38–39 (Gosner 1960. Herpetologica 16:183–190).

Tooth row formula for most of these tadpoles is 3/4 (3 upper rows and 4 lower). Two tadpoles have 3/3 tooth rows, but one seems to have partially broken mouthparts.

These tadpoles were in a 6 × 7 m pool in bedrock, 30 cm deep, located 60 m from the St.-Lawrence River. It was bordered with Black Crowberry (*Empetrum nigrum*) and Leatherleaf (*Chamaedaphne calyculata*). The water was salty, with a marine fauna: Blue Mussel (*Mytilus edulis*), Steamer Clam (*Mya arenaria*), Periwinkle (*Littorina* sp.), Sandworm (*Nereis virens*), and barnacle (*Balanus* sp.). Coniferous forest was about 100 m N of the pool.

The major interest in this discovery is to understand why these northern shore line Wood Frog tadpoles are so big: has their growth been enhanced or their metamorphosis inhibited? It seems likely that the pool would have frozen solid during the winter, so they might have grown to this exceptional size in the two months since the breeding season.

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RANA SYLVATICA (Wood Frog). **CHYTRIDIOMYCOSIS.** The chytrid fungus, *Batrachochytrium dendrobatidis* (BD), has been implicated in mass amphibian mortalities and global population declines (Berger et al. 1998. Proc. Natl. Acad. Sci. 95:9031–9036; Pounds et al. 2006. Nature 439:161–167). On 25 July 2002, a dead subadult male *Rana sylvatica* (26 mm SVL; 1.8 g body weight after ethanol fixation) was collected near a pond on the Kenai National Wildlife Refuge, Alaska, USA (60.62741°N, 150.81557°W, WGS 84). The frog was preserved in ethanol and shipped to the U.S. Geological Survey, National Wildlife Health Center (NWHC) in Madison, Wisconsin, USA. A whole-body radiograph of the specimen showed a normal musculoskeletal system with a paucity of calcium carbonate in the paravertebral endolymphatic sacs. Histological sections of two hindlimb digits and ventral skin (pelvic patch area) showed mild hyperkeratosis of the epidermis with numerous 6–12 µ diameter empty chytrid thalli within keratinized cells of the *stratum corneum*. These epidermal lesions were diagnosed as mycotic hyperkeratotic epidermitis due to infection by BD. On 18 July 2002, five dead tadpoles were observed at this site but not submitted for disease diagnosis. Calling adult Wood Frogs, egg masses, or tadpoles were detected in 18 of 26 site visits during 2000–2005, and live frogs were documented at the site each year. This site borders a gravel road. There are no reptiles or fish at this site. No other species of amphibian has been detected on the Kenai Refuge during surveys of >100 ponds during 2000–2005. Waders and nets are disinfected with 5% bleach solution between sites. This is the first report of a BD-infected frog from Alaska. The effects of BD at such a high northern latitude, and on this population, are unknown. The specimen is stored in ethanol at the National Wildlife Health Center (Case #4848-041).

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RANA YAVAPAIENSIS (Lowland Leopard Frog). **EGG AND TADPOLE PREDATION.** Ranid frogs in the western United States have been disproportionally affected by amphibian declines (Bradford 2005. *In* M. Lannoo [ed.], Amphibian Declines: The Conservation Status of United States Species, pp. 916–925. Univ. California Press, Berkeley). Among the many causative agents for these declines, predation by non-native fishes has been strongly implicated, especially in naturally fish depauperate areas (Bradford 2005, *op. cit.*). However, first-hand descriptions of egg predation by introduced fish have rarely been reported. Here, I describe predation on a *Rana yavapaiensis* egg mass by non-native catfish in southern Arizona.

On 20 August 2002, I watched two *Ameiurus melas* (Black Bullhead; Deborah Sebesta, USFS District Biologist, Coronado National Forest, pers. comm.), each ca. 25–35 cm long, prey upon a *R. yavapaiensis* egg mass. The egg mass was located within 5–10 cm of the water's surface, ca. 2.5 m from the creek shore, in water 1.0–1.5 m deep, in a slow moving oxbow of Peck Canyon in southern Arizona (31°29'N, 111°04'W). The substrate was coarse sand and gravel. The eggs were just hatching, Gosner Stages 20–25 (Gosner 1960. Herpetologica 16:183–190), and the hatchling tadpoles were still in a tight aggregation around or within the egg mass. The fish repeatedly swam through the egg mass with mouths open, turning around for another run after passing beyond the eggs by 10–30 cm. The possibility exists that the eggs were of *R. chiricahuensis*, also recorded from the general area. However, on this day hundreds of *R. yavapaiensis* metamorphs were observed, with no *R. chiricahuensis* documented from this length of the canyon (unpubl. data).

