

Sonora, southwestern Chihuahua and Durango south to Jalisco, Colima and Michoacán, Mexico (Rorabaugh and Lemos-Espinal 2016. A Field Guide to the Amphibians and Reptiles of Sonora, Mexico. ECO Herpetological Publishing and Distribution, Rodeo, New Mexico. 688 pp.). I know of no published information on its reproduction. Here, I provide information on the minimum size at maturity for males of *L. pustulosus*.

I examined five *L. pustulosus* males collected from 1972 to 1986 and deposited in the Department of Ecology & Evolutionary Biology, The University of Arizona (UAZ; mean SVL = 59.4 mm  $\pm$  14.76 SD, range: 41–81 mm); UAZ 39217 August (41 mm SVL); UAZ 46083 March (81 mm SVL); UAZ 46084 March (72 mm SVL), all from Sinaloa, Mexico, and UAZ 47011 October (51 mm SVL); UAZ 52541 September (52 mm SVL), both from Sonora, Mexico. All are from within the geographic range of this species given in Rorabaugh and Lemos-Espinal (2016, *op. cit.*). A cut was made in the lower abdominal cavity and the left testis was removed, embedded in paraffin, cut into 5  $\mu$ m sections and stained by Harris hematoxylin followed by eosin counterstain. Histology slides were deposited at UAZ.

Four of the five (51–81 mm SVL) exhibited spermiogenesis in which the seminiferous tubules were lined by spermatozoa. The remaining *L. pustulosus* (UAZ 39217: 41 mm SVL) was a juvenile; seminiferous tubules contained spermatogonia, spermatocytes and a few small clusters of spermatozoa in some seminiferous tubules. Its histology was comparable to that of a juvenile male *Pelophylax lessonae* (Ogielska and Bartmanska 2009. In Ogielska [ed.], Reproduction of Amphibians. pp. 34–99. Science Publishers, Enfield, New Hampshire). In conclusion, my observations indicate the minimum size of mature *L. pustulosus* males is 51 mm. Examination of additional *L. pustulosus* males are needed to further document my findings.

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#### **LITHOBATES SPHENOCEPHALUS (Southern Leopard Frog).**

**DIET.** *Lithobates sphenoccephalus* is a medium-sized ranid with a wide distribution encompassing much of the southeastern United States, from extreme southeast New York through Florida, westward to east-central Texas (Powell et al. 2016. Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America, Fourth Edition. Houghton Mifflin Harcourt, Boston, Massachusetts. 512 pp.). The diet of *L. sphenoccephalus* consists mainly of invertebrates, arthropods, snails, and crayfish (Krysko et al. 2019. Amphibians and Reptiles of Florida, University of Florida Press, Gainesville, Florida. 706 pp.). Larger individuals are known to predate indiscriminately on a wide variety of vertebrates, including fishes, salamanders, and other anurans (Krysko et al. 2019, *op. cit.*; Kilby 1945. Q. J. FLA. Acad. Sci. 8:71–104). However, such instances of anuran predation are infrequently documented and are presumably rare. To the best of our knowledge, this observation represents the first instance of predation on *Eleutherodactylus planirostris* (Greenhouse Frog) by *L. sphenoccephalus*.

On 30 December 2021 at 2207 h, we observed an adult *L. sphenoccephalus* preying upon a non-native *E. planirostris* along the margins of a gravel access road adjacent to Everglades Canal C-111 in Miami-Dade County, Florida, USA (25.59390°N, 80.52858°W; WGS 84). The *E. planirostris* was consumed head-first, with only the posterior half of its body visible (Fig. 1).



FIG. 1. An adult *Lithobates sphenoccephalus* found preying upon an adult *Eleutherodactylus planirostris* in Miami-Dade County, Florida, USA.

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The identity was confirmed on the basis of slender mottled hind limbs, long toes, and lack of webbing with small terminal disks characteristic of *E. planirostris* (Wright and Wright 1949. Handbook of frogs and toads of the United States and Canada. Comstock Publishing Company, Ithaca, New York. 670 pp.). Upon encounter, the *L. sphenoccephalus* was photographed in-situ and left undisturbed after ca. 3 min of observation. This observation, although a single event, provides additional insight on local trophic relations between native and invasive anurans.

