and Graduate School of Human and Environmental Studies, Kyoto University, Yoshida Nihonmatsu-cho, Sakyo-ku, Kyoto 606-8501, Japan (e-mail: nishikawa.kanto.8v@kyoto-u.ac.jp).

***PLETHODON CINEREUS* (Eastern Red-backed Salamander). HABITAT USE.** On 28 September 2019, at 1428 h, we found an adult *Plethodon cinereus* in a *Sarracenia purpurea* (Purple Pitcher Plant) leaf (Fig. 1). This observation took place at Eastern Michigan University's (EMU) Fish Lake Environmental Education Center, in Lapeer County, Michigan, USA (43.11624°N, 83.24087°W; WGS 84). The *P. cinereus* and *S. purpurea* were found together in a floating bog which was dominated by sphagnum moss and not inundated. The *S. purpurea* was filled with water and the *P. cinereus* was partially submerged but alive (moved when prodded). The site was left for about an hour and when we returned for documentation, the *P. cinereus* remained in the pitcher plant, though the pitcher plant had been drained by a puncture on the side (presumably human-caused; an EMU class was traversing the area and crowded the pitcher plant to observe the salamander). Upon observation of the empty pitcher plant, the salamander (3.56 cm SVL) was removed from the pitcher plant (9.53 cm) and both were measured. After observation, the salamander was placed back into the pitcher plant.

Although pitcher plants are commonly regarded as predators of insects (Heard 1998. Am. Midl. Nat. 139:79–89), there have been several accounts of amphibians and reptiles being found within pitcher plants throughout the eastern United States and Canada (Butler et al. 2005. Northeast. Nat. 12:1–10; Moldowon et al. 2019. Ecology 100:e02770). This is the first account of a salamander species found within a *S. purpurea* leaf in the midwestern United States and only the second record of *P. cinereus* observed within a *S. purpurea* (Hughes et al. 1999. Herpetol. Rev. 30:160). It is unknown whether this observation was a predatory event by *S. purpurea* or an example of something else (e.g., commensalism or anomalous occurrence), however further research on the relationship between *S. purpurea* and *P. cinereus* could elucidate these observations.

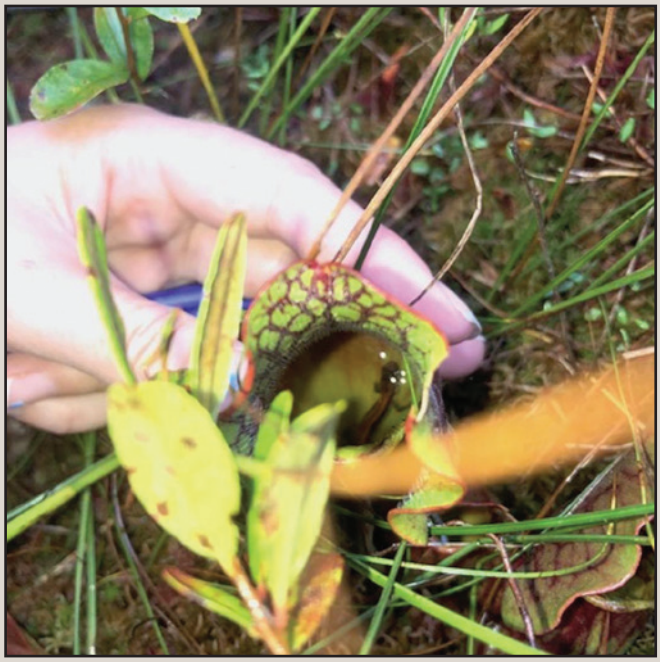

PHOTO BY JENNIFER HARPER

FIG. 1. *Plethodon cinereus* in a *Sarracenia purpurea* leaf (after leaf puncture) from Michigan, USA.

MOLLY DIXON (e-mail: mdixon18@emich.edu) and **JENNIFER HARPER**, Department of Biology, Eastern Michigan University, 441 Mark Jefferson Science Complex, Ypsilanti, Michigan 48197, USA (e-mail: jharpe18@emich.edu).

