A. maculatum in eastern Canada (late March to mid May; Gilhen 1984, *op. cit.*) coincides with the period when Barred Owl chicks may be in the nest (Karalus and Eckert 1974. The Owls of North America. Doubleday and Co., New York. 278 pp.)

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***AMBYSTOMA MACULATUM* (Spotted Salamander). REPRODUCTION.** The Spotted Salamander is a wide-ranging salamander of the eastern United States that typically breeds in winter or early spring in ephemeral pools in lowland forests. *Ambystoma maculatum* is known to deposit 2–4 egg masses per year, each containing 1–250 eggs (Bishop 1941. New York State Mus. Bull. 324:1–365; Shoop 1974. Ecology 55:440–444). A positive relationship between SVL of the female and clutch size (i.e., full complement of eggs produced in a season) has been documented (Kaplan and Salthe 1979. Amer. Nat. 113:671–689; Wilbur 1977. Amer. Nat. 111:43–68), though Woodward (1982. Copeia 1982:157–160) states this relationship existed at only one of his two sites. Conversely, Shoop (1974, *op. cit.*) determined that adult female size was not a reliable index of clutch size. It is not known if a positive relationship exists between the SVL of a female and the number of embryos in her egg masses. In most studies, unless determined through direct observations in the field or genetics, the female responsible for a particular egg mass is unknown (Karraker and Gibbs 2011. Hydrobiologia 664:213–218). We have determined by chance the female responsible for five egg masses in our population through a novel means.

As part of ongoing research into the ecology and reproductive biology of Spotted Salamanders in the Kisatchie District of Kisatchie National Forest in Natchitoches Parish, Louisiana, USA, we have been counting the number of embryos per egg mass. We accomplish this by taking a digital photo of an egg mass as it is pressed gently between two clear plastic trays in a technique similar to Harris (1980. Copeia 1980:719–722), but where the bottom tray is marked with black lines 1 cm apart and then spray painted white to aid in counting embryos in the photograph (Fig. 1).

On 26 Jan 2012, we checked minnow traps that were set the previous evening to catch adult salamanders. We captured seven female *A. maculatum* in a small pool, six of which were still gravid. We took standard measurements, including SVL, and then implanted a Passive Integrated Transponder (PIT tag) into each adult female as was the protocol. About an hour after processing these animals we marked new *A. maculatum* egg masses found in the same small pool using PVC pin flags pushed carefully through the outer jelly. We did not have enough time to process them that evening, and it was not until a few days later on 1 Feb that we photographed those masses. We discovered that one of the masses flagged on 26 Jan contained a PIT tag in the outer jelly that corresponded to one of the six gravid females that were marked that same evening (Fig. 1). Therefore, the mass was laid within an hour after releasing the individual on 26 Jan in the daytime hours. On 1 Feb we again flagged new egg masses in the small pool and photographed these masses later on 8 Feb. Four of the masses flagged on 1 Feb and counted on 8 Feb contained PIT tags that corresponded to four of the remaining five gravid females captured in minnow traps in the small pool and tagged on 26 Jan.

A linear regression model indicated a significant positive relationship between the SVL of the female and the number of embryos per egg mass (Fig. 2, $R^2 = 0.85$, $p < 0.05$). The model shows an increase of 3.5 embryos per egg mass for every one millimeter of increased SVL. This result may seem intuitive as we know that larger females tend to have higher overall clutches (Kaplan and Salthe 1979, *op. cit.*; Wilbur 1977, *op. cit.*), but because this species typically lays multiple egg masses, the increased clutch size commonly observed in larger females may be represented by a greater number of embryos per mass as seen in this small sample, or alternatively, by laying an additional mass or two with the number of embryos per mass similar to smaller-bodied females.

To our knowledge, this is the first report of PIT tags being the means, albeit coincidentally, by which a particular egg mass of *Ambystoma maculatum* has been assigned to a particular female. Though we did retrieve PIT tags in egg masses from five of the six gravid females implanted, we are uncertain of the reliability

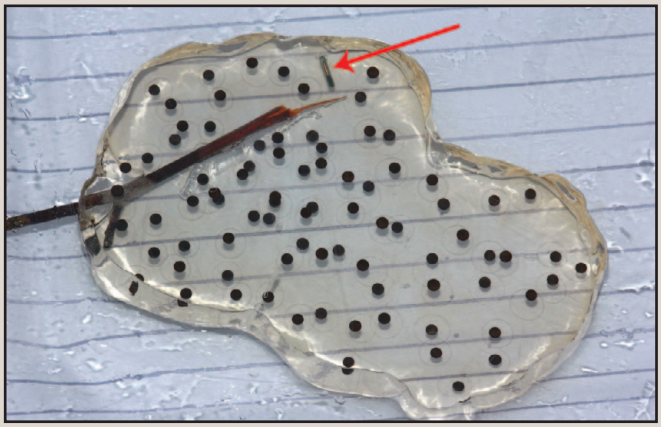

FIG. 1. An *Ambystoma maculatum* egg mass from Kisatchie National Forest, Natchitoches Parish, Louisiana, with a passive integrated transponder (PIT) tag laid with embryos in the outer jelly (top middle).

