disengages. The otter continuously circles close by (Fig. 1B) and returns, again grasping the alligator by the head and carries the alligator out of view. About 15 minutes later, the otter had dragged the live alligator to a gravel road adjacent to the marsh. Upon approaching, the otter stood up, barked, and retreated. The alligator was inspected and although injured (neck abrasions, damaged left eye) was vigorous. It was not tail-notched, nor did it have web tags. It was moved to a nearby body of water to possibly prevent further attack.

On 27 September 2018 at 1352 h, SR observed an *A. mississippiensis* carcass in the marsh at the same site. The carcass was heavily damaged, particularly in the head and neck region, and was within a meter of the attack site of 26 September. Portions of the dorsal midsection and tail were consumed; all four limbs were still present. The alligator had a web tag (number 1217359) and tail notches indicating it had been released from a commercial alligator farm as part of a survival research study; it was marked on 18 July 2018 at which time it measured 117 cm total length. The relatively smaller size, tail notches, and foot web tag indicates that it was a different alligator than that observed the day before. Based on the damage to the carcass, it was presumed this alligator had also been attacked by an otter. The carcass was recovered within a few hundred meters of the July release site, and otters have been observed regularly crossing gravel roads near the attack site.

The mass of 238 otters in North Carolina averaged 8.25 kg for males, and 7.00 kg for females (Wilson 1959. Proc. Ann. Conf. Southeast. Assoc. Game Fish Comm. 13:267–277) and in Florida, 72 otters had an average size of 110.2 cm total length, and average mass of 6.76 kg, with the largest being 121.9 cm and 11.34 kg (McDaniel 1963. Proc. Ann. Conf. Southeast. Assoc. Game Fish Comm. 17:163–168). A limited sample of Louisiana otters had average total lengths of 112.9 cm for three males, and 97.8 cm for three females (Lowery 1974. The Mammals of Louisiana and Its Adjacent Waters. Louisiana State University Press, Baton Rouge. 565 pp.). Alligators in the 4–5 ft TL size class (121.9–152.4 cm) harvested near the site of the incidents described above had average masses of 11.58 kg, 9.11 kg, 9.93 kg, and 7.80 kg from 1992 to 1995, respectively (Borden-Billiot 1996. Final Environmental Assessment of Alligator Harvest Methods on Sabine National Wildlife Refuge, USFWS Report). Thus, it is noteworthy that the presumably smaller otter attacked one larger juvenile alligator as reported above, and likely killed the second alligator, which might have been of a comparable length and mass to the otter. Otters generally prefer feeding in shallow water near shore (Sheldon and Toll 1964. J. Wildl. Manage. 45:449–455), thus the attack site herein may be typical for such an encounter. However, such predator-prey interactions may be quite rare; indeed, a large study of 315 trapped otters from Alabama and Georgia found no reptile remains in the digestive tracts (Lauhachinda and Hill 1977. Proc. Ann. Conf. Southeast. Assoc. Fish Wildl. Agencies 31:246–253). Although it has previously been documented that otters cause mortality for hatchling alligators (Somaweera et al., *op. cit.*), to our knowledge this is the first report of an otter attack on a large juvenile *A. mississippiensis*.

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***ALLIGATOR MISSISSIPPIENSIS* (American Alligator). ARTIFICIAL COVER USE.** Anthropogenic debris including artificial cover boards are frequently utilized by many reptiles for refuge, particularly snakes and lizards (Grant et al. 2001. *In* McCullough and Barrett [eds.], Wildlife 2001: Populations. Elsevier Applied Science, London; Hampton 2007. Amphibia-Reptilia 28:433–437; Joppa et al. 2009. Herpetol. Conserv. Biol. 5:143–148; Sutherland et al. 2016. Herpetologica 72:6–12). Crocodilians are less likely to utilize such objects as refugia on account of their morphology (e.g., larger body sizes) and largely aquatic habits. Here, we describe an unusual case of artificial cover use by a juvenile *Alligator mississippiensis*.