***TARICHA GRANULOSA* (Rough-skinned Newt). LARVAL OVERWINTERING and DIET.** *Taricha granulosa* ranges from Juneau County, Alaska, USA south to Santa Cruz County, California (www.amphibiaweb.org; 21 Jan 2021). In March 2017, we observed three large *Taricha* sp. larvae burrowed into the remains of a *Rana draytonii* (California Red-legged Frog) egg mass at a pond (37.042°N, 122.213°E; WGS 84; 116 m elev.) in Santa Cruz County, California. The egg mass being eaten by the larvae was one of 20 that had been translocated to this pond as part of a *R. draytonii* restoration effort. All of the other 19 translocated egg masses (10 of them protected by mesh enclosures intended to keep out adult newts) had disappeared. We surveyed for aquatic amphibians in this pond on the same day by visually surveying the edges of the pond, sweeping the substrate with D-handled dip nets, and using a 12-ft kick seine operated by two people. In total, six large newt larvae were captured, measuring 26–32 mm SVL. These larvae were a uniform brown or gray and were 2–3 times as large as newly hatched *T. torosa* larvae that were also caught in the pond during the same survey (SVL range: 9–11 mm).

Mitochondrial *cytochrome b* haplotypes from the six large predatory larvae all matched published haplotypes isolated from the Rough-skinned Newt, *T. granulosa*. A subsequent survey of the pond in May revealed newly hatched larvae (8–10 mm SVL) with unmarked color patterns consistent with the known phenotype of *T. granulosa*. No larval *R. draytonii* were found in subsequent sampling. Given the known growth patterns of larval newts, it is likely that the large larvae we found in March had grown from eggs deposited the previous year (i.e., overwintered).

Our observations of *T. granulosa* larvae consuming *R. draytonii* eggs is noteworthy because, although adult *Taricha* are known to eat eggs (e.g., Rathbun 1998. Herpetol. Rev. 29:165), our observations are the first that we could find that document larval newts consuming anuran eggs. In addition, although overwintering of *T. granulosa* larvae has been observed in populations near Crater Lake, Oregon (Farner and Kezer 1953. Amer. Midl. Natural. 50:448–462), larval overwintering has not been observed in any *T. granulosa* populations near the southern extent of its range. Limited reports have documented *T. torosa* overwintering (Carroll et al. 2005. Herpetol. Rev. 36:297), but the extent to which this phenomenon occurs in populations of both species is not well-documented and merits further study, especially since overwintering larvae may pose a heretofore undocumented predation risk to *R. draytonii*, which is federally threatened.

MICHAEL F. WESTPHAL, U.S. Bureau of Land Management, Marina, California, 95023 USA (e-mail: mwestpha@blm.gov); **EVA GRUBER** (e-mail: evadgruber@gmail.com); **EMMELEIA NIX** (e-mail: emme.nix@gmail.com); **KAREN M. KIEMNEC-TYBURCZY**, Biological Sciences Department, Humboldt State University, California 95521, USA (e-mail: karen.kiemnec@humboldt.edu).

ANURA — FROGS

***ANAXYRUS BOREAS* (Western Toad). OPPORTUNISTIC SCAVENGING.** Anuran larvae are generally considered microphagous,

FIG. 1. A dead juvenile *Lithobates catesbeianus* being opportunistically scavenged by several larval *Anaxyrus boreas* in Sonoma County, California, USA.

feeding on bacteria, protozoans, algae, and small suspended particles within the water column (Stebbins and Cohen 1995. A Natural History of Amphibians. Princeton University Press, Princeton, New Jersey. 336 pp.). Kirchmeyer et al. (2015. Herpetol. Rev. 46:236) described "the first report of opportunistic scavenging by a tadpole" when they observed *Rhinella crucifer* (Striped Toad) scavenging a dead *Hypsiboas faber* (Smith Frog). González-Mollinedo and Mármol-Kattán (2019. Herpetol. Rev. 50:762) reported scavenging by *Plectrohyla guatemalensis* (Guatamala Spikethumb Toad) on a millipede (order Polydesmida). Herein, we report on the opportunistic scavenging of a dead *Lithobates catesbeianus* (American Bullfrog) by *Anaxyrus boreas* larvae, in California, USA.

