

Chicago Herpetol. Soc. 24:229–238, 13 years, 8 months, 29 days) but survival longevity in nature is poorly known in the genus and unknown in this tropical latitude species. Here we report on three captures (15 May 1998, 8 June 1999, 26 June 2010) of a single female *P. asio* (sequential SVLs, 41, 92, 112 mm and mass, 44, 65, 76 g), whose documented survival was over 12 years, 1 month, and 11 days. This female hatched in November 1997, probably seven months before first being encountered (hatching occurs in November at this location; first SVL is in the range of hatchling sizes; García Pareja 2012. Thesis, Universidad Autónoma de Guerrero, Chilpancingo, México). The longevity of this lizard (about 12 years, 8 months) in the wild allows comparisons with records of longevity for conspecific captives, and with other species of *Phrynosoma*, captive or wild.

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**PHRYNOSOMA CORNUTUM (Texas Horned Lizard). PREY.** Texas Horned Lizards primarily eat harvester ants (mostly *Pogonomyrmex*), but consumption of other invertebrates such as spiders, crickets, and beetles has been recorded (Montanucci, 1989. Herpetologica 45:208–216). Thirty *Phrynosoma cornutum* were collected in July of 2015 at the Gene Howe Wildlife Management Area near Canadian, Texas (35.91296°N, 100.2881°W) and placed into individual containers until they defecated. The samples were dried and individually dissected under a stereomicroscope. They contained large numbers of insects (adult samples 262.13 ± 35.37 SE and juvenile samples 218 ± 32.21 SE). Only ant heads were counted, so reported numbers

should be considered conservative. The mean number of individual common ground beetles (Carabidae) per sample was low (adult samples 7.2 ± 1.49 SE and juvenile samples 2.3 ± 1.66 SE) compared to the mean number of individual ants per sample (adult samples 253.8 ± 34.39 SE and juvenile samples 215.83 ± 110.64 SE). However, carabid remains were found in 83% of the fecal samples obtained from juvenile horned lizards and 100% of adult samples. The diversity of non-ant prey items found in adult horned lizard fecal samples included bees from the family Halictidae (N = 2), *Zygogramma* beetles (N = 5), a single weevil (Curculionioidea), and beetles from the family Histeridae (N = 2). Non-ant prey items from juvenile horned lizard samples were limited to *Zygogramma* beetles (Chrysomelidae) and ground beetles (Carabidae). The most unexpected find was a cluster of Side Oats Gramma seed (*Bouteloua curtipendula*) from an adult male sample. This is most likely incidental consumption, since seeds are a common food of the harvester ant. Our sample represents the first record of these prey items from *P. cornutum* in this region. Representatives of each group of prey items were photographed as vouchers (Fig. 1).

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**SPHAERODACTYLUS NOTATUS (Florida Reef Gecko). ARBOREAL BEHAVIOR.** The diminutive size and cryptic behavior of *Sphaerodactylus notatus* makes *in situ* observation difficult. This species is Florida's only native gecko, and reaches lengths of up to 34 mm (Henderson 2009. Natural History of West Indian Reptiles and Amphibians. University Press of Florida, Gainesville, Florida. 310 pp.). It is described as being primarily terrestrial, mostly found on the ground among leaf litter, and under rocks and logs (Henderson, *op. cit.*) However, communal nests containing *S. notatus* eggs found as high as 2.5 m above the ground under the bark of Australian Pines (*Causarina equisetifolia*) in the Florida Keys suggest *S. notatus* can climb for breeding purposes (Krysko et al. 2003. Amphibia-Reptilia 24:390–396).

At 1556 h on 2 January 2016 in Miami, Florida (25.623°N, 80.310°W; WGS 84), I observed a juvenile (SVL = ca. 18 mm) *S. notatus* crawling from the distal portion of a Sabal Palm frond (*Sabal palmetto*) toward the base of the frond, approximately 3 m above the ground. The portion of the frond on which the gecko was observed was approximately 20 mm wide. I was able to observe the animal at this height because my vantage point from a bridge had placed the frond at roughly waist level. The gecko appeared to be in good health. The area immediately underneath the palm tree was inundated under approximately 0.2 m of water, which may be related to that individual's arboreal behavior. Individuals of *Sphaerodactylus notatus* do compete for terrestrial spaces (Allen et al. 2015. J. Herpetol. 49:165–169), so arboreal habitat possibly represents another space for which competition might occur. This is the first published instance of directly observed arboreality in *S. notatus*.

