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FIG. 1. *Butorides virescens* attempting to consume an adult *Rana chiricahuensis*, Peña Blanca Lake, Santa Cruz County, Arizona.

Gartersnake) (Rosen and Schwalbe 1988. Report from Arizona Game and Fish Department to U.S. Fish and Wildlife Service, Albuquerque, New Mexico), and *Kinosternon sonoriense* (Sonora Mud Turtle) (Zarlingo et al. 2020. Herpetol. Rev. 51:108–109). Although the Chiricahua leopard frog recovery plan (USFWS 2007. U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico) highlighted the possibility of avian predators, especially herons, none were documented. Herein, we report an unsuccessful attempt by a *Butorides virescens* (Green Heron) to consume a *R. chiricahuensis*.

On 29 September 2009, following the draining of Peña Blanca Lake, Santa Cruz County, Arizona, USA (31.40078°N, 111.08795°W; WGS 84; 1169 m elev.), we were surveying for native leopard frogs (*R. chiricahuensis*, *R. yavapaiensis*) at a site in the lakebed where below-ground seepage had formed a large, shallow pool. Although we could see frogs in the water and a *B. virescens* foraging on the edge of the pool, the lighting was poor and we temporarily discontinued our survey. We returned three hours later and the *B. virescens* was still within ca. 1 m of its earlier location. At 1412 h, we saw that the *B. virescens* had captured a large adult *R. chiricahuensis* (Fig. 1). The predation attempt lasted ca. 5 min, before the frog, using its front and hind limbs to push against the base of the heron's bill, managed to free itself. As far as we could tell, the *B. virescens* made no attempt to recapture the frog. We used photographs, to estimate the approximate size of the *R. chiricahuensis* based on known bill lengths of *B. virescens* (Bayer 1985. Colonial Waterbirds 8:104–109), which suggested the frog was ca. 58–79 mm SVL. Although ranid frogs can sometimes comprise a significant portion of the diet of *B. virescens* (Recher and Recher 1980. Trans. Linn. Soc. NY 9:135–158), in general frogs are not particularly common food items (Davis and Kushlan 1994. *In* Poole and Gill [eds.], The Birds of North America, No. 129. The American Ornithologists' Union and The Academy of Natural Sciences of Philadelphia, Philadelphia, Pennsylvania).

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***RANA DRAYTONII* (California Red-legged Frog). DIET.** *Rana draytonii* is listed as a federally threatened species, with habitat loss and fragmentation, introduced species, and climate change

FIG. 1. *Rana draytonii* with the hind foot and tail of a *Microtus californicus* protruding from its mouth in California, USA.

attributed to their decline (Jennings and Hayes 1994. Amphibian and reptile species of special concern in California. Special Report to California Department of Fish and Game, Inland Fisheries Division. 255 pp.; Fellers and Kleeman 2006. J. Wild. Manage. 70:1805–1808). Much of the previous research on this species has focused on pond breeding habitats, yet radiotelemetry studies indicate that *R. draytonii* spend much of their lives in terrestrial sites (Bulger et al. 2003. Biol. Conserv. 110:85–95; Fellers and Kleeman 2007. J. Herpetol. 41:276–286; Tatarian 2008. Herpetol. Conserv. Bio. 3:155–169). Hayes et al. (2006. Herpetol. Rev. 37:449) postulated that *R. draytonii* may spend time in the uplands to forage for terrestrial prey, although few studies have documented specific prey sources (Hayes et al. 2006, *op. cit.*; Stitt and Seltenrich 2010. Herpetol. Rev. 41:206; Bishop et al. 2014. J. Herpetol. 48:137–143). Hayes et al. (2006, *op. cit.*) suggested that on the rare occasion when small mammals have been discovered among stomach contents of female *R. draytonii*, that such large, calorically rich prey is more likely to be captured by females because they attain a larger overall size than males. Herein, we describe an incident whereby a female *R. draytonii* of moderate size captured and consumed a live *Microtus californicus* (California Vole).

On 19 July 2021 at ca. 2230 h, we were conducting a nocturnal anuran survey along Copeland Creek on the Mitsui Ranch in Sonoma County, California, USA (38.33106°N, 122.57701°W; WGS 84). While scanning Surber Pool with the aid of a headlamp, a single frog was observed just out of the water on the bank. Upon approaching this *R. draytonii* for hand capture, the tail and hind feet of an adult *M. californicus* were observed protruding from the *R. draytonii*'s mouth (Fig. 1). The *R. draytonii* made little progress ingesting the animal during the 10 min it was observed, gaping more than once in an effort to ingest the remainder of the vole. We returned to the pool three days later and caught the same individual frog (identified by a subdermal Passive Integrated Transponder and individual spot pattern recognition), at which time the frog appeared to have completely ingested the *M. californicus* without observable complications.

Generally, frogs are gape-limited predators that feed limited only by prey size (Pyke 1984. Ann. Rev. Ecol. Sys. 15:523–575).

Hayes et al. (2006, *op. cit.*) speculated that the ability of *R. draytonii* to prey on small mammals (e.g., *Peromyscus, Microtus,* and *Reithrodontomys*) was conferred on larger females, with SVL measuring 117–128 mm. However, among more than 200 female *R. draytonii* captured on the Mitsui Ranch over a 4-year period, only 11 (<5%) were within the 117–128 SVL range (JTW, unpubl. data), making the size range reported by Hayes (2006, *op. cit.*) a small portion of adult females in this population. The female we observed consuming the *M. californicus* was only 68 mm SVL and 35 g, with a gape (measured across the skull at the outer margin of the jaw hinges) of 26 mm.