The event occurred while we were conducting culling activities of *L. catesbeianus* at a freshwater pond located north of Calistoga, Sonoma County, California (38.64560°N, 122.66004°W; WGS 84). While culling, we shot a juvenile *L. catesbeianus* with an air-powered rifle and a tin pellet. The first shot was not immediately lethal, but a second shot killed the target animal. The second shot eviscerated the frog, leaving the body cavity open and exposed. The target animal was left in shallow water, to be retrieved after culling activities ceased in the immediate area. When we returned to the carcass it appeared to be moving, but we then noted that three to six larval *A. boreas* (approximate Gosner stage: 25–37) were vigorously feeding on the remains of the *L. catesbeianus* (Fig. 1). When the carcass was retrieved from the water, three *A. boreas* remained within the body cavity and continued to feed. The larvae quickly slipped off of the carcass and fell back into the pond where they sought refuge among floating vegetation. Unlike Kirchmeyer et al. (2015, *op. cit.*) we did not collect the *A. boreas* larvae, but we did retrieve the carcass of the *L. catesbeianus* for later stomach analysis and disposal.

Jordon et al. (2004. West. N. Am. Naturalist 64:403–405) reported observing predatory behavior in larval *A. boreas* wherein they preyed upon live *Rana cascadae* (Cascades Frog) larvae and *Hyliola regilla* (Pacific Treefrog) larvae, in Oregon, USA. They also reported cannibalism in *A. boreas* at the same location. The behavior they witnessed was suspected to "confer growth or survival benefits" to the larvae that feed on animal protein. Kupferberg (1997. Am. Zool. 37:146–159) suggested that "tadpoles can select the foods they grow best on", while Crump (1990. Copeia 1990:560–564) suggested that the consumption of animal protein can enhance the growth rate of individual larvae. It appears that *A. boreas* does select food items that include dead sympatric species, upon which they can scavenge. Although the driver for this behavior is unknown from our very brief observations, when available, *A. boreas* will readily scavenge animal protein. González-Mollinedo and Mármol-Kattán (2019, *op cit.*), however, suggested that this type of behavior may increase a risk of exposure and transmission of chytridiomycosis to the scavenger. This should be considered when research is conducted on populations of larvae known to scavenge on species (or even genera) that are known to be infected by chytridiomycosis, ranavirus, or other pathogens.

We are grateful to the Peter Michael Winery for access to the site. Amanda Murphy provided a helpful review of the manuscript, for which we are grateful. This work was conducted under a Lake and Streambed Alteration Agreement 1600-2012-0190-R3 with the California Department of Fish and Wildlife, and Scientific Collections Permit #0000040.

JEFF ALVAREZ, The Wildlife Project, P.O. Box 188888, Sacramento, California 95818, USA (e-mail: jeff@thewildlfieproject.com); **JEFFERY T. WILCOX**, Sonoma Mountain Ranch Preservation Foundation, 3124 Sonoma Mountain Road, Petaluma, California, USA.

***ANSONIA LEPTOPUS* (Brown Slender Toad). ANTIPREDATOR BEHAVIOR.** *Ansonia leptopus* is a stream-dwelling bufonid frog occurring widely across the lowlands of Borneo. Information on antipredator responses of *Ansonia* is quite limited; only *A. hanitschi* is known to exhibit the unken reflex and to produce noxious secretions when it is disturbed (Malkmus et al. 2002. Amphibians and Reptiles of Mount Kinabalu (North Borneo). Koeltz Scientific Books, Königstein, Germany. 424 pp.). Recently we observed an example of an antipredator response by *A. leptopus*, associated with thanatosis or tonic immobility, and here we report the observation.

At 2320 h on 20 August 2019, we found a female *A. leptopus* (54.5 mm SVL) at a small stream in Kubah National Park, Sarawak, Malaysia (1.606°N, 110.188°E; WGS 84; 315 m elev.). The air temperature was 24.0°C. The *A. leptopus* was on vegetation 28 cm above the ground, and we captured it by hand. After taking some measurements and photographs, we released it on the ground, but it was immobile. When putting it in the prone position, it was immobile and listless, even when touched (Fig. 1A). However, when we put it in the supine position, it quickly flipped its body to the prone position (Fig. 1B–D). As an experiment we placed the *A. leptopus* on the ground in the supine position ten times and each time it quickly flipped its body to the prone position. A video recording of our observation is available at the Movie Archives of Animal Behavior (http://www.momo-p.com/index.php?movieid=momo201104al01b). During the thanatosis display, the *A. leptopus* spread out its forelimbs and extended its hindlimbs, although its body was not rigid. During our experiment, there were some reflexive motions of