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**TEIRA DUGESII (Madeiran Wall Lizard). TAIL BIFURCATION.** *Teira dugesii* is a small lacertid lizard inhabiting the Madeira

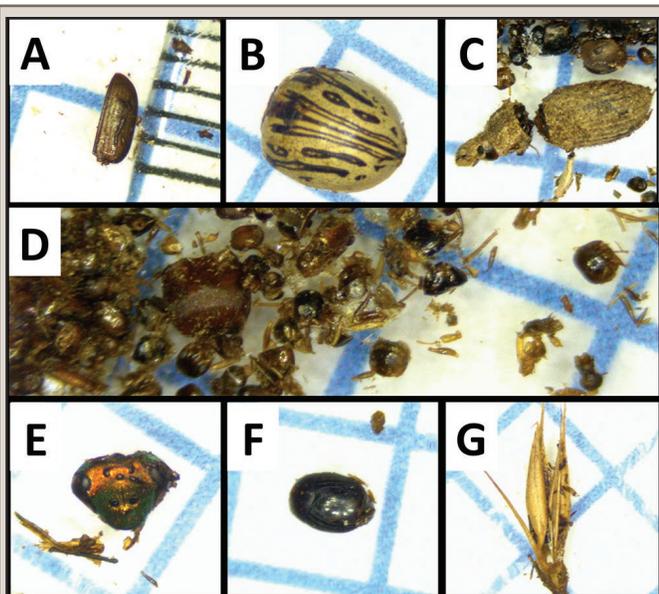


FIG. 1. Representative specimens of *Phrynosoma cornutum* prey including A) ground beetle (Carabidae); B) *Zygogramma* (Chrysomelidae); C) weevil (Curculionioidea); D) *Pogonomyrmex* (Formicidae); E) Halictidae; F) Histeridae; and G) *Bouteloua curtipendula* (Poaceae).

archipelago (Kwet 2009. New Holland European Reptile and Amphibian Guide. New Holland Publishers. 252 pp.), the central part of Lisbon (Sá-Sousa 1995. Amphibia-Reptilia 16:211–214), the Selvagens Islands (Bischoff et al. 1989. Salamandra. 25:237–259), and several islands of the Azore Archipelago (Malkmus 1984. Nachr. Naturwiss. Mus. Aschaffenh. 92:37–69). It uses tail autotomy to avoid predation, an adaptation utilized by many lizard species (Fitch 2003. J. Herpetol. 37:395–399; Pafilis et al. 2009. Evol. 63:1262–1278). However, the loss of a tail might result in a significant disadvantage, e.g., due to loss of nutrients (Smyth 1974. Aust. J. Zool. 22:135–45) or during interspecific competition (Mariappan and Balasundaram 2003. Acta Ethol. 5:89–94). Tail bifurcation might occur as a result of a previous injury (Lynn 1950. Herpetologica 6:81–84). Herein we report a case of tail bifurcation in *T. dugesii*.

At 1700 h on 23 September 2016, we observed an adult male *T. dugesii* with a bifurcated tail in Porto Moniz, Madeira, Portugal (32.8677°N, 17.1688°W; 15 m elev.). The specimen was found on a low concrete wall near a rocky slope by the sea. The lizard, along with > 20 conspecifics (both males and females), was feeding on raisins left behind by tourists. Tail bifurcation of the specimen mentioned above was located approximately 40 mm posterior to the cloaca. Both tails were about the same size (approximately 50 mm). Such cases of “twin tails” have been previously reported (e.g., Mitchell et al. 2012. Herpetol. Rev. 43:650; Cordes and Walker 2013. Herpetol. Rev. 44:319). We suggest that this tail malformation might have been caused by an injury suffered during a predation attempt or more likely (due to the presence of many other individuals on the site) by another individual of the same species during a fight over a female or territory. As far as we know, this is the first record of tail bifurcation in *T. dugesii*.

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**TEIUS TEYOU (Four-toed Tegu). PREDATION.** *Teius teyou* is a medium-sized lizard with a wide distribution in Argentina, specifically in the phytogeographical region of Monte and Chaco Forest (Abdala et al. 2012. Cuad. Herpetol. 26:215–248). Records of predators of this species do not exist; however, these lizards are probably common prey for snakes (Ceí 1993. Reptiles del Noroeste, Nordeste y Este de la Argentina. Herpetofauna de las Selvas Subtropicales, Puna y Pampas. Mus. Reg. Sci. Nat. Torino. 945 pp.). Here we report direct evidence of predation on *T. teyou* by the Red-backed Hawk, *Geranoaetus polyosoma*.

