



FIG. 1. Tadpoles of *Elachistocleis* sp. (A) and *Scinax curicica* (B) with bifurcated tails.

obtained that had bifurcated tails: one microhylid, *Elachistocleis* sp. (Fig. 1A) and four hylids, *Bokermannohyla saxicola* (ZUEC 15451), *Scinax curicica* (ZUEC 15575; Fig. 1B), *S. squalirostris* (ZUEC 15452), and *Trachycephalus mesophaeus* (ZUEC 16252). The microhylid and the first three hylids were collected at Serra do Cipó, municipality of Jaboticatubas, state of Minas Gerais, SE Brazil, whereas the fourth hylid was collected in the municipality of Ubatuba, state of São Paulo, SE Brazil. These specimens are in the Amphibian Collection of the Museu de Zoologia “Prof. Adão José Cardoso” (ZUEC), Universidade Estadual de Campinas, Campinas, Brazil. The swimming ability of the fork-tailed tadpoles apparently was unaffected or little affected by the malformation, although the mid-water hovering tadpole of *S. curicica* might be hampered in its foraging (I. Sazima, pers. comm.).

This type of malformation (forked tail) has been classified as superficial as it may be the result of healed injuries (Morgan 1990, *op cit.*; USFWS 1999, *op cit.*). However, we cannot rule out the possibility of the influence of one or multiple environmental contaminants for the *T. mesophaeus* tadpole, as it was collected in a drainage ditch. The remaining tadpoles were collected in relatively pristine habitats.

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**BUFO DEBILIS** (Green Toad). **MORTALITY.** Little is known about the negative fitness costs of reproduction on amphibians in arid regions. Herein we document a mass anuran mortality event of unknown cause(s), consisting mainly of *Bufo debilis* but also including other bufonids and pelobatids.

We sampled Chihuahuan Desert wetlands on Bureau of Land Management land for water parameters during July 2009. We found a large number of dead bufonid and pelobatid anurans at a desert playa that has an earthen cattle tank excavated within its perimeter (UTM 13S 0317867, 3565407; NAD 27). Monsoonal rains had elicited a breeding event during 4–5 July 2009, and an additional rain on 10–11 July likely prolonged the breeding event. *Bufo debilis* were present the first evening after the rain, but were not calling with the rest of the chorus. We returned on 14 July and found a large number of dead *B. debilis*, *B. cognatus*, *Scaphiopus couchii*, *Spea bombifrons*, and *Sp. multiplicata*. We then formally surveyed for bodies 15 July 2009 walking transects across the wetland and being meticulous to not double-count individuals. Carcasses appeared to be distributed randomly along the shore and around grass clumps in the water. There were likely more individuals initially dead on the upland surrounding the playa, but we sampled several days after the rain event and many, if not most, of the dead individuals on land were likely eaten or carried away. We searched the wetland (140 m x 80 m) and found 21 *B. debilis*, two *B. cognatus*, and three unidentified pelobatids dead, floating around the edges of the wetland and adjacent to grass clumps within the wetland. We had two carcasses (*B. cognatus* and *S. couchii*) tested for the presence of *Batrachochytrium dendrobatidis* (*Bd*) using PCR at Texas Tech University. Swabs were taken from the toes, and dorsal and ventral surfaces of each frog. No evidence of *Bd* infection was found. However, it should be noted that the sample size was small and the individuals sampled were degrading by the time we collected them in the field.

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**BUFO TERRESTRIS** (Southern Toad). **PREDATION.** While conducting a road survey at ca. 2100 h on 3 July 2009 in Okaloosa Co., Florida (USA), we encountered a juvenile Black-crowned Night-Heron, *Nycticorax nycticorax*, walking along a dirt road. The bird was apparently using the road as a foraging corridor and feeding on toads and other prey items. As we watched, the heron captured and began to consume a *Bufo terrestris*. We were unable to determine if the heron would have ingested the toad

as all parties were startled by the appearance of an individual in the course of a military exercise. Approximately 45 minutes later we encountered what was likely another juvenile Black-crowned Night-Heron also foraging on the road. We observed the bird capture and consume another toad; likely a *B. terrestris* although we were unable to confirm identification due to the small size of the toad. Our observations indicate that Black-crowned Night-Herons are predators of *B. terrestris* and roads may facilitate avian predation on anurans.