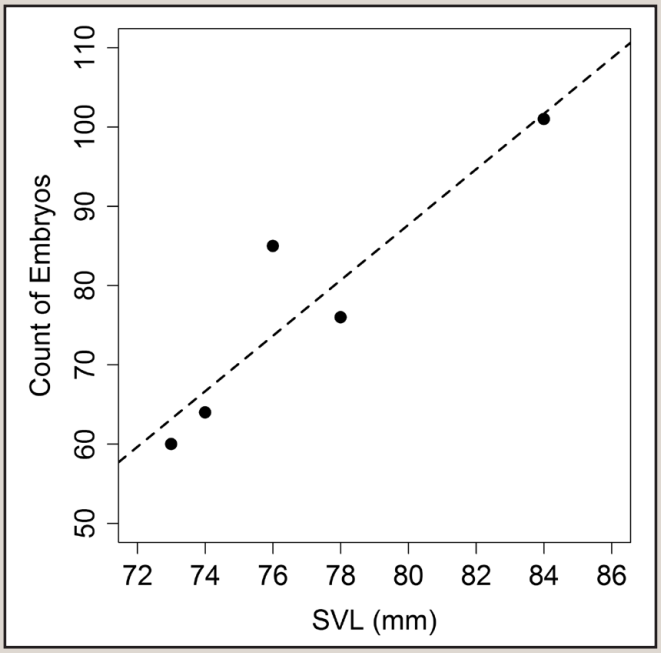

FIG. 2. The number of embryos per egg mass by snout–vent length (SVL) of female *Ambystoma maculatum.*

and safety of this technique to further elucidate the relationship between female body size and egg mass size. Besides potential harmful effects to the female or her clutch, only one egg mass would contain a PIT tag, and there may be considerable variation among multiple egg masses laid by the same female. For our purposes, losing the PIT tag from the adult female is counter to the goals of our study of this population, and we will no longer be implanting PIT tags into gravid females.

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***AMBYSTOMA TEXANUM* (Small-mouthed Salamander). MOVEMENT.** Understanding the amount of terrestrial habitat used by pond-breeding amphibians is critically important for their conservation (Semlitsch and Bodie 2003. Cons. Biol. 17:1219–1228). Reports on how far adult *Ambystoma texanum* move in terrestrial habitat are limited (Petranka 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington, DC. 587 pp.). To date there are only two studies reporting movement distances of this species based on a total of 15 marked individuals. On an island in southern Illinois, *A. texanum* was found to have moved a maximum distance of 19.7 m between terrestrial cover objects (N = 5; Parmelee 1993. Univ. Kansas Mus. Nat. Hist. Occ. Pap. 160:1–33), and in southern Indiana, the range of distances *A. texanum* moved away from a breeding pond was 0–125 m, with an average of 52.4 m traveled (N = 10; Williams 1973. Ph.D. dissertation. Indiana University, Bloomington, Indiana. 47 pp.). Here we report an account of *A. texanum* movement in northeast Ohio.

As part of an ongoing monitoring project in Cuyahoga Co., Ohio, USA (41.55937°N, 81.59275°W; WGS84), from 16 to 24 March 2011 adult *A. texanum* were captured in funnel traps placed in breeding ponds, marked with visible implant elastomer (VIE) and then released. While opportunistically searching terrestrial cover objects at the study site on 20 April 2011, a VIE-marked adult female *A. texanum* was captured under a small log 58 m from the breeding pond where it was originally marked. Our finding is comparable to the average movement found by Williams (1973, *op. cit.*), but over twice as large as that found by Parmelee (1993, *op. cit.*). This account will add to the number of documented movements, as well as increases the number of geographic locations *A. texanum* movement has been observed.

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***PLETHODON JORDANI* (Jordan's Salamander). NEST GUARDING.** Very little is known about the eggs and young of *Plethodon jordani*, a species endemic to the Great Smoky Mountains National Park, USA. Egg clutches have never been reported, but it has been conjectured that females oviposit underground in late spring or early summer and that hatchlings emerge in late summer or fall (Petranka 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington, DC. 587 pp.; Beane et al. 2010. Amphibians and Reptiles of the Carolinas and Virginia, 2nd ed. Univ. North Carolina Press, Chapel Hill, North Carolina. 288 pp.).

At 1045 h on 19 Jun 2010, I flipped a piece of decaying bark on the north side of the Appalachian Trail, Cocke Co., Tennessee, USA (35.72166°N, 83.24580°W) and observed an adult *P. jordani* with its body encircling a clutch of eggs. The adult quickly fled into a hole in the substrate. I counted at least 17 eggs in the clutch. Eggs were translucent, creamy white in color, and in a thin gelatinous mass (Fig. 1A). A second clutch that contained at least 25 eggs was observed under a similar sized piece of moss-covered bark ca. 30 m away at the same site (Fig. 1B). I attribute these eggs to *P. jordani* because they were similar in size, shape, and color to the previous nest and because *P. jordani* is the most common salamander species at the site. Eight other adult *P. jordani* and one adult *Desmognathus wrighti* were also observed under pieces of bark and decaying logs at the site. The habitat is comprised of spruce-fir forest with a substrate of moist needles.

This note is the first known record and description of *P. jordani* eggs. In addition, this species has never been observed to guard nests, though other *Plethodon* species (e.g., *P. cinereus*, *P.*

FIG. 1. A) Clutch of *Plethodon jordani* eggs found under decaying bark on 19 Jun 2010. An adult was observed encircling the clutch. B) Second clutch of eggs found under moss-covered bark ca. 30 m from the clutch in (A), also attributed to *P. jordani*.