Predator-prey interactions are seldom observed in the field (Major 1990. Ibis 132:608–612; Van Vuren 2001. Am. Midl. Nat. 145:94–100). Thus, prey information for *R. draytonii* comes primarily from analysis *post facto* (i.e., museum specimens, stomach-flushing of live animals; see Bishop et al. 2014, *op. cit.*). The fortune of witnessing this predation event provides direct evidence that capture of small mammals by *R. draytonii* is not conferred only upon large females, and leaves open the likelihood that frogs of any size (or gender) prey on small mammals opportunistically, based on their gape limitations. The size of the vole consumed in this observation is unknown, but it seems clear that developing *R. draytonii* achieve a minimum threshold in size (and gape) after which they are capable of capturing and consuming small mammals. Small mammals are energetically beneficial prey for frogs because of their large size and caloric content (Bishop et al. 2014, *op. cit.*). Rapid growth confers advantages to developing frogs such as decreased risk of predation (Duellman and Trueb 1986. Biology of Amphibians. McGraw-Hill, New York, New York. 670 pp.), and faster time to sexual reproduction, which may be important for colonizing new habitats (Lodge 1993. Trends Ecol. Evol. 8:133–137). This observation supports the assertion of Hayes et al. (2006, *op. cit.*) that *R. draytonii* consuming terrestrial prey indicates the need to protect and appropriately manage terrestrial habitats of this species in addition to aquatic and breeding habitats.

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***RANA JAPONICA* (Japanese Brown Frog). ALBINISM.** Albinism is a chromatic abnormality characterized by the lack of integumentary pigmentation giving individuals a whitish and/or yellowish appearance. Since albino anurans are easily detected and preyed upon by predators, albino individuals are rarely found in nature (Rodrigues and Filho 2004. Herpetol. Rev. 35:373–373; Brown et al. 2020. Rept. Amphib. 27:432–433).

We found seven albino tadpoles and an albino juvenile *Rana japonica* in a pond in Ojiya city, Niigata Prefecture, Japan (coordinates withheld because rare species also inhabit the area), on 29 May 2022 (Fig. 1A, B). We brought the albino tadpoles and the juvenile to our laboratory where the tadpoles were reared to metamorphosis at room temperature (20°C). *Rana japonica* is a species endemic to Japan with a wide distribution in Honshu, Shikoku, Kyushu Oki Island and Osumi Island. The typical dorsal color of the tadpoles and juveniles of *R. japonica* is reddish brown (Fig. 1C). The *R. japonica* individuals in this observation lacked all pigmentation, including their irises. To the best of our knowledge, this is the first record of albinism in *R. japonica* in the wild.

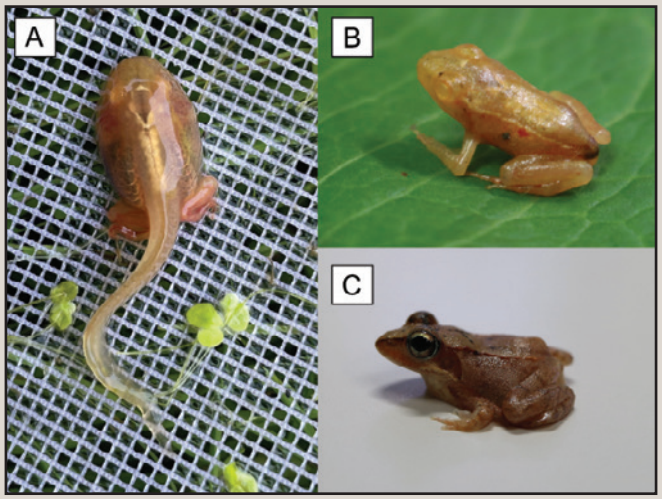

FIG. 1. An albino tadpole (A), an albino juvenile (B), and a juvenile *Rana japonica* exhibiting the typical coloration (C).

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***RANA* (*LITHOBATES*) *SYLVATICA* (Wood Frog). LARVAL AGGREGATIONS.** *Rana sylvatica* tadpoles are thought to be solitary (Dodd 2013. Frogs of the United States and Canada. Johns Hopkins University Press, Baltimore, Maryland. 982 pp.) and actively avoid each other both in the field and in the laboratory (Hassinger 1972. Ph.D. Thesis, Rutgers University, New Brunswick, New Jersey. 200 pp.; Waldman 1986. *In* Duvall et al. [eds.], Chemical Signals in Vertebrates 4: Ecology, Evolution, and Comparative Biology, pp. 225–242. Plenum Press, New York, New York). Waldman (1984. Behav. Ecol. Sociobiol. 14:171–180), however, reported *R. sylvatica* tadpoles schooling in one pond in nature, indicating that aggregating behavior may occur under certain circumstances. Here, we report additional observations of *R. sylvatica* larval aggregations in multiple ponds and suggest that the behavior may not be as uncommon as suggested by the literature.

We observed aggregating *R. sylvatica* tadpoles in 14 permanent-water woodland ponds constructed to enhance wildlife habitat in Shawnee National Forest (N = 3) and Trail of Tears State Forest (N = 11), Union County, Illinois, USA (centroid: 37.51488°N, 89.34575°W; WGS 84). The surface area of the ponds ranged from 29.4–151 m^2 (mean = 73.8 m^2). Ponds were shallow (<0.5 m), lacked macrophytic vegetation, and had a leaf-litter substrate. We made initial observations of tadpoles at six ponds from 5–25 April 2021 followed by observations at the same six ponds and eight additional ponds from 20 March through 12 May 2022. We observed tadpoles on sunny days and before full leaf-out of canopy trees. Measured aggregating tadpoles ranged from 9 mm (20 March 2022) to 41 mm (19 April 2021) total length.