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**CHIROMANTIS VITTATUS** (Burmese Bushfrog). **COLORATION.** *Chiromantis vittatus* is a small rhacophorid frog distributed from northeastern India, Myanmar, Thailand, Laos, Cambodia, and Vietnam and southern China (Frost 2009. Amphibian Species of the World: an Online Reference. Version 5.3 <http://research.amnh.org/herpetology/amphibia/>). The typical dorsal color pattern of *C. vittatus* is yellowish to violet brown, with a series of indistinct violet brown stripes or spots (Bourret 1942. Les Batraciens de l'Indochine. Hanoi, l'Institut Océanographique de L'Indochina, Hanoi. 547 pp.; Taylor 1962. The Amphibian Fauna of Thailand. Univ. Kansas Sci. Bull. 43:267–599; pers. obs.). During amphibian surveys in Prey Long, Kratie Province, Cambodia (13.074817°N, 105.807267°E; 166 m elev.), we observed a single male *C. vittatus* displaying a striking pale yellow dorsum with distinct, dark brown reticulations on all dorsal surfaces with the exception of pale yellow lateral stripes (Fig. 1, AM R 171914). Although the species displayed some color variation at Prey Long, with some individuals being uniformly pale brown or yellow and some displaying stripes or faint reticulations, of several hundred individuals observed at the site, this was the only individual displaying such distinct and unusual coloration. As such, this coloration is likely a random mutation, and not a color variant.



Fig. 1. *Chiromantis vittatus* with typical dorsal coloration (left) and unusual dorsal coloration (right), Kratie Province, Cambodia.

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**DENDROPSOPHUS MINUTUS** (Lesser Treefrog). **PREDATION.** Numerous authors have reported the predation of tadpoles and adult anurans principally by snakes, leeches, insects, and spiders (Toledo 2005. Herpetol. Rev. 36:395–400). *Dendropsophus minutus* is a small, nocturnal, and common hylid treefrog distributed widely in South America (Frost 2007. <http://research.amnh.org/herpetology/amphibia/>). On 22 Sept 2001 we found a young female spider, *Ancylometes concolor* (Ctenidae) capturing and eating an adult *D. minutus* in vegetation around the margin of an artificial pond at Sucupira Experimental Farm/EMBRAPA (15.52°S, 48.00°W), located southwest of Brasília, Brazil in a core area of Cerrado biome. Spiders of the genus *Ancylometes* are reported to prey on *D. minutus* in the Amazonian region (Bernarde et al. 1999. Biociências 7:199–203; Menin et al. 2005. Phyllomedusa 4:39–47) but this is the first report of such predation in the Cerrado biome. The spider was deposited in the Coleção de Aracnídeos da Universidade de Brasília, Brasília, Brazil (DZUB 1289).

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**HYLA CINEREA** (Green Treefrog). **MORPHOLOGY.** In most anurans mate attraction is facilitated by acoustic communication, and males have an elastic vocal sac that inflates and deflates with each call (Duellman and Trueb 1994. Biology of Amphibians. John Hopkins Univ. Press, Baltimore, Maryland). This vocal sac can sometimes be damaged or deformed, often with catastrophic consequences for the affected male (McCallum et al. 2001. Herpetol. Rev. 32:248–249).

On 14 June 2009 we captured an amplexed pair of *Hyla cinerea* at a pond at Beechwood Fish Hatchery in central Louisiana. The male had a vocal sac that was stuck half inflated, and had an additional large, air-filled “hump” on his back that extended all the way from the head to the vent (Fig 1). After separating the male from the female, he began to produce several advertisement calls. The male stopped calling before call recordings for detailed acoustic analysis could be obtained, but to an experienced observer, the calls did not sound different from calls produced by frogs with normal vocal sacs. The male did not seem to suffer major negative consequences despite the extent of the deformity. His movements seemed relatively unimpaired by the extended vocal and dorsal sacs, and he was in good body condition, suggesting that he was capable of catching prey and feeding