



FIG. 1. Paedogenic Mole Salamander (*Ambystoma talpoideum*) with an extra forelimb on its right side. The extra limb originates from the middle part of the humerus, and has two toes (inset photo).

When examined in the lab it was clear there was an extra limb emerging from the humerus of its right forelimb (Fig. 1). The extra limb appeared to have an elbow and there were two toes. The limb was emerging from the posterior side of the right humerus, so that it trailed behind the salamander when it moved. A video of the salamander can be viewed at <http://picasaweb.google.com/AndyDavisUGA/5LeggedMoleSalamander#>. In the video, it appears that the extra limb did not hinder movement of the salamander, and appeared to be non-functional. The malformed male was noticeably smaller in mass and total length than most of the reference males. This male's mass was 3.0 g, average mass of the reference males was 3.5 g ( $\pm 0.3$  SD); total length was 8.5 cm, average for the reference males was 9.1 cm ( $\pm 0.3$  SD). Though smaller than the reference males, it did have a large cloacal swelling, indicating it was in breeding condition. Three of the six reference males were also in breeding condition. Within the genus *Ambystoma*, there are scattered reports of deformities (Ouellet 2000. In Sparling et al. [eds.], *Ecotoxicology of Amphibians and Reptiles*, pp. 617–661. Soc. Environ. Toxicology Contaminants [SETAC] Press, Pensacola, Florida). Semlitsch et al. (1981. *Herpetol. Rev.* 12:69) reported a terrestrial adult Mole Salamander with five legs (one extra hindlimb) in South Carolina, although in that individual, the extra limb was semi-functional.

Despite only collecting 15 individuals on the sampling day, the actual frequency of malformations in this population is likely extremely small, since I have made many prior collections from this pond and others nearby (within 300 m), and have never encountered other malformed individuals. I have collected ca. 140 individuals from this and the nearby ponds, so the frequency of malformations could be less than 1% in this general area. Further, this pond is not near any source of chemical pollution, and has no history of environmental disturbance. Both of these points suggest this individual represents a “naturally occurring” deformity.

Submitted by **ANDREW K. DAVIS**, D.B. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, Georgia 30602, USA; e-mail: [akdavis@uga.edu](mailto:akdavis@uga.edu).

**AMPHIUMA MEANS** (Two-toed Amphiuma) x **AMPHIUMA TRIDACTYLUM** (Three-toed Amphiuma). **HYBRIDIZATION**. The phylogenetic relationship among *Amphiuma* species is unclear, as molecular studies have produced discordant results (Bonett et al. 2009. *PLoS ONE* 4[5]:e5615. doi:10.1371/journal.pone.0005615; Karlin and Means 1994. *Am. Midl. Nat.* 132:1–9; Weisrock et al. 2005. *Syst. Biol.* 54:758–777). Although these studies indicate that the three taxa, *Amphiuma pholeter*, *A. means*, and *A. tridactylum* are separate species, intermediate specimens that possess characters of both *A. means* and *A. tridactylum* have been reported (Bonett et al. 2009, *op. cit.*; Hill 1954. *Tulane Stud. Zool.* 12:190–214).

*Amphiuma means* is identified by having two toes on each limb with uniform dark brown body color, while *A. tridactylum* has three toes on each limb, a dark brown dorsum, a pale gray belly, and a dark brown throat patch. *Amphiuma means* has a geographic range from southeastern Louisiana (East Baton Rouge Parish) to Virginia, while *A. tridactylum* ranges from eastern Texas to central Alabama. Although this is a substantial range overlap (ca. 640 km), the intermediate forms with incongruent toe number or color pattern are known only from a relatively small subset of this area (Mandeville, Talisheek Bay, and Pearl River, Louisiana, 25 km max. distance). Because these intermediate individuals represent a very small portion of the population, e.g., only three of 131 specimens collected from the overlap zone were intermediates (Hill 1954, *op. cit.*), the degree of hybridization has been largely regarded as negligible.

Here, I report additional intermediate specimens from Livingston Parish, Louisiana, 75 km farther west into the zone of overlap. Three individuals were collected from a roadside ditch in Livingston Parish, Frost, Gum Swamp Rd. 8.7 km. S. jct. Hwy 42 (30.3500°N, 90.6852°W). The first (Southeastern Louisiana University, SLU 396) had uniform coloration (like *A. means*) and a toe count, following the format of Hill (1954, *op. cit.*), of Right Forelimb/Left Forelimb, Right Hindlimb/Left Hindlimb, of 2/2, 3/3. The second individual (SLU 395) had uniformly dark coloration, but three toes on each of the four limbs. The third individual (SLU 397) had pure *A. tridactylum* characters. Baker (1947. *J. Tennessee Acad. Sci.* 22:9–21) described seven different toe patterns, including the normal number and shape for *A. means* and *A. tridactylum*, as well as a variety of anomalies. In each of the three individual *Amphiuma* that I collected, the two-toed and three-toed morphology was typical of *A. means* and *A. tridactylum*, as shown in Baker (1947, *op. cit.*, fig. 2a, d), and not otherwise anomalous or the result of mutilation. Discovery of these new intermediate individuals suggests that the relationship between *A. means* and *A. tridactylum* may be much more complicated than previously believed. Understanding this relationship will require extensive genetic sampling in the zone of overlap.

Submitted by **CLIFFORD L. FONTENOT, JR.**, Department of Biological Sciences, Southeastern Louisiana University, Hammond, Louisiana 70402, USA; e-mail: [cfontenot@selu.edu](mailto:cfontenot@selu.edu).

**ANEIDES AENEUS** (Green Salamander). **RED PROTRUSIONS ON BODY**. *Aneides aeneus*, a crevice-dwelling species, is strictly terrestrial and the genus is considered