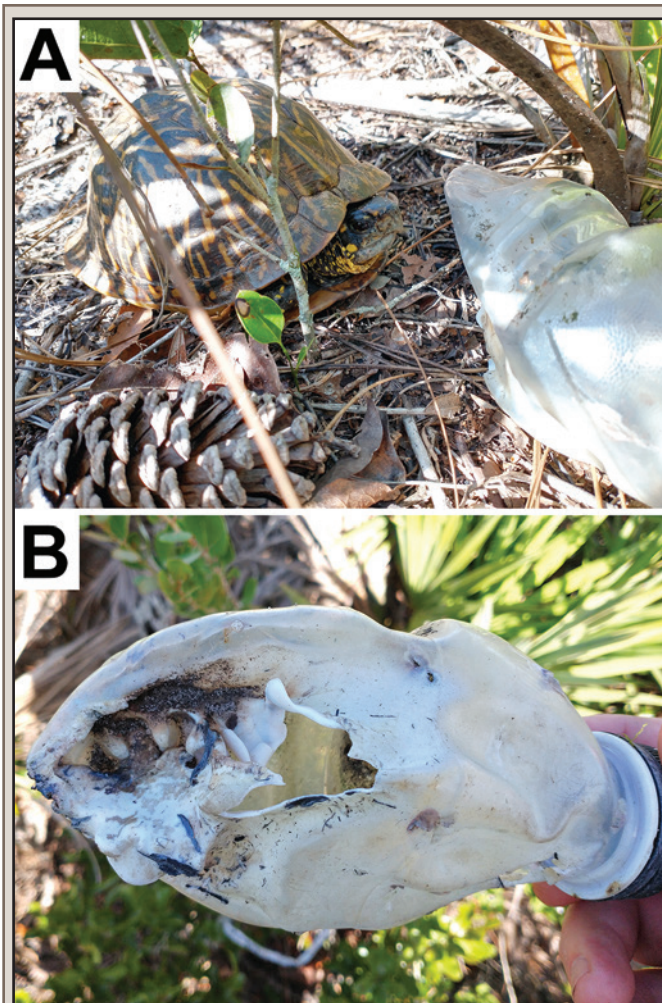


FIG. 1. A) *Terrapene bauri* and plastic litter, as found; B) the turtle's bites were directed at the portion of the sports drink bottle that was partially melted, possibly resembling a food item.

lonians has only been infrequently reported, perhaps due to the rarity of observing what are primarily chance encounters (Walde et al. 2007. *West. N. Am. Nat.* 67:147–149). A Mohave Desert Tortoise (*Gopherus agassizii*) was found to have consumed 108 cm of a ribbon attached to a piece of balloon in California (Walde et al. 2007, *op. cit.*) and MacDonald and Mushinsky (1998. *Herpetologica* 44:345–353) reported a variety of “manufactured materials” in the scat of Gopher Tortoises (*G. polyphemus*). Although the negative impacts of the consumption of plastic by marine turtles is well known, the possibility that it may also be of conservation concern for terrestrial chelonians is worthy of further consideration.

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**TERRAPENE CAROLINA (Eastern Box Turtle). SCAVENGING.** *Terrapene carolina* is an omnivorous terrestrial species found throughout eastern North America that is known to consume carrion (Dodd 2001. *North American Box Turtles: A Natural History*. University of Oklahoma Press, Norman, Oklahoma. 231 pp.). This note documents two observations of *T. carolina* scavenging on vertebrate carrion, including remains of *Thamnophis sauritus* (Eastern Ribbonsnake) and *Odocoileus virginianus* (White-tailed Deer).

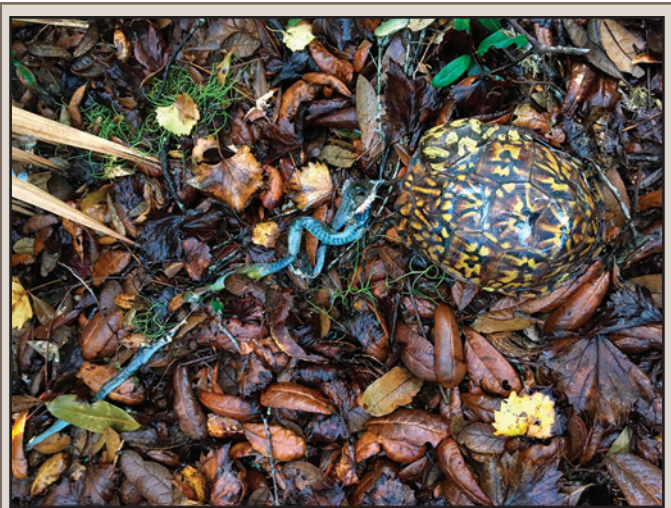


FIG. 1. Adult female *Terrapene carolina* (Eastern Box Turtle) scavenging a *Thamnophis sauritus* (Eastern Ribbonsnake) on Jekyll Island, Georgia, USA.



FIG. 2. A radio-tracked adult female *Terrapene carolina* (Eastern Box Turtle) scavenging an *Odocoileus virginianus* (White-tailed Deer) on Jekyll Island, Georgia, USA.

On 29 November 2017 at 1007 h, a radio-tracked adult female *Terrapene carolina* was observed eating a freshly dead *Thamnophis sauritus* (Fig. 1) in maritime forest habitat on Jekyll Island, Georgia, USA (31.07361°N, 81.40836°W; WGS 84). When approached, the *Terrapene carolina* retreated into its shell. After a short period, the *T. carolina* emerged from its shell and hanging from its beak was a small piece of tissue from the deceased