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POLYPEDATES LEUCOMYSTAX (Common Tree Frog). **SAUROPHAGY.** On 27 June 2006 at 2104 h, in the Philippines (island: Luzon, province: Cagayan, municipality: Gattaran, barangay: Nassiping; 17.97001°N, 121.65598°E, WGS84), I collected an adult female *Polypedates leucomystax* in the process of consuming an adult male *Cosymbotus platyurus* (Sauria: Gekkonidae). The encounter occurred after ca. 2 h of heavy afternoon rain at the Nassiping Reforestation Project (NRP), an area of ca. 200 ha consisting of natural secondary growth, agricultural areas, and artificial forest with introduced species (e.g., *Eucalyptus* sp.). Both the frog and the lizard were collected and deposited at the University of Kansas Natural History Museum and Biodiversity Research Center (*P. leucomystax*: KU 307625; *C. platyurus*: KU 307448).

When I first observed the pair, the frog was on the ground with the gecko's hind legs and tail protruding from its mouth (Fig. 1) a few meters from an open-walled, thatch-roofed gazebo at the main compound of the NRP. Geckos were common on nearby buildings and active after nightfall; *C. platyurus* was predominant, with *Gehyra mutilata*, *Hemidactylus frenatus*, and *Gekko monarchus* also present.

The average to slightly larger-than-average size of both individuals (*P. leucomystax*: 72.1 mm SVL, 20.5 g; *C. platyurus*: 60.3 mm SVL, 6.1 g), as well as their commonness and tolerance for disturbed, anthropogenic habitat, suggest that adult *P. leucomystax* may be a frequent predator on *C. platyurus* and other small, common geckos. Large geckos (e.g., *G. monarchus*) are not likely to be preyed upon as adults, but neonates may be vulnerable. For these two individuals, prey/predator ratios of length and weight were 0.84 and 0.30.

Although large anurans (e.g., *Ceratophrys ornata*, *Discodeles guppyi*, *Pyxicephalus adspersus*, and *Rana catesbeiana*) are known to consume large prey items, predation by anurans on vertebrates is



FIG. 1. Adult female *Polypedates leucomystax* consuming an adult male *Cosymbotus platyurus* on Luzon Island, Philippines, 27 June 2006. Note the everted hemipenis of the gecko. Photo by KH.

considered a general exception (Duellman and Trueb 1994. *Biology of Amphibians*. Johns Hopkins University Press, Baltimore, Maryland. 670 pp.) The diet of *P. leucomystax* in the Philippines has previously been reported to include solely invertebrates (Alcala and Brown 1998. *Philippine Amphibians: An Illustrated Field Guide*. Bookmark, Inc., Makati City, Philippines. 116 pp.). Saurophagy also has been reported for the large New World treefrog, *Osteopilus septentrionalis* (Campbell 2007. *Herpetol. Rev.* 38:440).

Fieldwork was funded by a Rufford Small Grant for Nature Conservation (171/07/04) and the Turtle Survival Alliance (to A. Diesmos); an Undergraduate Research Assistantship and the Howieson Opportunity Fund at the University of Kansas (to KH); and NSF Grant EF 0334928 to L. Trueb and R. Brown.

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RANA AURORA (Northern Red-legged Frog). **EGG MASS DISTURBANCE.** The negative effects of exotic organisms on amphibians, usually via predation and/or competition, are well documented, both globally (Kats and Ferrer 2003. *Divers. Distrib.* 9:99–110) and in the Pacific Northwest (Adams 2000. *Ecol. Appl.* 10:559–568; Kiesecker and Blaustein 1997. *Ecology* 78:1752–1760; Kiesecker and Blaustein 1998. *Conserv. Biol.* 12:776–787). Nutria (*Myocastor coypus*), a South American species introduced to Oregon in the 1930s for fur-farming, is known to damage vegetation and physical habitat, which has diverse indirect ecological effects (Sheffels and Sytsma 2007. *Report on Nutria Management and Research in the Pacific Northwest*. Portland State University Center for Lakes and Reservoirs, Portland, Oregon. 49 pp.). However, its effects on Pacific Northwest amphibians are unaddressed. Hence, here we describe disturbance to and disappearance of *Rana aurora* egg masses attributable to the foraging of Nutria.

In January–March 2005, TRC conducted visual encounter surveys (Crump and Scott 1994. *In* Heyer et al. (eds.), *Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians*, pp. 84–92. Smithsonian Press, Washington, DC) for amphibian egg masses in a seasonal pond in a palustrine wetland complex on the Willamette River floodplain ca. 16 km N of Portland, Oregon, USA (45.66°N, 122.86°W; WGS 84; elev 4 m). Black Cottonwood (*Populus trichocarpa*), Oregon Ash (*Fraxinus latifolia*), and invasive Reed Canary Grass (*Phalaris arundinacea*) dominate the site, which is managed by the Oregon Department of Fish and Wildlife (ODFW). As part of a larger study, each egg mass was assigned a unique mark and monitored weekly. Two *R. aurora* egg masses initially detected on 10 February were missing on 3 March, when TRC found a vegetation platform at their former location constructed of the Common Rush (*Juncus effusus*) to which the egg masses had been attached. The platform, which included the bamboo stakes and flagging used to mark these masses, was littered with Nutria scat. Nutria, Beaver (*Castor canadensis*), Muskrat (*Ondatra zibethicus*), and a suite of waterfowl species are all recorded from this site, but the only sign near or on the damaged vegetation was that of Nutria. Thorough search of the area failed

