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*cit.*). SVL and weight were measured with a standard metric tape and an electronic balance. The individuals were photographed *ex-situ* indoors, and euthanized under the permission granted by the pertinent authority. The voucher specimens (Female 1: HEP00916; Female 2: HEP00917; Male 1: HEP00915) were deposited in BORNEENSIS, the Bornean reference collection of the Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah. The two females represent the new maximum SVL for *P. misera*.

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**PHYSALAEMUS GRACILIS (Graceful Dwarf Frog). DEFENSIVE BEHAVIOR.** Many animal lineages independently developed different defensive behaviors in response to the presence of visually oriented predators (Bertolucci et al. 2007. *Alytes*. 25:38–44). Among anurans, defensive behaviors are divided into 30 categories (Toledo et al. 2011. *Ethol. Ecol. Evol.* 23:1–25), among them, the stiff-legged behavior (Sazima 1978. *Biotropica* 10:158). In this type of behavior the animal is motionless, with body flattened and legs stretched out (Costa et al. 2009. *Herpetol. Notes* 2:227–229). This behavior has been little reported anurans, comprising less than 5% of observations (Toledo et al. 2011, *op. cit.*). However, the behavior has been reported in Bufonidae (*Dendrophryniscus leucomystax*, *D. brevipollicatus*, *D. berthaltutzae*), Brachycephalidae (*Euparkerella cochranae*), Cycloramphidae (*Proceratophrys boiei*, *P. appendiculata*, *P. melanopogon*, *Zachaeus parvulus*), Leptodactylidae (*Paratelmatobius poecilogaster*,

*Scythrophrys sawayae*) and Microhylidae (*Arcovomer passarellii*, *Ctenophryne geayi*, *Stereocyclops parkeri*, *S. incrassatus*) (Toledo et al. 2011, *op. cit.*; Tonini et al. 2011. *Herpetol. Notes* 4:435–444). *Physalaemus gracilis* is possibly a complex of more than one species (IUCN 2012. IUCN Red List of Threatened Species. <http://www.iucnredlist.org/amazing-species>). It dwells in forest borders and Cerrado grasslands in Brazil, Paraguay, Uruguay, and Argentina, and is strongly adapted to disturbed and polluted environments (Frost 2011. <http://research.amnh.org/vz/herpetology/amphibia/>; IUCN 2012. IUCN Red List of Threatened Species. <http://www.iucnredlist.org/amazing-species>). On 11 Jan 2010 at 2000 h., we observed defensive behavior by a *P. gracilis* upon capture. After being manually captured and released moments after on the ground, the frog remained still with its legs stretched during more than 3 minutes (Fig. 1). The observation occurred in a temporary pool in an urban street in the town of Xangri-lá, north coast of the state of Rio Grande do Sul, Brazil (29.4712°S, 50.0143°W). Although other kinds of defensive behaviors have been observed in the Leiuperidae (Toledo et al. 2010. *J. Nat. Hist.* 44:1979–1988), our report is the first case of the stiff-legged defensive behavior for this family.

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**RHINELLA SCHNEIDERI (Rococo Toad). BREEDING SITE.** *Rhinella schneideri* is a giant toad (210 mm maximum SVL) occurring in the xeric regions of Bolivia, Argentina, Paraguay, and Brazil (Ceí 1980. *Zool. Ital. Monogr.* 2:1–609). Relatively little information is available on its breeding site associations. In soybean farmlands in Argentina, *R. schneideri* was found to occur around larger ponds that contained high diversity of vegetation along the pond's shore (Peltzer et al. 2006. *Biodiv. Cons.* 15:3499–3513). The association with vegetative structure is likely the result of its reproductive mode; it deposits its eggs in long gelatinous strings that are attached to aquatic plants (Ceí 1980, *op. cit.*; Perotti 1997. *Rev. Chil. His. Nat.* 70:277–288). Observations on the reproductive biology of this species in other parts of its range are lacking. Here we describe a breeding site of *R. schneideri* in the Bolivian Gran Chaco.

While crossing the Parapetí River on 29 January 2011, we heard a chorus of three *R. schneideri* calling from a temporary pond located within the riverbed outside the community of Rancho Viejo, Cordillera Province, Santa Cruz Department, Bolivia (19.44055°S, 62.53694°W; WGS 84). This pond had most likely been formed by the floodwaters of the river, which had receded when we had crossed it. The next day we returned to the pond which was ca. 200 m from the nearest forest cover, and observed hundreds of *R. schneideri* tadpoles swimming within the pond. We did not observe any recently oviposited egg strands. The pond, which lacked both vegetative and woody debris structure, was ca. 13 m long, and 5 m wide with a substrate comprised entirely of sand. We also observed larval odonates (Corduliidae) within the pond.

The breeding site used is not consistent with previous reports documenting *R. schneideri*'s high affinity for breeding ponds with high aquatic and shoreline vegetation, as any sort of habitat structure was absent in this pond. While habitat structure was lacking, the pond's isolation may provide an amenable environment for the tadpoles of *R. schneideri*; the predator abundance and diversity was reduced as compared to other temporary ponds in the



FIG. 1. *Physalaemus gracilis* from Rio Grande do Sul, Brazil displaying the stiff-legged defensive behavior.

region (Schalk, unpubl. data) and there were no other species of tadpoles co-occurring in the pond. Body size is generally positively correlated with vagility in amphibians (Duellman and Trueb 1986. *Biology of Amphibians*. McGraw Hill, New York. 610 pp.), thus the larger bodied *R. schneideri* may be able to make the long forays to these riverbed pools allowing them to exploit these ponds.

