mon Frogs, *Rana temporaria*, in western Norway, and Eaton and Eaton (2001. Can. Field-Nat. 115:499–500) saw a female Mallard take an adult Wood Frog, *Rana sylvatica,* in central Alberta (Canada). Here, we augment available data on Mallard predation of anurans with observations of near-adult Mallards preying on juvenile Northern Red-legged Frogs (*Rana aurora*) in southwestern Oregon, USA.

We made the observations at a small (0.03 ha) pond on the Squaw Flat Research Natural Area (Tiller Ranger District, Umpqua National Forest; 42º57'52"N, 122º40'10"W; elev. 747 m) which is used by *R. aurora* for overwintering (unpubl. data) and is located ca. 50 m NE of a 0.6-ha pond used by the same species for breeding (Hayes et al. 2001. Herpetol. Rev. 32:35–36). Groundwater input gives the overwintering pond relatively stable water levels year-round. Except for a few clumps of low emergent vegetation along the N–NW shoreline, floating duckweeds (mostly Star Duckweed [*Lemna trisulca*]) and Watermeal (*Wolffia punctata*) cover most of the pond surface. A mature tree canopy of Douglas-fir (*Pseudotsuga menziesii*), Grand Fir (*Abies grandis*), Ponderosa Pine (*Pinus ponderosa*), and Madrone (*Arbutus menziesii*) keeps the pond relatively well shaded year-round. Little understory vegetation exists around the N half of the pond; in contrast, the S half has a dense Salal (*Gaultheria shallon*) bed that extends ≥ 10 m into the surrounding uplands. The pond has outflows on its NW and SW lobes, both of which drain into the aforementioned breeding pond.

While measuring *R. aurora* caught in this pond on 28 July 1998, we noted a pre-dispersal brood of seven subadult Mallards foraging in the pond. At 1510 h, we heard what sounded like the piercing scream (sensu Camp in Storer 1925. Univ. California Publ. Zool. 27:1–342) of a juvenile *R. aurora* coming from the NW lobe of the pond. After turning to examine the source of the sound, we saw one of the Mallards agitating the water in what appeared to be a frenetic search, but we could not identify the basis of its behavior. Two minutes after we had resumed processing frogs, we saw another of the Mallards make a flying run at the SW shoreline. Six meters in front of this duck, we saw a juvenile *R. aurora* (ca. 35 mm SVL) fleeing by rapid leaps over the dense duckweed mat in a shoreward direction. The Mallard caught the juvenile frog from behind just as it reached the shoreline, whereupon the frog gave a shrill scream identical to that heard earlier. Using two flips of its head, the Mallard swallowed the frog within 20 sec. As the other Mallards were still foraging in the pond, we stopped processing frogs to watch the ducks, in the event further predation might occur. Over the next 40 min, we witnessed different Mallards capture six more *R. aurora* juveniles, all in the 30–40 mm SVL range. Juvenile frogs were captured following chases lasting 15 sec to 6 min, and we heard one additional juvenile *R. aurora* make the shrill scream following its capture. During our subsequent survey of this pond, we captured five additional juvenile *R. aurora* in the size range taken by the mallards. These frogs averaged 34.5 mm SVL (range: 32.0–38.5 mm).

Two aspects merit comment. First, our observations suggest that amphibian prey may sometimes be more than incidental (see also Mjelstad and Saetersdal, *op. cit.*). We have observed a successful hatch and fledging from the only Mallard nest known to occur at this site in five of our six years of fieldwork there, so opportunity might exist for Mallard predation to alter frog recruitment if the predation levels we observed occur over extended periods. Second, apparent rarity of amphibians in Mallard diet may result in part from a bias against detecting more rapidly digestible animal food (Swanson et al. 1979. *In* Bookhout [ed.], Waterfowl and Wetlands—An Integrated Review, pp. 47–55. The Wildlife Society, Washington, DC), like frogs or anuran larvae. Direct observations may be important in testing this possibility.

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RANA CATESBEIANA (Bullfrog). **GIGANTIC TADPOLE.** North American Bullfrog tadpoles are known to attain a large size and take 1–3 years to metamorphose, however, there are few accounts of maximum size for Bullfrog tadpoles or other anuran species (McDiarmid and Altig 1999. Tadpoles, the Biology of Anuran Larvae. Univ. Chicago Press, Chicago. 444 pp.). Bullfrog tadpoles normally range from 76–170 mm (Ashton and Ashton 1988. Handbook of Reptiles and Amphibians of Florida, Part Three. The Amphibians. Windward Publishing Inc. 191 pp.; Wright 1929. Proc. U.S. Nat. Mus. 74:1–70). However Dickerson (1969. The Frog Book. Dover Publ., Inc. New York. 253 pp.) reported *R. catesbeiana* tadpoles can attain 177 mm. On 31 July 2002, we collected a 190 mm (total length) Bullfrog tadpole (Gosner stage 37, Fig. 1) from Nevens Pond, Keith County, Nebraska (41.20710°N, 101.4085°W), a small cattle tank overflow pond. To our knowledge this is the largest Bullfrog tadpole ever reported. Other tadpoles from this location were also large (ca. 150–160 mm TL), although none was comparable in size to this giant. Collins (1979. Ecology 60:738–749) indicated that biotic factors, especially density of conspecifics and the time of oviposition influence variation in size at metamorphosis of Bullfrogs. Additionally, abundant food and lower water temperatures during development increase anuran time to and body size at metamorphosis. We have no density data on the number of tadpoles from Nevens Pond, although our observations suggest that it was comparable to other ponds that had smaller Bullfrog tadpoles. Unfortunately, this gigantic individual died while being transported back to the laboratory, and we cannot say if this giant could transform into a froglet. Allen (1917. J. Exp. Zool. 26:499–519) produced giant tadpoles in *R. pipiens* by performing thyroidectomies on young tadpoles, and it may be that this individual did not posses a thyroid gland. However, two other large tadpoles collected from this locality (but not measured) metamorphosed in the laboratory, yielding froglets 65–70 mm SVL, indicating that some large tadpoles can metamorphose from this pond. The reported variation in tadpole size and size at metamorphosis in *R. catesbeiana* is probably related to the number of years that tadpoles took to metamorphose. To our knowledge, these are some of the largest newly transformed Bull-

