UC Santa Barbara

UC Santa Barbara Previously Published Works

Title

Rana aurora (Northern Red-legged frog). Transport.

Permalink

https://escholarship.org/uc/item/14z0m7gq

Journal

Herpetological Review, 47(4)

ISSN

0018-084X

Authors

Adams, Andrea J Dellith, Chris Sweet, Samuel S

Publication Date

2016-12-01

Peer reviewed

published: Twedt (1993. M.A. Thesis, Humboldt State University, Arcata, California. 66 pp.) reported finding four "juvenile" *R. aurora* in a sample of *L. catesbeianus* stomachs (N = 22), but did not note the size of either species, nor how many stomachs in which the four consumed frogs were found. To address the deficiency of published field observations, we here report the consumption of *R. aurora* by *L. catesbeianus* under field conditions.

The following observation was made at a small $(17 \times 11 \text{ m})$ spring-fed pond located in the floodplain of the Yamhill River near McMinnville, Washington County, Oregon, USA (45.2117°N, 123.1972°W, WGS 84; 45 m elev.). The pond is permanent, heavily shaded, and is used by *R. aurora* year-round. *L. catesbeianus* adults and larvae are occasionally observed in the pond. At 1430 h on 23 May 2016, we captured an adult female *L. catesbeianus* (SVL = 145 mm; 365.8 g with prey). This frog contained an adult female *R. aurora* that had previously been marked with a PIT tag (Fig. 1). When last captured (on 25 March 2016), the *R. aurora* had measured 67.0 mm SVL and weighed 21.7 g, a size which would make it nearly half (46%) of the length of the *L. catesbeianus*, but less than one tenth (0.06%) of its mass.

We are interested in additional observations of such predation and request correspondence on the subject.

DAN O'LOUGHLIN, 15533 SW Bulrush Lane, Tigard, Oregon 97223, USA; MICHAEL O'LOUGHLIN, 12878 SW Village Park Lane, Tigard, Oregon 97223, USA; CHRIS ROMBOUGH, Rombough Biological, PO Box 365, Aurora, Oregon 97002, USA (e-mail: rambo2718@yahoo.com).

RANA AURORA (Northern Red-legged frog). TRANSPORT. *Rana aurora* is native to extreme northwestern coastal California, coastal Oregon, and Washington west of the Cascade Range, and southwestern British Columbia (Pearl 2005. *In* Lannoo [ed.], Amphibian Declines: The Conservation Status of United States Species, pp. 528–529. University of California Press, Berkeley, California). On 9 December 2010, we were contacted by a South Pasadena, California, USA resident who reported that she had discovered a frog in the holiday tree she had purchased from the lot at a local drugstore the week before. A photo identification by SSS determined that it was a subadult *R. aurora*. Inquiry to the source of the trees at the drugstore confirmed that they had been sourced in Oregon, USA.

Records of amphibians dispersing to areas outside of their native range via holiday trees are increasing. *Pseudacris regilla* has been observed hitching a ride on holiday trees outside of its native range from Oregon to Arizona (Rorabaugh et al. 2004. Southwest. Nat. 49:94–99) and from the Pacific Northwest (USA) to Guam (Christy et al. 2007. Divers. Distrib. 13:598–607). The phenomenon is not restricted to frogs—an *Ambystoma gracile*, native to the Pacific Northwest, USA, was discovered in a holiday tree in Fort Lauderdale, Florida, USA, and three others were discovered via similar routes in southern California, USA—in San Diego, Fresno, and Santa Barbara counties (Rochford et al. 2015. IRCF Rept. Amphib. 22:126–127).

The spread of non-native amphibians can result in invasion and establishment in novel habitats through transport via the horticultural trade, with potential for negative ecological and conservation consequences (Kraus et al. 1999. Herpetol. Rev. 30:21–25; Kraus and Campbell 2002. Biol. Invasions 4:327–332). Trade and transport of amphibians provides unique potential for novel pathogens, such as the amphibian chytrid fungi *Batrachochytrium dendrobatidis* and *B. salamandrivorans*, to spread and invade naïve populations (Fisher and Garner 2007. Fungal Biol. 21:2–9; Martel et al. 2014. Science 346:630–631). We notice that in recent years holiday trees are being sheathed in tighter cylinders of plastic webbing, which may be making the interior of the trees either more attractive as a refuge when stored lying on the ground, or more difficult to escape from until the tree is cut loose.