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#### **ODONTOPHRYNUS AMERICANUS (Common Lesser Escuerzo).**

**TADPOLE PREDATION.** Anuran tadpoles are frequently preyed upon by a number of invertebrate predators, including dragonfly larvae, aquatic beetles and their larvae, belostomatid bugs, and spiders (Wells 2007. The Ecology and Behavior of Amphibians. University of Chicago Press, Chicago, Illinois. 1148 pp.). During fieldwork, on 20 November 2020, we observed a larva of a water beetle (ca. 52 mm total length) that had captured an *Odonotophrynus americanus* tadpole (Fig. 1A). The predation event occurred at around 2200 h in the margins of a flooded area located between Provincial Route 88 and agricultural crops in the district of Lobería, Buenos Aires, Argentina (38.4746°S, 58.5763°W; WGS 84; 28 m elev.). The tadpole, which was already dead, was at Gosner stage 42 of larval development (Gosner 1960. Herpetologica 16:183–190), although only the left forelimb had emerged. We carefully handled the predator-prey pair to take photographs. The water beetle larva had caught the tadpole by the base of the tail and was holding it firmly. After photographing the specimens, they were released at the site of capture and observed. When the predator stopped feeding, additional photographs were taken (Fig. 1B) that allowed us to identify the predator species as *Megadytes glaucus* (Coleoptera: Dytiscidae) according to the morphological characteristics of the frontoclypeus (Michat 2006. Eur. J. Entomol. 103:831–842).

The larvae of dytiscid beetles are voracious predators that have been described as tadpole predators in several regions of the world (Rubbo et al. 2006. J. Zool. 269:1–5; Wells 2007, *op. cit.*; Ohba and Inantani 2012. Psyche 2012:139714; Zina et al. 2012. Herpetol. Bull. 119:39–41; Larson and Müller 2013. Herpetol.

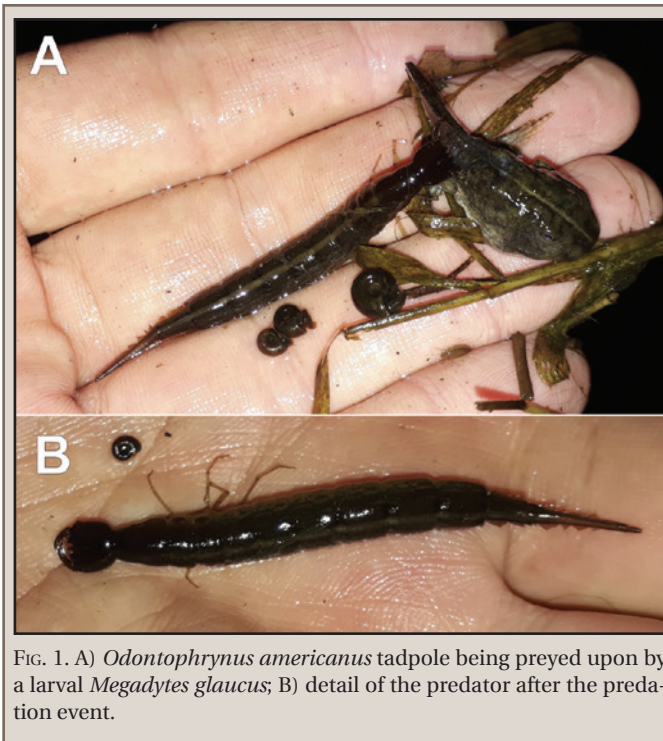


FIG. 1. A) *Odontophrynus americanus* tadpole being preyed upon by a larval *Megadytes glaucus*; B) detail of the predator after the predation event.

