Fig. 2. An example of a rapidly eroding shoreline near the locality of the terrapin nest on East Grand Terre Island (Plaquemines Parish, Louisiana). Note the installed sand fencing—a dune formation and coastal erosion control measure—that is also being lost to coastal erosion.

population-level consequences that coastal erosion may have on Louisiana terrapin populations.

On 15 May 2012, one of us (MC, U.S. Coast Guard) was on the island of East Grand Terre (Plaquemines Parish, Louisiana) and noted an exposed terrapin nest along the edge of an eroding shoreline (29.306541°N, 89.874788°W). MC took a photograph of the nest (Fig. 1) and sent it to the additional authors (BS, AW, JW, and WS), all biologists with the Louisiana Department of Wildlife and Fisheries (LDWF). This was almost certainly a terrapin nest as there is no other nesting turtle species recorded for the island (A. White, unpubl. data). Unfortunately, LDWF biologists could not arrange a boat trip to revisit the site for a month and therefore could not confirm the fate of the nest (i.e., nest failure directly or indirectly linked [nest desiccation] to shoreline erosion). BS searched the location on 13 June 2012 and found no exposed nest, but only an undercut beach shoreline in the nest location. This shoreline is known to be frequently subjected to high rates of erosion during times of unusually high tides and storms (Fig. 2). This nest can be presumed lost, thus this observation represents the first reported terrapin nest destroyed, whether directly or indirectly, by landscape-level coastal erosion.

Unfortunately, the State of Louisiana is losing coastal marshes and barrier islands at alarming rates due to coastal erosion and coastal conversion of land to water. The greatest land losses in coastal Louisiana occur in the Mississippi Deltaic Plain (Barras et al. 2008. USGS Sci. Inv. Map 3019), which also holds the most confirmed terrapin localities in the state (Dundee and Rossman 1989. The Amphibians and Reptiles of Louisiana. Louisiana State Univ. Press, Baton Rouge. 316 pp.). Land losses have also impacted many barrier island complexes which have been lost or highly degraded over the last few decades (e.g., Chandeleur Islands, Isle Dernieres).

With terrapins using "fringe" brackish and saline marshes that are being lost annually, as well as utilizing rapidly eroding barrier islands for nesting habitat, these factors could detrimentally impact the long-term viability of Louisiana terrapin populations. These factors, along with a paucity of knowledge about terrapins in the state, have led to an increased interest in terrapin research in Louisiana (see Selman and Baccigalopi 2012. Herpetol. Rev. 43:583–588). Current and future research will focus on documenting the distribution and abundance of the species in the state (Selman et al., unpubl. data), as well as documenting nesting beaches and nesting ecology of terrapins in coastal Louisiana (White et al., unpubl. data).

We acknowledge the Office of Wildlife and Office of Fisheries of LDWF for their support of current and future Diamond-backed Terrapin research.

WILL SELMAN, Rockefeller Wildlife Refuge, Louisiana Department of Wildlife and Fisheries, 5476 Grand Chenier Highway, Grand Chenier, Lousiana 70643, USA (e-mail: wselman@wlf.la.gov); **BEN STULTZ**, **JON J. WIEBE**, and **ARIELWHITE**, Louisiana Department of Wildlife and Fisheries, 102 Magnate Dr., Suite 201, Lafayette, Louisiana 70508, USA; ME2 **MARK CAMACHO**, United States Coast Guard, USCG Station Apra Harbor, PSC 455 Box 176, FPO AP 96540-1056, Guam.

MALACLEMYS TERRAPIN **(Diamond-backed Terrapin). DREDGING FORAGING BEHAVIOR.** Diamond-backed Terrapins are the only species of turtle specialized to inhabit the brackish coastal ecosystems along the Atlantic and Gulf coasts of North America. They show unique physiological and behavioral adaptations that enable them to live within these saline environments (Cowan 1971. Can. J. Zool. 49:691–697; Cowan 1990. Can. J. Zool. 68:1520–1524; Davenport and Macedo 1990. J. Zool. Lond. 220:487–496; Gilles-Baillien 1973. J. Exp. Biol. 59:39–43; Hart and Lee 2006. Stud. Avian Biol. 32:206–213). Diamond-backed Terrapins also inhabit Bermuda, a group of small islands (32.30889°N, 64.74599°W; WGS 84) situated 965 km ESE of Cape Hatteras, North Carolina, USA. This population, the only one outside the USA, is considered native (Parham et al. 2008. Biol. Lett. 4[2]:216–219) and is found only in four brackish water ponds located at the eastern end of the archipelago. All four bodies of water are situated within a single square kilometer of area on a private golf course and are separated from each other by <380 m of land (MO, unpubl. data).