The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the U.S. Fish and Wildlife Service.

ANDREA J. ADAMS, University of California, Santa Barbara, California 93106, USA (e-mail: andrea.adams@lifesci.ucsb.edu); CHRIS DELLITH, U.S. Fish and Wildlife Service, 2493 Portola Road Suite B, Ventura, California 93003, USA (e-mail: chris_dellith@fws.gov); SAMUEL S. SWEET, University of California, Santa Barbara, California 93106, USA (e-mail: sweet@lifesci. ucsb.edu).

RANA BLAIRI (Plains Leopard Frog). REPRODUCTION. Rana blairi is distributed across most of the southern Great Plains, from the High Plains of Texas and New Mexico north to the Western Corn Belt Plains of eastern Nebraska, reaching its northernmost extent in southeastern South Dakota (Dodd 2013. Frogs of the United States and Canada, Volume 2. The Johns Hopkins University Press, Baltimore, Maryland. 982 pp.). Due to the wide range of latitudes that R. blairi occupies, breeding seasons typically begin earlier in lower latitudes. For example, the breeding season is reported as early as February in Oklahoma (Bragg 1950. In Bragg et al. [eds.], Researches on the Amphibia of Oklahoma, pp. 35-38. University of Oklahoma Press, Norman, Oklahoma), Texas (Tipton et al. 2012. Texas Amphibians: A Field Guide. University of Texas Press, Austin, Texas. 309 pp.), and New Mexico (Scott and Jennings 1985. Occas. Pap. Mus. Southwest. Biol. 3:1-21). However, R. blairi reproduction typically begins in March in southern Nebraska and April in northern Nebraska (Lynch 1985. Trans. Nebraska Acad. Sci. 13:33-57), while breeding seasons are reported to occur from late March through May in Iowa (LeClere 2013. A Field Guide to the Amphibians and Reptiles of Iowa. ECO Herpetological Publishing & Distribution, Rodeo, New Mexico. 349 pp.) and March-June in South Dakota (Kiesow 2006. Field Guide to the Amphibians and Reptiles of South Dakota. South Dakota Department of Game, Fish and Parks, Pierre, South Dakota. 178 pp.). Recent data suggest that some anurans in South Dakota might continue to breed much later than previously expected (Blais et al. 2015. Herpetol. Rev. 46:416-417). Here, we report an observation of a late season breeding event by L. blairi in South Dakota.

On 2 September 2015, a large *R. blairi* egg mass was found in a riparian wetland along the Missouri River ca. 13.1 km SSE of Elk Point, Union Co., South Dakota, USA (42.56766°N, 96.65469°W; WGS 84). These eggs were attached to vegetation along the shoreline (Gosner Stage 17) and were likely laid the preceding night. A portion of the egg mass was brought to the University of South Dakota and allowed to hatch, develop, and complete metamorphosis to confirm species identification. Eggs, tadpoles, and post-metamorphic juveniles were vouchered from this clutch and deposited at the Biodiversity Collections at the University of Texas at Austin (eggs: TNHC 97894 [DRD 2256]; tadpoles: TNHC 97895 [DRD 2382]; juveniles: 97891 [DRD 2371], 97892 [DRD 2380], 97893 [DRD 2381]). Specimens were collected under a South Dakota Department of Game, Fish and Parks Scientific Collector's Permit (#11) issued to DRD.

DREW R. DAVIS (e-mail: drew.davis@usd.edu), LAURA M. JACKSON, SPENCER R. SIDDONS, and JACOB L. KERBY, Department of Biology, University of South Dakota, 414 East Clark Street, Vermillion, South Dakota 57069, USA.