Notes 6:361–362; Müller and Brucker 2015. Herpetol. Notes 8:453–454), although these predation events are scarcely documented in South America. *Odontophrynus americanus* occurs in terrestrial and freshwater systems in open grasslands and savannahs from southeastern Brazil to the south of the Pampean region in Argentina (Savage and Cei 1965. Herpetologica 21:178–195), whereas there is scarce information about the geographic distribution of *M. glaucus*, although it is suspected to be broadly distributed in South America (Michat 2006, *op. cit.*). Both species are relatively abundant in temporary and semi-permanent water bodies of the pampas region. The observation we describe here provides important information about predator–prey interactions between anurans and dytiscids in the water bodies of the temperate grasslands of South America.

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**OSTEOPILUS SEPTENTRIONALIS (Cuban Treefrog). DIET.** *Osteopilus septentrionalis* is native to Cuba and the Cayman and Bahama islands and is an established non-native invasive species in Florida (Beard et al. 2017. *In* Pitt et al. [eds.] Ecology and Management of Terrestrial Vertebrate Invasive Species in the U.S., pp. 163–192. CRC Press, Boca Raton, Florida). Dietary studies indicate that the bulk of its prey is invertebrates, including a wide range of beetles, spiders, orthopterans, ants, and roaches (Meshaka. 2001. The Cuban Treefrog in Florida. University Press of Florida. Gainesville, Florida. 224 pp.; Glorioso et al. 2012. Caribb. J. Sci. 46:346–355), although anurans are occasionally consumed (Wyatt and Forsys. 2004. Southeast. Nat. 3:695–700; Glorioso et al. 2012, *op. cit.*). I could find no documentation in the primary literature of



FIG. 1. *Osteopilus septentrionalis* consuming an *Anolis carolinensis*, Gainesville, Florida, USA.

native lizard species identified as confirmed prey in Florida. On 14 April 2019, at 1135 h, I discovered an adult *O. septentrionalis* (ca. 8–9 cm SVL) resting on a dead *Serenoa repens* (Saw Palmetto) leaf in an urban backyard in Gainesville, Alachua County, Florida, USA (29.65494°N, 82.31585°W; WGS 84). The long slender green tail of an *Anolis carolinensis* (Green Anole) was protruding from the frog's mouth (Fig. 1), indicating it had been recently consumed. Judging from the length of the tail, the anole may have been 13–14 cm in total length when eaten. The congener *Anolis sagrei* (Brown Anole) is a documented prey item elsewhere in the Caribbean (Meshaka. 1996. Caribb. J. Sci. 32:187–190).

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**PELOPHRYNE BREVIPES (Zamboanga Fathead Toad). DIET.** Although there are several reports on the diet of bufonids (Battista et al. 2011. Herpetol. Notes 4:17–21; Maragno and Souza 2011. Rev. Mex. Biodivers. 82:879–886; Sabagh et al. 2012. Biota Neotrop. 12:258–262), no published accounts on the diet of *Pelophryne brevipes* have been reported. In the Philippines, information on the diet of bufonids is restricted to *Rhinella marina* (Apayor-Ynot et al. 2017. IJIR 3:640–642; Jabon et al. 2019. Biodiversitas 20:2554–2560; Solania et al. 2019. Environ. Exp. Bot. 16:159–168; Gersava et al. 2020. Biol. Divers. Conserv. 13:1–8; Salo et al. 2022. J. Biores. Manag. 9:11–12). Herein, we provide the first published account of the diet of *P. brevipes* from Mindanao Island, Philippines.

On 26 January 2021, one female adult *P. brevipes* (17.8 mm SVL, 0.3g) was captured in the dipterocarp forest of the Panigan-Tamugan Watershed in Barangay Carmen, Davao City, Philippines (7.12107°N, 125.31205°E; WGS 84; 1454 m elev.). The individual was collected as a voucher specimen (Voucher Code: MDT 0049), and its stomach was removed for content analysis. Gut contents were placed in ethanol, segregated, and categorized into the lowest taxonomic group possible. We collected 14 individual food items from the stomach of *P. brevipes*. Contents were comprised of the orders Coleoptera (Fig. 1A) and Hymenoptera (family Formicidae; Fig. 1B, 1–4). In terms of the formicid prey items, two subfamilies, Myrmicinae (*Tetramorium*