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PROCERATOPHRYS SCHIRCHI (Sapo-de-chifres; Smooth Horned Frog). **ANTIPREDATOR BEHAVIOR.** *Proceratophrys schirchi* is a medium (SVL = 39–50 mm) frog endemic to the Atlantic Forest, occurring in Rio de Janeiro, Espírito Santo, Minas Gerais and Bahia states in eastern Brazil (Haddad et al. 2013. Guia de anfibios da Mata Atlântica: Diversidade e Biologia. Editora Anolis Books, São Paulo, São Paulo. 544 pp.). Species of the genus *Proceratophrys* usually inhabit the leaf-litter after the metamorphosis (Giaretta et al. 2000. J. Herpetol. 34:173–178; Kwet and Faivovich 2001. Copeia 2001:203–215). Few studies deal with aspects of the natural history, ecology, and behavior of *Proceratophrys* species.

At 1930 h on 21 May 2016, we captured a male *P. schirchi* at Reserva Biológica Augusto Ruschi, Santa Teresa, Espírito Santo, southeastern Brazil (19.9103°S, 40.5502°W, WGS 84; 650 m elev.). The frog was sitting on top of the leaves (Fig. 1A), and remained motionless until we hand-captured it, it displayed the behavior of thanatosis or death feigning in hand (Fig. 1B). When placed on the ground the individual remained in this position for ca. one minute. After returning it to leaf-litter, the frog displayed stiff-legged behavior (Fig. 1C). This latter behavior was reported for *P. moehringi* (Weygoldt 1986. Zool. Jahrb. Syst. 113:429–454); for *P. appendiculata* (Sazima 1978. Biotropica 10:158); for *P. renalis* (Peixoto et al. 2013. Herpetol. Notes 6:479–430); for *P. boiei* and *P. melanopogon* (Toledo et al. 2010. J. Nat. Hist. 44:1979–1988).

Once captured, the individual was transported in a wet plastic bag to the laboratory. On site, it displayed the behavior of puffing-up the body (Fig. 1D). The same behavior was reported for *P. cristiceps* (Mângia and Garda 2015. Herpetol. Notes 8:11–14). The similarity in behavior between the congeners may be indicative of convergence among leaf-litter anurans (Sazima 1978, *op. cit.*; Garcia 1999. Herpetol. Rev. 30:224).

We report for the first time a detailed repertoire of antipredator mechanisms of *P. schirchi*, contributing to the knowledge on behavioral ecology of this species.

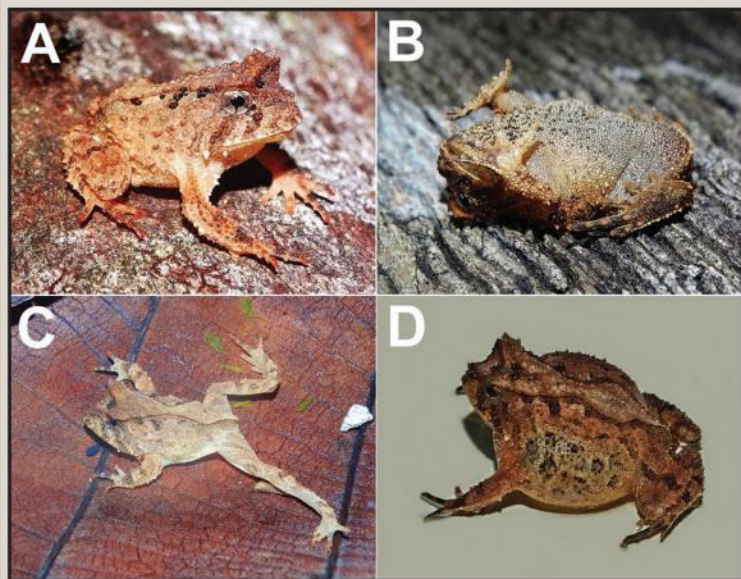


FIG. 1. Antipredator postures of *Proceratophrys schirchi* (MBML9677): A) natural posture; B) thanatosis; C) stiff-legged behavior; and D) puffing-up the body.

The specimen is deposited in the Zoological Collection of Instituto Nacional da Mata Atlântica (MBML 9677; Museu de Biologia Mello Leitão), Santa Teresa, Espírito Santo, Brazil.