Diamond-backed Terrapins are carnivorous and feed primarily upon a variety of marine molluscs and crustaceans (namely periwinkles, crabs, mussels, and clams) throughout their North American range (Tucker et al. 1995. Herpetologica 51:167–181; Spivey 1998. M.Sc. thesis, Univ. North Carolina. 80 pp.; Roosenburg et al. 1999. Chel. Cons. Biol. 3:425–429; Petrochic 2009. M.Sc. thesis, Long Island Univ. 66 pp; Butler et al. 2012. Chel. Cons. Biol. 11[1]:124–128; Erazmus 2012. M.Sc. thesis, Hofstra Univ. 46 pp). These studies indicate that there are geographic differences in the diet of terrapins that may reflect variations in prey availability and accessibility. This turtle appears to be a predator that normally uses visual cues while foraging, showing selectivity in the prey that it eats (Davenport et al. 1992. J. Mar. Biol. Assoc. U.K. 72:835–848; Tucker et al. 1995. Herpetologica 51:167–181; Tucker et al. 1997. Amer. Midl. Nat. 138:224–229).

A study investigating the biology, including diet and feeding ecology, of Bermuda's Diamond-backed Terrapins was performed between 2008 and 2012. One of the brackish ponds where the Bermuda population resides (South Pond) is small (0.44 ha), non-tidal, very shallow (mean depth 35 cm), and contains a 0.27 ha grass-dominated marsh in its center. The annual salinity (measured with an optical refractometer) averaged 10.8 practical salinity units during this period, and the water clarity was often very good, which presented excellent opportunities for observing the terrapins. South Pond has also been incorporated as a water hazard feature on the golf course for the past eight decades. The terrapins that reside in this pond have become habituated to the frequent presence of people and readily forage in the presence of observers. During the five-year study period, terrapins were commonly observed moving slowly along the bottom of the pond taking successive mouthfuls of sediment during both diurnal and nocturnal surveys. The head was often buried within the sediment during this behavior. The benthic sediment in South Pond is gelatinous and sapropelic, consisting of highly organic mud and detritus. It also contains the deposit-feeding thiarid gastropod *Melanoides tuberculata*, a non-native burrowing species that is known to reach densities <23,000 m^{-2} (Roessler et al. 1977. Florida Sci. 40[1]:87–94). *Melanoides tuberculata* is parthenogenetic and viviparous; breeding females (5+ mm shell length) release large numbers of juveniles (1–2 mm shell length) (Appleton et al. 2009. Zool. Meded. 83:525–536).

Such dredging-style foraging behavior has not been reported in the scientific literature before, possibly because the inconspicuous nature of Diamond-backed Terrapins, together with the turbid waters of the brackish coastal environments in North America where they feed, have precluded effective foraging observations in the wild. It is evidently a behavioral adaptation that has allowed terrapins in Bermuda to take advantage of the small benthic gastropods inhabiting the gelatinous pond sediment. Given the small size and burrowing habit of these gastropods, we propose that Bermuda's terrapins are haphazardly consuming the sediment ("deposit-feeding") in a manner that increases the chances of incidentally ingesting the small gastropods found within it. In support of this hypothesis, we have conducted fecal analyses that confirm that Bermuda's terrapins are consuming high numbers of small *M. tuberculata*, together with large quantities of sediment (MO, unpubl. data). This foraging behavior is inevitably exposing them to harmful contaminants (particularly heavy metals, gasoline-range and diesel-range petroleum hydrocarbons, and polycyclic aromatic hydrocarbons) that have been found within this medium (Fort et al. 2006. Appl. Herpetol. 3:143–172; J. Bacon, pers. comm.).

MARK E. OUTERBRIDGE, Department of Conservation Services, 17 North Shore Road, Flatt's Village, FL04, Bermuda (e-mail: mouterbridge@gov.bm); **JOHN DAVENPORT**, School of Biological, Earth and Environmental Sciences, University College Cork, North Mall Campus, Cork, Ireland (e-mail: j.davenport@ucc.ie).