to reveal the missing masses. TRC had last observed these masses on 24 February; at that time, both were intact and in Gosner Stage 17 (Gosner 1960. *Herpetologica* 16:183–190). Twenty-five other marked masses detected on the same initial date (10 February) were in Stages 13–17 on 24 February. Of these masses, 13 were in the process of hatching on 3 March, and eight had not yet begun to hatch, but even the hatching masses had remained mostly intact. Nutria commonly build platforms of compacted vegetation for resting, feeding, and grooming (Burt and Grossenheider 1980. *A Field Guide to the Mammals*, 2nd ed. Houghton Mifflin, Boston, Massachusetts. 289 pp.). We do not know the ultimate fate of the disturbed egg masses, but based on the chronology of nearby *R. aurora* egg masses that TRC first observed on the same date at the same developmental stage, hatching and total disintegration by 3 March was unlikely. During the first half of embryonic development, *R. aurora* egg masses are typically denser than the water in which they are laid, and they sink if detached from their brace (MPH, unpubl. data). Klaus Richter (pers. comm.) has experimentally shown that mortality increases in *R. aurora* egg masses artificially relocated to greater depth. Moreover, simply mechanically disturbing amphibian egg masses has been shown to decrease embryonic survival (Licht 1971. *Ecology* 52:116–124.; Garwood et al. 2007. *Northwest. Nat.* 88:95–97). In this study, *R. aurora* egg masses occasionally became detached from attachment vegetation on their own, but typically only as they aged and neared hatching, when they typically float. Moreover, in the absence of high wind or other substantial disturbance, such detached egg masses generally remained near the original oviposition site. Hence, *M. coypus* foraging has the potential to affect *R. aurora* reproduction both directly by displacement of egg masses, and indirectly by altering the availability of braces for attachment of eggs.

A grant from the Oregon Watershed Enhancement Board helped support this fieldwork. TRC conducted the work under permit No. 040-05 from the ODFW. We thank S. Beilke, C. Corkran, and L. Roberts for assistance.

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RANA CAPITO (Gopher Frog). **BURROW COHABITATION.** Gopher Frogs seek refuge in the burrows of Gopher Tortoises (*Gopherus polyphemus*), crayfish, and several species of small mammals, as well as in stump holes (Jensen and Richter 2005. *In* Lannoo [ed.], *Amphibian Declines: The Conservation Status of United States Species*, pp. 536–538. Univ. California Press, Berkeley). Although Gopher Frogs are difficult to locate and observe in terrestrial habitats because they spend much of their lives underground, adults are not thought to share burrows with conspecifics (Jensen and Richter 2005, *op. cit.*; Wright and Wright 1949. *Handbook of Frogs and Toads of the United States and Canada*. Comstock Publishing Co., Ithaca, New York. 640 pp.). Here we report observations of at least two, and possibly three, adult Gopher Frogs occupying a Gopher Tortoise burrow simultaneously.

During a radio-telemetry study on Gopher Frogs conducted in



FIG. 1. Two adult Gopher Frogs (*Rana capito*) observed at a Gopher Tortoise (*Gopherus polyphemus*) burrow in the Ocala National Forest, Florida. One frog (left) was in the burrow entrance, while the other frog (right) was sitting beside the burrow.

the Ocala National Forest, Marion and Putnam counties, Florida, USA, we observed one transmitter-equipped adult Gopher Frog (Frog 1) sitting beside a large Gopher Tortoise burrow on 8 Oct 2007 at 2030 h. We also observed a second adult Gopher Frog (Frog 2), which was not equipped with a transmitter, sitting in the entrance to the same burrow (Fig. 1). Frog 1 had left a breeding pond within the previous 24 h, which was located 112 m from the burrow. Gopher Frogs can occasionally be observed sitting beside burrows at night and often create distinctive resting areas, consisting of soil cleared of vegetation (Richter et al. 2001. *J. Herpetol.* 35:316–321). Thus, although only one frog was actually inside the burrow, the two frogs probably shared the burrow diurnally.

On 11 Oct at 2100 h, following a prescribed fire earlier that day, Frog 1 and a second transmitter-equipped adult Gopher Frog (Frog 3) were both located inside the same Gopher Tortoise burrow described above. Frog 1 had remained in the burrow since 8 Oct, and Frog 3 was located in leaf litter 22 m from the burrow during the previous day. Although no frogs were visible, Frog 2 may have also remained in the burrow since 8 Oct and thus may have been a third frog occupying the burrow. The two frogs with transmitters (Frogs 1 and 3) cohabited this burrow for 11 days until 22 Oct when Frog 3 moved 30 m into a stump hole.

Although adult Gopher Frogs have not been previously reported to cohabit burrows with conspecifics, they may only share them temporarily during fires or migrations to and from breeding ponds, or cohabitation may be more common than previously thought, but rarely observed due to the difficulty in monitoring individuals at burrows.

The Florida Fish and Wildlife Conservation Commission provided funding for the radio-telemetry study on Gopher Frogs.

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