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PSEUDIS PLATENSIS. ENDOPARASITES. Three species of the genus *Pseudis* are known to occur in Argentina (Vaira et al. 2012. Cuad. Herpetol. 26:131–159). Tadpoles are large, reaching total lengths of 170 mm (Guzmán and Raffo, 2011. Guía de los anfibios del Parque Nacional y la Reserva Natural El Palmar Otamendi. Administración de Parques Nacionales, Buenos Aires. 104 pp.). In Argentina, *P. platensis* is distributed across Buenos Aires, Chaco, Corrientes, Entre Ríos, Formosa, Santa Fe, Santiago del Estero and Salta Provinces (Vaira et al. 2012, *op. cit.*). *Pseudis platensis* hosts the nematodes *Gyrinicola* sp. (Kehr and Hamann 2003. Herpetol. Rev. 34:336–341), *Spiroxys* sp. (González and Hamann 2010. Brazil. J. Biol. 71:1089–1092), and *Brevimulticaecum* sp. (González and Hamann 2013. Brazil. J. Biol. 73:451–452) from Corrientes Province, Argentina and *Cosmocerca podicipinus*, *Rhabdias* sp., *Brevimulticaecum* sp., and *Physocephalus* sp. (Campião et al. 2010. Parasitol. Res. 106:747–751; Campião et al. 2016. Comp. Parasitol. 83:92–100) from Corumbá, Mato Grosso do Sul, Brazil.

In this note we provide a new host record of *Gyrinicola chabaudi* occurring in *P. platensis*. Six tadpoles of *P. platensis* (mean body length = 101.1 mm \pm 9.0 SD) were collected from Bañado de Viñalito (24.406639°S, 63.02925°W, WGS 84; 218 m elev.), Salta Province, Argentina and deposited in the herpetology collection of the Universidad Nacional de San Juan, San Juan, Argentina as UNSJ 3000. The body cavity was opened by a mid-ventral incision, the digestive tract was removed and its contents examined for helminths using a dissecting microscope. Fifty-three nematodes (21 males, 32 females) were removed and identified as *G. chabaudi*. Infection prevalence (number tadpoles infected/number tadpoles examined \times 100) was 100%; mean intensity (mean number of nematodes per infected tadpole) was 8.83 \pm 4.45 SD, range = 5–16. All of the nematodes were deposited in the Helminthological Collection, Fundación Miguel Lillo as (CH-N-FML 07710).

Gyrinicola chabaudi was described from specimens recovered from the gut of *Leptodactylus ocellatus* tadpoles from Santo Amaro, São Paulo, Brazil (Araujo and Artigas 1982. Mem. Inst. Butantan 44/45:383–390) and *Scinax nasicus* from Corrientes, Argentina (González and Hamann 2005. Facena 21:145–148). The males were found later from the intestine of tadpoles of *S.*

ruber and *Rhinella crucifer* (Souza-Júnior et al. 1991. Rev. Brasil. Biol. 51:585–588). The specimens of *G. chabaudi* (males) identified herein possess the diagnostic characters of this species, especially three pairs of genital papillae: one preanal pair, another postanal, laterally projecting and a third ventral pair located in a short, subulated and coiled tail. In this note, the distribution of *G. chabaudi* is expanded and *P. platensis* is a new host record.

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PSEUDOPHILAUTUS AMBOLI (Amboli Bush Frog). **PREDATION BY TERRESTRIAL BEETLE LARVAE.** Amphibians are important prey for numerous arthropod taxa, including ground beetles (Toledo 2005. Herpetol. Rev. 36:395–399; Bernard and Samolg 2014. Entomol. Fennica 25:157–160). Previous studies have shown that *Epomis* larvae feed exclusively on amphibians and display a unique luring behavior in order to attract their prey (Wizen and Gasith 2011. PLoS ONE 6:e25161). Moreover, the larval mandibles are characterized by two curved “hooks,” a modification for grasping onto the amphibian skin (Brandmayr et al. 2010. Zootaxa 2388:49–58). Published observations of *Epomis* beetles attacking amphibians are scarce, and the majority of our knowledge comes from reports originating in Japan (Crossland et al. 2016. Herpetol. Rev. 47:107–108) or the Middle East (Wizen and Gasith 2011, *op. cit.*). To the best of our knowledge, the only record from India of amphibian predation by *Epomis* reports of a ground-dwelling toad *Duttaphrynus scaber* carrying the beetle larva (Barve and Chaboo 2011. Herpetol. Rev. 42:83–84).

Pseudophilautus amboli is a small endemic frog distributed in the Western Ghats of India. It is known from a few localities only in Maharashtra and Karnataka (<http://research.amnh.org/vz/herpetology/amphibia/Amphibia/Anura/Rhacophoridae/Rhacophorinae/Pseudophilautus/Pseudophilautus-amboli>; 20 Feb 2017). This species is classified as Critically Endangered due to its narrow distribution range, and is threatened by habitat loss and fragmentation (<http://www.iucnredlist.org/details/58910/0>; 2 Jun 2017). Here we report predation of *P. amboli* by *Epomis* larvae in India.