On 7 November 2015, during field work in an arid area of Monte in the locality of Encon, 25 de Mayo, San Juan, Argentina (32°S, 68.02°W, WGS84; 542 m elev.), we observed an individual Red-backed Hawk carrying an adult female *T. teyou*. The event was recorded by photos as the bird was in flight. Previously, saurophagy in *G. polyosoma* was reported (Jiménez 1995. Hornero 14:1–9) but the only specific record was on the Andean lizard *Phymaturus extrillidus* (Pérez et al. 2013. Herpetol. Rev. 44:679). Birds and mammals have also been reported as prey (Figueroa Rojas et al. 2003. Hornero 18:43–52; Baladrón et al. 2014. Nótulas Faunísticas 143:1–5; Morici and Vega 2015. Nótulas Faunísticas

184:1–6). Our record is the first documenting *G. polyosoma* as a predator of *T. teyou*.

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**TROPIDURUS HISPIDUS (Peters' Lava Lizard). ANTIPREDATOR MECHANISMS.** *Tropidurus hispidus* (Squamata, Tropiduridae) is a small lizard species that occurs across South America (Carvalho 2013. Zootaxa 3640:42–56). These lizards may fall prey to other lizards (Sales et al. 2011. Herpetol. Notes 4:265–267; Silva et al. 2013. Herpetol. Notes 6:51–53), snakes (Mesquita et al. 2011. Herpetol. J. 21:193–198; Menezes et al. 2013. Herpetol. Notes 6:55–57; Maia-Carneiro et al. 2016. Neotrop. Biol. Conserv. 11:47–50) and spiders (Vieira et al. 2012. Biota Neotrop. 12:263–265), and thus may display different defensive behaviors for predation avoidance (e.g., immobility, squirreling, and locomotor escape (Díaz-Uriarte 1999. Proc. R. Soc. Lond. B 266:2457–2464; Carneiro and Rocha 2015. Herpetol. Conserv. Biol. 10:661–665). Besides behavioral responses, their morphology also may be useful to hamper or frustrate capture attempts. For instance, the skin of lizards might act for defense through crypsis, aposematism, mimicry, voluntary release of large patches of peel, and by possessing spines (Broom 1981. Biology of Behaviour: Mechanisms, Functions and Applications. Cambridge University Press, Cambridge, UK. 332 pp.; Pianka and Vitt 2006. Lizards: Windows to the Evolution of Diversity. University of California Press, Berkeley, California. 348 pp.; Vitt and Caldwell 2014. Herpetology: An Introductory Biology of Amphibians and Reptiles. Academic Press, London, UK. 776 pp.). Here, we report and discuss a previously unpublished antipredator mechanism for the spiny scales of *T. hispidus* lizards.

Our observations were made while studying the ecology of *T. hispidus* in Igatu (12.88333°S, 41.31666°W), municipality of Andaraí, state of Bahia, northeast Brazil, during January, February and March 2013. Rock outcrops dominated the area with sparse sandy soils covered by undergrowth, herbaceous, and shrubby vegetation and small trees. During the study we frequently sighted *T. hispidus* individuals fleeing into rock crevices upon the investigator's approach. On some occasions, after the lizards were captured (noose technique), they escaped into crevices and anchored on rocks by using their claws and their spiny (mucronate) scales. When in rock crevices, *T. hispidus* individuals sometimes elevated their bodies to touch a portion of the dorsal region to the roof, which clearly increased the contact with rock surfaces and improved the ability to anchor on rocks using their pointed scales. The removal of lizards that displayed this behavior from rock crevices was considerably more difficult given their ability to remain wedged in the rocky surfaces. Besides the dorsum, the scales of the neck, arms, legs, and tail may also facilitate the attachment to rock surfaces. Although we did not quantify how often lizards fled into rock crevices and adopted the posture, several different individuals (which we had marked by body painting and toe clipping) displayed the behaviors. A similar behavior was reported in frogs, where individuals tilted their heads to close their burrows and inflate their bodies into the burrows to avoid predation (Vitt and Caldwell, *op. cit.*).