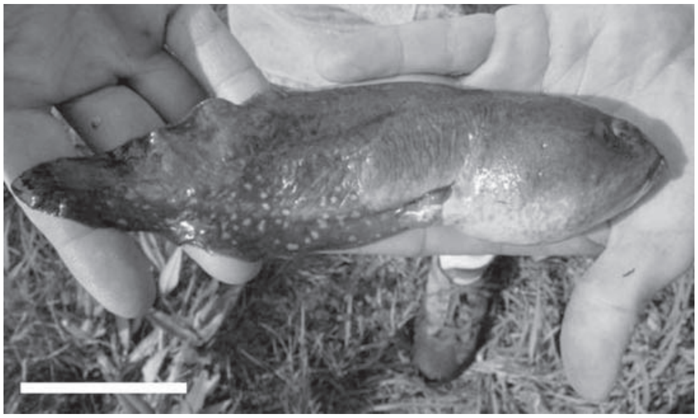

FIG. 1. *Rana catesbeiana* tadpole Gosner stage 37. Bar = 50 mm.

frogs (see Collins *op. cit.*) and it suggests that some Bullfrogs at Nevens Pond take three years to develop before metamorphosing. During late summer and early fall most adult frogs in the large population at Nevens Pond look emaciated, probably due to a food shortage. It is unlikely that these Bullfrogs can migrate to other ponds during this time of year to feed, because of the large distances between ponds and the dry conditions of the sand hills of western Nebraska. We suspect that it might be advantageous for Bullfrog tadpoles at this location to metamorphose at a larger size to prevent being preyed upon by conspecific metamorphosed Bullfrogs, which are gape-limited predators.

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SCAPHIOPUS HOLBROOKII (Eastern Spadefoot). **COLORATION AND BEHAVIOR.** Both albinism (Childs 1953. Evolution 7:228–233) and aggregational behavior (Richmond 1947. Ecology 28:53–67; Bragg 1954. Herpetologica 10:97–102) have been previously observed among larval *Scaphiopus* spp. in various parts of the United States, mostly from central and western parts of the country. Herein, we report the discovery of two leucistic-like *S. holbrookii* tadpoles within larval aggregations at the Brookhaven National Laboratory, Upton, Suffolk County, New York, USA (40°52'20"N, 72°52'04"W).

During field research on 16 June 2003, we encountered *S. holbrookii* tadpoles in a temporary pool that had formed in a grassland area after a period of heavy precipitation. We estimate that the pool contained thousands of tadpoles, most of which were participating in several mass aggregations. Based on observations by Bragg (1954, *op. cit.*), the aggregations we found were likely feeding aggregations. At ca. 1700 h, we observed two leucistic-like tadpoles that were quite obvious among the black background created by their aggregating cohorts (Fig. 1). Using dip nets we captured both individuals in ca. 20 cm of water and brought them back to the lab for rearing.

The coloration of both tadpoles was identical. Their bodies were pale beige, but their eyes exhibited the dark color of a normal tadpole. Snout–vent length for the two tadpoles was 16 and 17 mm at time of capture. We maintained the tadpoles in captivity for 97 days, but the larvae failed to reach metamorphosis. To our knowledge, this is the first report of leucistic-like tadpoles and breeding aggregations for this species in New York.

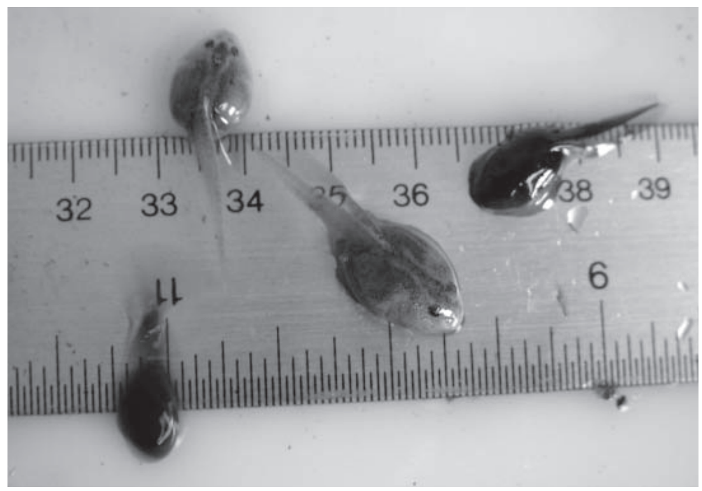

FIG. 1. Live tadpoles of *Scaphiopus holbrookii*. Tadpoles of normal coloration (black color) and leucistic-like (pale-beige color).

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SCINAX FUSCOMARGINATUS (NCN). **DEFENSIVE BEHAVIOR.** Anurans are known to be an important component in the diet of a large number of predators, although they have evolved several defensive mechanisms (Duellman and Trueb 1994. Biology of Amphibians. McGraw-Hill Book Co. 670 pp.). Some of the defensive mechanisms are shown by some hylid species (Azevedo-Ramos 1995. Rev. Bras. Bio. 55[1]:45–47; Manzanilla et al. 1998. Herpetol. Rev. 29:39–40; Napoli 2001. Herpetol. Rev. 32:36–37), however there is lack of descriptions of any of these