While conducting visual encounter surveys for snakes at around 1000 h on 11 May 2018 at Bayou Sauvage National Wildlife Refuge (Orleans Parish, Louisiana; 30.11628°N; 89.90509°S), we encountered a juvenile *A. mississippiensis* (ca. 65–70 cm total length) basking at the periphery of a 121 × 244 cm plywood board that was resting flat on the ground amidst a large pile of discarded PVC pipes and other miscellaneous debris (Fig. 1). The site is located at the northwestern edge of ca. 40-km^2 contiguous area of intermediate marsh that is entirely enclosed within hurricane protection levees. Although rarely visited by the public, the area is impacted by a nearby interstate (I-10) and illegal dumping. The debris pile was located in a muddy area with minimal grass ground cover along the edge of a clearing ca. 100 cm away from the nearest brush, ca. 14 m from the nearest standing body of water (a ca. 1000-m^2 stagnant pool surrounded by scrub and intermediate marsh), and ca. 23 m from a ca. 17-m tall grass-covered levee.

When approached, the *A. mississippiensis* fled into the adjacent brush, but appeared to be in good health and body condition. Upon inspection of the site, there were clear signs suggesting that this animal had been using the board as refuge for some time, including several packed down body impressions and claw marks in the mud on the perimter and multiple tunnels leading underneath the board. Beneath the board, conditions were moister than the outside soil conditions. No alligator was

FIG. 1. A juvenile *Alligator mississippiensis* that appeared to be using the adjacent plywood board as artificial cover.

observed under or adjacent to this board during subsequent visits to the site on 25 May, 29 May, and 2 June 2018.

As far as we can determine, similar examples of artificial cover use have not been reported for wild *A. mississippiensis*. Their aquatic nature makes tunneling under a plywood board on firm ground an unusual behavior for the species. It was also peculiar to observe terrestrial refuge-seeking behavior away from the water's edge in a juvenile animal since individuals of this size probably do not travel far from water due to the risk of predation, and in southeastern Louisiana they tend to feed predominantly on aquatic prey (Platt et al. 1990. Northeast Gulf. Sci. 11:123–130). In captivity, crocodilians may utilize flat hides and cover boards for refuge and to avoid agonistic interactions with conspecifics (Webb et al. 2013. Improving Australia's Crocodile Industry Productivity. Australian Government Rural Industries Research and Development Corporation, Canberra), and competitive exclusion could cause subordinate *A. mississippiensis* to seek out refuge under objects that are located away from the water (J. Brueggen, pers. comm.). However, given the expansiveness of the wetland area at this site and abundance of vegetation for cover, competitive exclusion is an unlikely explanation for this behavior.

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***CAIMAN LATIROSTRIS* (Jacaré-do-papo-amarelo; Broad-snouted Caiman). POLYPHALANGY.** *Caiman latirostris* is an important species for the conservation of biodiversity (Santos and Nóbrega 2017. O Jacaré-de-papo-amarelo. Guia Para Educação Ambiental. Instituto Marcos Daniel, Jardim Camburi, Vitória, Brazil. 53 pp.), inhabiting mangroves and floodplains in Brazil, Argentina, Paraguay, Uruguay and Bolivia (Coutinho et al. 2013. Biod. Bras. 3:13–20). Polyphalangy as described in Meteyer (2000. Field Guide to Malformations of Frogs and Toads with Radiographic Interpretations. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-2000-0005. 16 pp.) is when the normal number of metatarsal bones are present at the tibiale-fibulare-metatarsal joint but with duplicate sets of phalanges. Different from polydactyly in which more than the normal number of metatarsal bones are present with or without a complete set of phalanges, which is also different from hyperphalangy reported by Fedak and Hall (2004. J. Anat. 204:151–163) which consists in a digit morphology wherein the number of phalanges arranged linearly within an individual. These three malformations are part of a whole range of problems and deformities already found in most tetrapod (Galis et al. 2001. Trends Ecol. Evol. 16:637–647). Comparing to other vertebrates such as mammals, birds, and amphibians, this physical anomaly appears to be rare among reptiles (Lazi and Crnobrnja-Isailovi 2012. Herpetol. Notes 5:277–279). A single case of polydactyly has been reported in a turtle (Martínez-Silvestre et al. 1998. Bol. Asoc. Herpetol. Esp. 9:35–38) while other cases have been reported in iguanids (Pelegrin et al. 2007. Cuad. Herpetol. 21:115–116; Minoli et al. 2009. Cuad. Herpetol. 23:89–92), geckos (Bauer et al. 2009. Herpetol. Not. 2:243–246), and lacertids (Carretero et al. 1995. Bol. Asoc. Herpetol. Esp. 6:11; Kaliontzopoulou et al. 2013. Acta Herpetol. 8:75–78). Here, we report the first case of polyphalangia for crocodilians.

