own and seldom reported (Reeder et al. 1998. Environ. Health sp. 106:261–266). Here we describe an unusual condition here- ore unreported for a hylid frog.

On 19 May 2000 we found a calling male *Hyla gratiosa* (49 SVL) at USMC Camp Lejeune, Onslow County, North Caro- (USA) that exhibited a ca. 1 cm diameter mass under the skin he venter. Necropsy revealed that an ca. 3 cm loop of the intes- and the spleen had protruded though a 2.5 x 3 mm hole in the tral mid-line of the body wall and was entrapped within the tral lymphatic sac (Fig. 1). The intestine was moderately di- d but not obstructed. The bilateral fat bodies of this frog were erely atrophied. A filarid parasite occurred in the mesentery at base of the lungs and stomach. Peritonitis was mild to moder- All other internal organs were normal. This frog was one of eral males in a breeding chorus in a large, isolated wetland. Its avior was normal and it was apparently not hindered by the nia. We suspect that the intestinal hernia was a deformity sec- ary to a malformation (hole) in the ventral midline. This her- nay be analogous to umbilical (i.e., yolk sac resorption site of hibians) hernias in humans and other mammals. An intestinal nia is an unusual deformity in frogs.

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A PULCHELLA (NCN). **PREDATION.** Anuran tadpoles and lets are common prey for a variety of invertebrates and verte- s. On 8 Jun 2002 at 1700 h we collected four *Hyla pulchella* oles at a semipermanent pond in Entre Ríos Provinces (31°31'S, 0'W). These *H. pulchella* tadpoles were placed in a semi-natu- ond with water and plants from the collecting locality. This was ca. 22 x 30 cm, pH was 7, and temperature was 15°C. ree live tadpoles (TL 27 mm, Gosner stage = 31, 32) were rved being consumed by juvenile snails, *Pomacea canaliculata* tropoda, Ampullariidae) (mean shell diameter 34.5 mm). The s were positioned 30 cm above the water on detritus, humid and aquatic vegetation, holding a tadpole in the snail's aper- The snails and tadpole prey were photographed after preser- n (Fig. 1). To our knowledge, this is the first report of preda- tion on anuran tadpoles by a snail. However, the diet of *P. canaliculata* is reported to include insects, crustaceans, and fishes (Alonso and Ageitos de Castellanos 1949. Notas del Museo de la Plata. Tomo XIV, N° 115:31–38; Estebenet 1995. The Veliger 38[4]:277–288).

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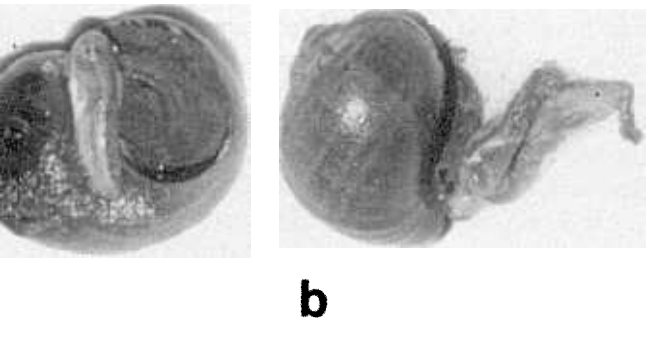

. 1. (a) *Hyla pulchella* tadpole being held by juvenile *Pomacea iculata*; (b) after predation. Bar = 15 mm.

LEPTODACTYLUS CHAQUENSIS (NCN), ***PSEUDIS PARADOXA*** (Paradox Frog), and ***PHRYNOHYAS VENULOSA*** (Veined Treefrog). **PREDATION.** Snakes are often referred to as important predators of frogs, mainly in the tropics (Vitt and Vangilder 1983. Amphibia-Reptilia 4:273–296). Nevertheless, predatory events in nature are rarely observed and published (Martins et al. 1993. Amphibia-Reptilia 14:307–309). Furthermore, among vertebrate predators of frogs, birds are generally reported preying on tadpoles (McAlpine et al. 2001. Herpetol. Rev. 32:183–184; Castanho 2001. Herpetol. Rev. 32:103). Birds that prey on adult frogs are less documented (Brodie and Nussbaum 1987. Herpetol. Rev. 18:8–9; Master 1998. Herpetol. Rev. 29:164–165). Herein I describe predation on different species of frogs by a heron and two snake species observed during fieldwork in southern Pantanal. The observations were made at Base de Estudos do Pantanal/UFMS (19°34'S, 57°00'W), municipality of Corumbá, State of Mato Grosso do Sul, southwestern Brazil.

On two occasions I observed a rufescent tiger heron, *Tigrisoma lineatum* (Ardeidae), preying upon adult frogs at the edge of ponds during the day. On 13 Nov 2000 at 1630 h, a paradox frog, *Pseudis paradoxa*, was observed being preyed upon by the heron, and half an hour later another frog, *Leptodactylus chaquensis*, was also taken. On 13 Jan 2002, another *L. chaquensis* was observed being preyed upon by the heron. In all cases the frogs were partially submerged, and the birds were motionless searching for prey in the water. The Pantanal is rich in ponds that are used as foraging sites by many species of wading birds, thus any Ciconiiformes could represent important predators of adult frogs.