At 2300 h on 22 October 2016, we performed an amphibian survey at Amboli forest, a hilly location on the Northern Western Ghats ridge in Sindhudurg District of Maharashtra, India (15.964681°N, 74.003616°E, WGS 84; 690 m elev.). During our visit we observed several juveniles of *P. amboli*, active on broad leaves in the forest, approximately 20 cm above the ground surface. Upon close inspection, we noticed that five of these specimens (SVL ca. 40 mm) had small beetle larvae attached to their bodies (Fig. 1). GW identified the larvae as *Epomis* sp. based on his work with this genus and its interactions with amphibians. All larvae observed on *P. amboli* were first-instars attached to the throat area, and some had their head embedded deep inside the amphibian's flesh (Fig. 1B). Nevertheless, the frogs were still alive

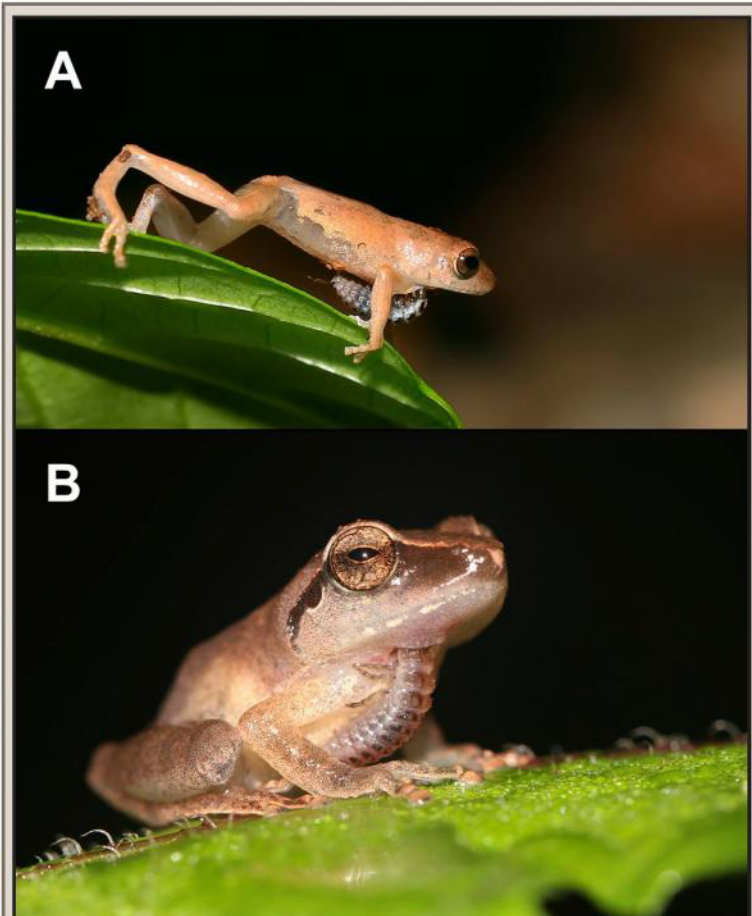


FIG. 1. *Epomis* sp. larvae preying on *Pseudophilautus amboli* in Amboli forest, Sindhudurg District of Maharashtra, India. A) A juvenile *P. amboli* metamorph active on the vegetation with an *Epomis* sp. larva attached to its throat. B) *Epomis* sp. larva with its head embedded in the flesh of *P. amboli*.

and did not show any sign of struggling. They seemed to behave normally and moved about in the vegetation without problems. The amphibians and larvae were not collected.

The infected *P. amboli* may have encountered the *Epomis* larvae on vegetation above the ground surface, similarly to what is reported for *E. nigricans* larvae attacking tree frogs in Japan (Tachikawa 1994. In *Amazing Life of Insects*, Atlas 48th Special Exhibition. Oturu Museum, Oturu. 20 pp.). The location of the larvae on the amphibians' bodies suggests that they enticed the frogs to approach by displaying their characteristic luring behavior (summary in Wizen and Gasith 2011, *op. cit.*). Moreover, because *Epomis* larvae feed exclusively on amphibians in a parasitic manner, the interaction is usually fatal to the amphibian. Our observations serve as evidence for the existence of a stable breeding population of *Epomis* beetles in the area that relies on the frogs as its main food source. This calls for further research to monitor and evaluate the impact of the beetles on the population of the Critically Endangered amphibian.

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RANA BOYLII (Foothill Yellow-legged Frog). **PREDATION.** *Rana boyllii* lives and breeds primarily in perennial stream habitats of