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RHACOPHORUS KAJAU (White-eared Tree Frog). **FOOT FLAGGING.** A population of *Rhacophorus kajau* occurs at Kubah National Park (01°33'N, 110°12'E), Matang, Sarawak, Malaysia (Borneo). While being photographed *ex-situ* indoors on 11 Dec 2005 and 22 Jan 2006, two adult males exhibited a behavior previously unreported in this species. While keeping the forelimbs planted on the substratum (in both cases, green leaves), the hind limbs were extended upward, and turned counter-clockwise at the level of the knee, with the undersurfaces of the shanks and sole touching the posterior of the dorsum of the body (Fig. 1). The entire action was performed in under 1 sec. Males of *R. kajau* are typically found in social groups of up to five in the wild. We suggest that the behavior, exhibited under stress such as handling associated with photography or the bright light from a flash, simulates the behavior, and is a warning to conspecifics, when the pale undersurfaces of limbs, black webbing, and/or the typically con-

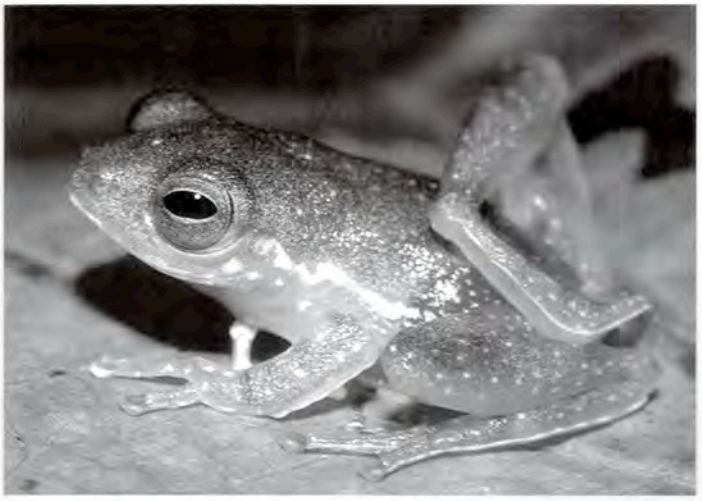

FIG. 1. Foot-flagging in *Rhacophorus kajau*, showing a hind limb turned counter-clockwise at the level of the knee.

cealed orange-colored trailing edges of the thighs are briefly exposed. Other examples of foot flagging reported in anuran amphibians (e.g., Hödl and Amézquita 2001. *In* M. J. Ryan [ed.], Anuran Communication, pp. 121–141. Smithsonian Institution Press, Washington, D.C. and London; Malhotra and Davis 1991. J. Bombay Nat. Hist. Soc. 88:157–166; Davison 1984. Sarawak Mus. J. 33:177–178) are associated with reproduction.

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SCINAX ALCATRAZ (Alcatraz Snouted Treefrog). **PREDATION.** *Scinax alcatraz* is endemic to Ilha dos Alcatrazes and listed as critically threatened by IUCN (2004. Guidelines for protected area management categories). The natural history of this species has not been studied in detail. Here we describe the first report of *S. alcatraz* predation by a spider. The observations were made at Ilha dos Alcatrazes, an island of 135 ha located 35 km off the coast of São Paulo State, Brazil (24°06'S, 45°42'W). On 22 Nov 2005 at 2230 h, we observed an immature Wandering Spider (*Oligoctenus medius*; Ctenidae) preying on an adult male *S. alcatraz* (23.8 mm SVL) on a bromeliad leaf. At the moment of the observation, the spider was biting the middle section of the treefrog's thigh (Fig.1). The frog was alive but motionless with legs extended. We captured the prey and predator separately. In a few hours, the treefrog was dead. Our observation corroborates

FIG. 1. Adult male *Scinax alcatraz* being captured and envenomated by an immature Wandering Spider on Ilha dos Alcatrazes, Brazil.

studies suggesting that spiders may be important predators of frogs (Hayes 1983. Biotropica 15[1]:74–76). The specimen of *S. alcatraz* is deposited at Coleção de Anfíbios, Departamento de Zoologia, UNESP – Campus Rio Claro, Brazil (accession number CFBH 10463). The specimen of *O. medius* is deposited at Coleção de Aranhas, Instituto Butantan, São Paulo, Brazil (accession number IBSP 59750).

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THOROPA MILIARIS (Rock River Frog). **TADPOLE PREDATION.** Anurans are preyed upon by several types of invertebrates (Hinshaw and Sullivan 1990. J. Herpetol. 24:196–197; Marra et al. 2003. Herpetol. Rev. 34:55–56; Peltzer and Lajmanovich 2003. Herpetol. Rev. 34:231; Tsuji 2005. Herpetol. Rev. 36:125–127). Information is available on insects as predators of both adult (Haddad and Bastos 1997. Amphibia-Reptilia 18:295–298; Brasileiro et al. 2003. Herpetol. Rev. 34:137; Toledo 2003. Phyllomedusa 2:105–108) and tadpole (Azevedo-Ramos et al. 1992. J. Herpetol. 26:335–338; Hero et al. 1998. Austr. J. Ecol. 23:474–482; Azevedo-Ramos and Magnusson 1999. Copeia 1999:58–67; Eterovick and Sazima 2000. Amphibia-Reptilia 21:439–461) anurans in Brazil. The nocturnal frog *Thoropa miliaris* is a leptodactylid endemic to the Brazilian Atlantic Rainforest