On 21 Nov 1997 at 2140 h, a colubrid snake, *Clelia bicolor*, was observed constricting a juvenile *L. chaquensis* at the edge of a flooded area. On 10 Jan 2002 at 1500 h, a green parrot snake, *Leptophis ahaetulla*, was observed preying upon an adult veined treefrog (female, 77 mm SVL), *Phrynohyas venulosa*. The distress call emitted by the frog called my attention, and I found the snake on a shrub in a flooded gallery forest, about 1.0 m above the water, head-down, and holding the frog with its jaws by the lateral portion of the frog's head. The treefrog remained motionless, secreting the white glue-like skin secretion, which was already spread on the snake's snout. At 1528 h, the snake had finished ingestion of the treefrog, and upon my approach, the snake immediately released the frog, that fled away swimming. The snake disappeared climbing the shrubs and trees. The treefrog was collected to be measured, and seemed to be dying, but one hour later was in good shape, and was released near the same site. Approximately one hour later, the snake returned to exactly the same branch of the

shrub, and seemed to be looking for the lost prey.

The peculiar milky and sticky skin secretion produced by *P. venulosa* is considered to be toxic (Gallardo 1987. Anfíbios Argentinos: Guía para su Identificación. Libreria Agropecuaria S.A., Buenos Aires, Argentina. 98 pp.), and it is suggested that these secretions might have a defensive function against predators (e.g., McDiarmid 1968. Los Angeles County Mus. Contrib. Sci. 134:1–25; Duellman 1970. Monogr. Mus. Nat. Hist., Univ. Kansas [1]:xi + 753 pp.). Furthermore, the rubbery viscosity of the skin secretion was described as preventing snake predation on the veined treefrog by acting as a glue (Leary and Razafindratsita 1998. Amphibia-Reptilia 19:442–446; Manzanilla et al. 1998. Herpetol. Rev. 29:39–40). But the behavior of *L. ahaetulla* described here, returning to the same site, is evidence that this snake could be an important predator of *P. venulosa*, at least in the Pantanal, despite the frog's sticky and alleged toxic secretion. The treefrog's behavior—immobility during ingestion—could also be an important secondary defense, diminishing risks of injury and increasing the survival chance in the case of being regurgitated by the snake.

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LEPTODACTYLUS OCELLATUS (Rã Manteiga). **PREDATION.** On 15 October 2001 at 1035 h we observed natural predation by *Buteo magnirostris* (Roadside Hawk: Falconiformes: Acciptridae) on an adult *L. ocellatus* (Centro de Estudos e Pesquisal Biológicas - CEPB 6738 - femur: 50.8 mm; tibia: 56.6 mm; tarsus: 29.3 mm) on an unvegetated bank of the Uruguai River (27°30'02"S, 51°47'50"W), municipality of Machadinho, in the state of Rio Grande do Sul, Brazil. This observation is the first report of avian predation on *L. ocellatus*.

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PHYLLOMEDUSA SAUVAGII (Painted-belly Leaf Frog) **PHYSICAL COMBAT.** *Phyllomedusa sauvagii* is one of six species that belong to the poorly-defined *tarsius* group and is one of the most distinct species of *Phyllomedusa* (Cannatella 1980. Occ. Pap. Mus. Nat. Hist. Univ. Kansas 87:1–40). On 2100 h we observed an interaction between tw 84.5 mm and 87.2 mm) in a temporary pond (Ser Assentamento Canaã, 20°41'32.3"S; 56°44'34.3 Municipality, Mato Grosso do Sul, Brazil). The s vocalizing from the top of a shrub, and the big toward the shrub while emitting a different typ larger male climbed to the top of the shrub and v two males engaged in physical combat. The mo males were slow as each one tried to grab the hea other by flinging its arms and legs. The two clutch that their bellies remained in contact, but at the one was trying to extricate itself from the other. suspended in the air for 10 min with only their fe vertical stem of the shrub, while they were fight different sounds. Finally, the larger male manage smaller one into the pond. The larger male assu the top of the shrub where the smaller male had b vocalize within 5 minutes. The two individuals w deposited in the Zoological Collection at the U eral de Mato Groso do Sul (ZUFMS 0508). Al accounts of visual displays in this species (Hall 1999–2000. Herpetol. Nat. Hist. 7:175–180) and *Phyllomedusa* (*P. distincta,* Castanho, unpubl. dat C. F. B. Haddad, pers. comm.), no visual displa in this encounter. There is a report of territorial be cal encounter between two male *P. hypochondri* 2000. Herpetol. Rev. 31:84–86) similar to that re *P. sauvagii*.

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PHYSALAEMUS* CF. *FUSCOMACULATUS (**TION.** Several groups of birds prey upon p anurans (Duellman and Trueb. 1994. Biology of A Hopkins Univ. Press. 670 pp.). *Physalaemus* cf (Leptodactylidae) is found in open vegetation in s and reproduces during the rainy season (Rossa-Fe Rev. Brasil de Zool.18:439–454). On 26 Nov 2 de Caça e Pesca Itororó de Uberlândia municipali Gerais, Brazil, we observed an adult female (be *fuscomaculatus* (36 mm SVL) being preyed u Cuckoo" (*Guira guira*; Cuculidae; Aves) (Fig. the interior right portion of its mouth broken a posed. This observation is the first report of p *fuscomaculatus* by a bird and the second of an an

The specimen of *P.* cf. *fuscomaculatus* (AA deposited at the Museu de Biodiversidade do Universidade Federal de Uberlândia, Minas Ge

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