***PHRYNOPS GEOFFROANUS* (Geoffroy's Side-necked Turtle). ENDOPARASITE.** *Phrynops geoffroanus* is a freshwater chelid turtle that occurs in South America from Colombian Amazonia to the Brazilian state of Rio Grande do Sul, and from Uruguay to northern Argentina (Lema and Ferreira 1990. Acta Biol. Leopoldensia 12:125–164; McCord et al. 2001. Rev. Biol. Trop. 49:715–764). It inhabits the shallow areas of both lakes and rivers (Pritchard and Trebbau 1984. The Turtles of Venezuela. Society for the Study of Amphibians and Reptiles, Oxford, Ohio. 403 pp.; Ernst and Barbour 1989. Turtles of the World. Smithsonian Institution Press, Washington. 313 pp.). In Brazil, this species can be common in rivers in urban areas (Souza and Abe 2001. Stud. Neotrop. Fauna Environ. Ecol. Syst. 36:57–62.; Lisboa et al. 2004. Arq. Inst. Biol. 71:392–393). The trematode parasites of Brazilian *P. geoffroanus* are apparently poorly known. Between 2006 and 2007, six specimens of *P. geoffroanus* that were already deposited in the Coleção Herpetológica of the Departamento de Zoologia, Universidade Federal de Juiz de Fora (UFJF) (CHLZ - UFJF 564–568, 570) were necropsied. All specimens are from the municipality of Juiz de Fora, Minas Gerais state, Brazil (21.68888°S, 43.34444°W). Trematodes were collected from the small intestine of two male adult host specimens (prevalence: 33.5%, mean intensity: 4 parasites per infected host). After collection, the parasites were fixed in AFA (70% ethanol, 93 parts; 37% formalin, 5 parts; glacial acetic acid, 2 parts) for 48 h, and preserved in 70% ethanol. For identification, the parasites were stained in Delafield's hematoxylin or Mayer's carmalum and mounted in Canada balsam for examination as whole mounts. Voucher specimens (CHIOC 37838) were deposited in the Instituto Oswaldo Cruz Helminthological Collection (CHIOC), Rio de Janeiro, Brazil. All parasites were identified as *Cheloniodiplostum* sp. (Digenea, Proterodiplostomidae) according to Gibson et al. (2002. Keys to the Trematoda, Volume 1. CABI Publishing, London. 544 pp.). In Brazil, previous publications have reported the trematode *Cheloniodiplostomum testudinis* (Dubois, 1936) in unidentified host turtles (Dubois 1936. Rev. Suisse Zool. 43:507–515; Travassos et al. 1969. Mem. Inst. Oswaldo Cruz 67:1–886). *Cheloniodiplostum brevis* (MacCallum, 1921) is the only species of this genus that has been recorded in *P. geoffroanus*, from Colombia (Dubois 1978. Rev. Suisse Zool. 85:607–615). Therefore, this report represents the first Brazilian record for parasitism by *Cheloniodiplostomum* sp. specifically in *P. geoffroanus*.

IARA ALVES NOVELLI, Núcleo de Pesquisa em Ciências Biológicas, Centro Universitário de Lavras, Rua Padre José Poggel, 506, Centenário, CEP37200-000, Lavras, Minas Gerais, Brazil (e-mail: iaranovelli27@gmail.com); **BERNADETE MARIA DE SOUSA**, Laboratório de Herpetologia, Departamento de Zoologia, Universidade Federal de Juiz de Fora (UFJF), Campus Universitário, s/n, Martelos, CEP 36036-900, Juiz de Fora, MG, Brazil (e-mail: bernadete.sousa@gmail.com); **SUELI DE SOUZA LIMA**, Laboratório de Taxonomia e Ecologia de Helmintos, Departamento de Zoologia, Campus Universitário, s/n, Martelos, CEP 36036-900, Juiz de Fora, MG, Brazil (e-mail: ssouzalima10@gmail.com); **FABIANO MATOS VIEIRA**, Laboratório de Parasitologia de Peixes, Departamento de Parasitologia Animal, Universidade Federal Rural do Rio de Janeiro, Seropédica, Brazil (e-mail: fmatosvieira@gmail.com).

***PHRYNOPS TUBEROSUS* (Cotinga River Toad-headed Turtle). BIFID TAIL.** Axial bifurcation is the result of a mutation or developmental error in the embryonic development of organisms that may lead to the emergence of bizarre morphology such as two-headed animals (Buffetaut et al. 2007. Biol. Lett. 3:80–81; Wallach 2007. Bull. Maryland Herpetol. Soc. 43[2]:57–62). This phenomenon can also lead to bifid tails in chelonians (Kuchling 2005. Chelon. Cons. Biol. 4[4]:935–937). These animals do not demonstrate true tail autotomy, but a case of regeneration of this body part and subsequent formation of a bifurcated tail is found in the literature (Kuchling 2005, *op. cit.*). Rahman (2011. Herpetol. Rev. 42[2]:265) also noted the occurrence of bifid tail in *Chelydra serpentina*, but the cause of the split was not determined. Here we report the occurrence of bifid tails in individuals of *Phrynops tuberosus* captured in field expeditions conducted in April, June, and July 2012. This is apparently the first record of bifid tails in South American chelids.

We captured four adult *P. tuberosus* (three males and one female) with bifid tails in the Banabuiu River, in the village of Laranjeiras, Ceará, Brazil. The animals had straight-line carapace lengths of 21.05 cm, 24.06 cm, 23.8 cm, and 17.4 cm, respectively. The bifid tails found in this study were of normal length and width, but their tips were duplicated in the horizontal plane. This pattern is very similar to that reported for *C. serpentina* by Rahman (2011, *op. cit.*).

The lack of difference in size between the bifid tails and normal ones suggests that the cause of this phenomenon may be axial bifurcation. However, the repetition of the event (in four