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Plethodon hubrichti (Peaks of Otter Salamander) Reproduction

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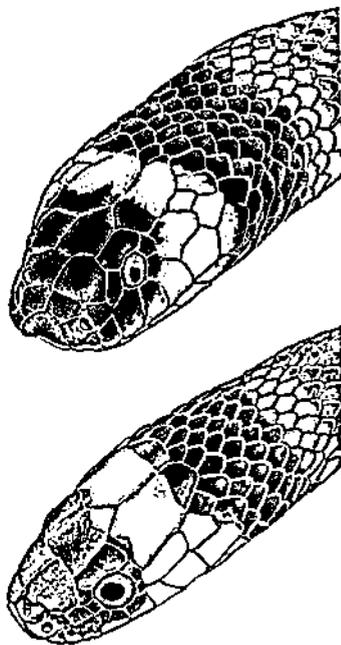
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volves using a dilute L-Cysteine solution. Drain water from the assembly until it is just covering the grate. Then add about 100 ml of 2% L-Cysteine (CAS #52-90-4, ASTM 1991). Gently stir or rotate the assembly (60 rpm on a rotary shaker). Embryos will fall from the grate into the bottom of the assembly in 20–60 minutes. Embryos will still have an inner jelly coat present. These embryos can be removed to a flask and dejellied using normal FETAX procedures except the time will be much shorter.

We recommend this technique to researchers for housing *Xenopus* during oviposition. The quantity and quality of eggs collected using this method is as good as with any of the standardized techniques, but without the problems outlined above. This method will recover 100% of eggs laid with little difficulty. There is little opportunity for adults to damage the eggs once they are laid, and this method provides a safe housing arrangement for adults during this period. This method might also be useful with other species of amphibians, especially those that lay dispersed eggs clutches.

LITERATURE CITED

- ASTM (American Society for Testing and Materials). 1991. Standard guide for conducting the frog embryo teratogenesis assay – *Xenopus* (FETAX). E 1439-91. American Society for Testing and Materials, Philadelphia, Pennsylvania.
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- _____, D. BURTON, D. DAWSON, J. DUMONT, R. FINCH, D. FORT, G. LINDER, J. RAYBURN, D. BUCHWALTER, A. GAUDET-HULL, M. MAURICE, AND S. TURLEY. 1994. FETAX interlaboratory validation study: Phase II Testing. *Environ. Toxicol. Chem.* 13(10):1629–1637.



Upper: *Micrurus diastema* (UMRC 84-5), 657 mm SVL. México: Yucatán. Lower: *Urotheca elapoides* (USNM 319777), 230 mm SVL. Belize: Columbia Forest Reserve. Illustrations by Julian C. Lee.

NATURAL HISTORY NOTES

Instructions for contributors to Natural History Notes appear in Volume 37, Number 1 (March 2006).

CAUDATA

PLETHODON HUBRICHTI (Peaks of Otter Salamander). **REPRODUCTION.** On 26 May 2005, while conducting a mark-recapture study in the contact zone for *Plethodon hubrichti* and *P. cinereus*, we discovered a *P. hubrichti* egg cluster under a rock imbedded in the soil. This is the first time a nest has been seen for this species (Petranka 1998. *Salamanders of the United States and Canada*. Smithsonian Inst. Press, Washington, D.C. 587 pp.). Our study site (10 m × 10 m) is located near Onion Mountain, Bedford County, Virginia (USA). The egg cluster was attached to the top of a small cavity in the soil beneath the rock. Ten eggs were visible (2–3 additional eggs were likely in the center of the cluster but could not be seen without disturbing it) and the diameter of each of three eggs was 5.5 mm. Because the site was examined previously on 20 May 2005, it is likely the eggs were laid between 20–26 May. A brooding female was found attending the eggs during the initial and three subsequent site visits. She consistently retreated deeper into the crevice upon removal of the cover rock. On 7 July 2005, embryos with clearly visible eyes were moving within the eggs. Hatchlings were discovered clustered around the remains of the egg mass during a site check on 30 July 2005. Additional neonates were seen (N = 12) elsewhere on our site on 19 August 2005. It is likely that other nests were located either under large rocks that we could not move or below ground, since a total of 79 adult *P. hubrichti* had been marked on our site that year. The egg number and size, as well as the behavior of the brooding female, are similar to those noted for *P. cinereus* (Petranka, *op. cit.*). All neonates observed in this and another long-term study on timbering impacts (Reichenbach and Sattler, pers. obs., N = 126) were noted to be dark brownish-gray in coloring, bearing no distinct marks or color spots. This is in contrast to the description in Petranka (*op. cit.*), which states “hatchlings have a distinct dorsal stripe consisting of reddish spots.” We have also noted that the characteristic brassy flecking on the dorsum of this species appears when the animals are ca. 25 mm SVL.

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ANURA

ATELOPUS VARIUS (Variable Harlequin Frog) and **ATELOPUS ZETEKI** (Panamanian Golden Frog). **ECTOPARASITES:** *Atelopus varius* and *Atelopus zeteki* are critically endangered (IUCN, Conservation International, and NatureServe. 2004. *Global Amphibian Assessment*. www.globalamphibians.org 4 April 2005) species known from premontane and lower montane wet forests and rainforests of the Atlantic and Pacific versants of the cordilleras of Costa Rica and Panama (Savage 2002. *The Amphibians and Reptiles of Costa Rica*. Univ. Chicago Press, Chicago, Illinois. 934 pp.; Dunn 1933. *Occas. Pap. Boston Soc. Nat.*