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**SCINAX FUSCOVARIUS (Snouted Treefrog). PREDATION.** Vertebrates, invertebrates, and carnivorous plants are commonly documented as predators of anuran eggs, tadpoles, and post-metamorphic individuals (Toledo 2005. *Herpetol. Rev.* 36[4]:395–400). Most predation records by invertebrates upon anurans are credited to representatives of four classes of Arthropoda: Arachnida, Insecta, Crustacea, and Chilopoda (McCormick and Polis 1982. *Biol. Rev.* 57[1]:29–58). In the Neotropical region, spider predation upon frogs is mainly attributed to five spider families (Ctenidae, Pisauridae, Lycosidae, Sparassidae, and Theraphosidae; Menin et al. 2005. *Phyllomedusa* 4[1]:39–47), with the genera *Ctenus*, *Cupiennius*, and *Oligoctenus* (all ctenids) the three most typically documented (reviews in Menin et al. 2005, op. cit.; Toledo 2005, op. cit.). By the year 2009, the genus *Phoneutria*, including the medically important Brazilian ctenid *Phoneutria nigriventer* (Eickstedt 1994. In B. Barravieira [ed.], *Venenos Animais: uma Visão Integrada*, pp.151–172. EPUC, Rio de Janeiro), had not yet been recorded in the literature as an invertebrate predator of frogs (Santana et al. 2009. *Bol. Mus. Biol. Mello Leitão* 26:5965).

Herein, I report the spider *P. nigriventer* preying upon *Scinax fuscovarius*. During a herpetofaunal survey conducted on 30 May 2010 in a riparian forest near the Mogi-Mirim River (municipality of Conchal, state of São Paulo, southeast Brazil), I observed an adult *P. nigriventer* (31.2 mm cephalothorax + abdomen length) capturing an adult *S. fuscovarius* (26.1 mm SVL) on a road (disturbed sandy soil, with some holes and roots mixed

with the ground, for maintenance of a small dirt road), following the edge of the riparian forest 10–15 m distant from the river margin. I observed the scenario just when the spider inserted its chelicerae into the frog's body along the side. The frog attempted to escape but became paralyzed a few minutes later. The predation (Fig. 1) was observed at night (2005 h), during peak activity of both species, in secondary Atlantic Forest (22.273822°S, 47.1866472°W; 579 m elev.). The weather was windy and cloudy; air temperature was 19.2°C; humidity 85.8%. I also observed ca. 30 *S. fuscovarius*, randomly distributed around and near the predation site, although none were heard calling. Approximately 15 *P. nigriventer* were also observed. I observed this event until the moment the spider started to handle the freshly dead frog and to walk in direction to a nearby hole/crevice in the soil, probably its shelter. To ensure vouchers, I then captured both individuals: *S. fuscovarius* was deposited at Coleção de Anfíbios “Célio F. B. Haddad” at UNESP, Rio Claro, Brazil - CFBH 32635, and the spider had been deposited at Butantan Institute, Brazil, but was unfortunately lost in an accidental fire in July 2010. Although this is the first predation record by *P. nigriventer* upon *S. fuscovarius*, considering the nocturnal habits and relatively high local densities for both species, the encounter and predation between these species is likely frequent.

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**SCINAX SQUALIROSTRIS (Striped Snouted Treefrog). PREDATION.** Predation is an important cause of amphibian mortality, and many cases of predation by spiders are found in the literature (Menin et al. 2005. *Phyllomedusa* 4[1]:39–47). The neotropical hylid frog *Scinax squalirostris* occurs from central and southeastern Brazil to northeastern Argentina, including Uruguay and southeastern Paraguay. Herein, we report the predation on this species by a spider. On 22 June 2006, at 2130 h, in the Municipality of Vacaria, State of Rio Grande do Sul, Brazil, a *Phoneutria nigriventer* (Ctenidae) was observed preying on an adult male *Scinax squalirostris* (24 mm SVL) on a 40-cm leaf of *Paspalum exaltatum* (Poaceae) at a permanent pond. The spider (cephalothorax 11.2 mm x 8.3 mm) held the hylid with the chelicerae penetrated into its head, but released it when disturbed. The *P. nigriventer* is deposited in the spider collection of Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul (MCN 42600), and the *S. squalirostris* is deposited in the herpetological collection of Departamento de Zoologia, Universidade Federal do Rio Grande do Sul (UFRGS 5676).

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**SCINAX SQUALIROSTRIS (Striped Snouted Treefrog), SCINAX AROMOTHYELLA. MORBID EMBRACE.** The neotropical hylid *Scinax squalirostris* occurs from central and southeastern Brazil



FIG. 1. *Scinax fuscovarius* being preyed upon by the spider *Phoneutria nigriventer* (Araneae: Ctenidae).

PHOTO BY RAFAEL P. BOVO