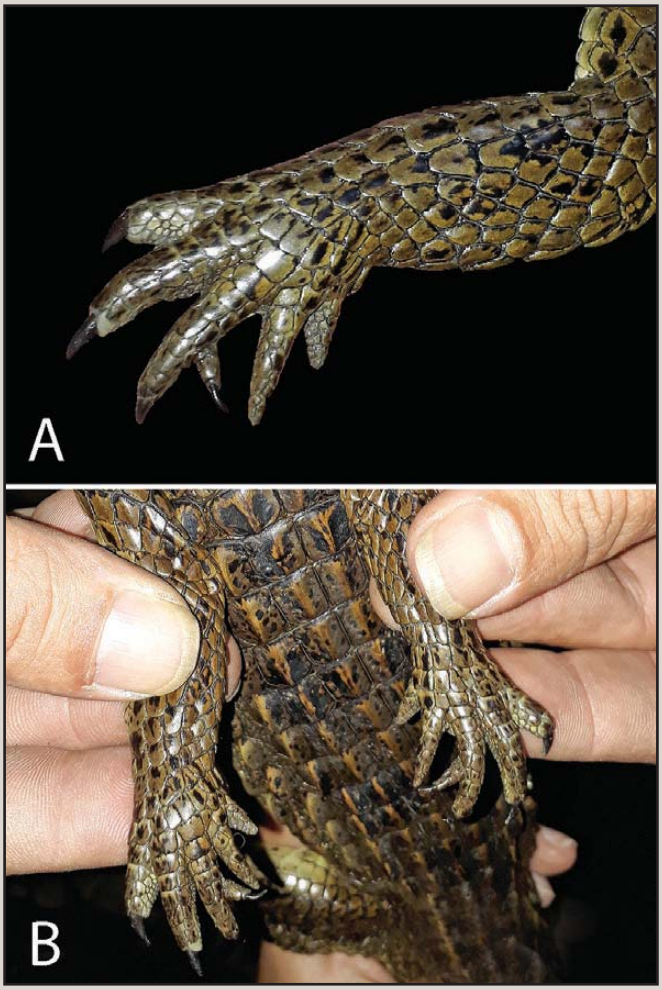

FIG. 1. A) *Caiman latirostris* left hind limb with polyphalangy; B) polyphalangy in both hands of *Caiman latirostris*.

The Caiman Project is responsible for the monitoring and conservation of the resident population of *C. latirostris* in the state of Espírito Santo, Brazil. During a nocturnal survey on 24 May 2018 in a large lagoon (Lagoon 4) from the ArcelorMittal Tubarão industrial complex, Serra municipality, Espírito Santo state, southeastern Brazil (20.2282°S, 40.2435°W; WGS 84; 25 m elev.), the Caiman Project team captured a juvenile (unsexed) *C. latirostris* with malformation on both forelimbs (Fig. 1A, B). The specimen was in a good health (716 mm total length, 324 mm SVL, 87 mm head length, 960 g) and did not have any ectoparasites or other injuries. We were not able to take radiographs because of the field conditions and lack of appropriate license to displace the specimen. From the 134 other young caimans captured and analyzed in the study area from 2014 to 2018, no other specimen was found with any type of malformation.

The polyphalangic individual had one extra distal phalange in each third finger on both hands. The additional phalanges were about 1 mm long. The swimming and pace of the caiman were not affected by this malformation. Several factors may interfere with regular bone development of phalanges in tetrapods, such as hormonal, nutritional, traumatic, and genetic factors (Sessions and Ruth 1990. J. Exp. Zool. 254:38–47). Abnormal division