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The ringed salamander, *Ambystoma annulatum*, is a long, slender ambystomatid salamander that is endemic to the Interior Highland ecoregion of Arkansas, Missouri, and Oklahoma (Anderson, 1965; Petranka, 1998). The reproductive biology of this species has been studied relatively well within Missouri and Arkansas (Noble and Marshall, 1929; Trapp, 1956, 1959; Spotila and Beumer, 1970; McDaniel and Saugey, 1977; Brussock and Brown, 1982; Hutcherson et al., 1989; Nyman et al., 1993; Briggler et al., 1999). By all of these accounts, breeding migrations to ponds typically coincide with heavy autumnal rains which usually begin in late September; breeding activity normally ceases by mid November. The only confirmed exception to autumnal breeding in *A. annulatum* was reported by Trauth et al. (1989) from the Sylamore Ranger District (SRD) of the Ozark National Forest (Baxter County) of northcentral Arkansas; the first observation of this behavior occurred on 14 February 1987. During the intervening years since the initial winter breeding observation, my colleagues and I have observed additional records of winter breeding activity in *A. annulatum* from the same geographic region. In the following, I report on the most recent occurrence of this phenomenon in this species and summarize other instances regarding winter breeding observed over a span of 14 years.

In contrast to the initial winter breeding site (Trauth et al., 1989) which was a remarkably small, ephemeral pool (dimensions of around 3.5 m X 4.0 m; the depth was ca. 0.5 m), the temporary woodland pond from which the most recent specimens were taken (see Trauth et al., 2000) is much larger (dimensions around 30 m X 40 m; maximum depth = 0.35 m). Its location is within Stone County of the SRD. Since the 1987 observation, eight visits during the month of February to additional ponds and flooded woodland depressions within the SRD have yielded breeding ringed salamanders in four more years (1988, 1991, 1998, and 2000). Three of these observations were from the location described above. The most recent breeding incident (26 February 2000) occurred following moderate rainfall on the 25th and 26th of February. A total of 17 adults (1 male; 16 females) was collected; the breeding site is also utilized, concurrently, by a number of other amphibian species (i.e., wood frogs--*Rana sylvatica*, spring peepers--*Pseudacris crucifer*, and spotted salamanders--*Ambystoma maculatum*). Surprisingly, this woodland pond was completely dry on 17 February 2000 as a result of a fall/winter drought (total precipitation during the preceding months of October, November, December, and January = 5.1, 3.1, 11.1, and 4.3 cm, respectively) and was nearly dry again on 17 March 2000 (February precipitation = 6.4 cm at the precipitation recording station in Mountain View, Arkansas). While returning the ringed salamanders communally in a chilled, plastic, water-filled container to the herpetology lab at Arkansas State University (on the 26th), most females began laying eggs. Egglaying continued for three days in a refrigerator and produced a combined total of 3,285 eggs which averaged 205.3 eggs per female. Females averaged 89.6 mm in snout-vent length (range, 80 - 98).

The possibility exists that these ringed salamanders were stimulated by local rainfall to migrate to breeding ponds that had previously been dry as a consequence of the lack of adequate rainfall during the normal breeding cycle the preceding fall. This hypothesis was rejected by Trauth et al. (1989) as providing the breeding stimulus for the first observation; they based their judgment on the occurrence of sufficient rainfall to fill ponds during the fall/winter months of 1986-1987. Thus, the present ringed salamanders as well as the ones of the initial discovery were not likely holdovers from the fall breeding cycle.

At present, five instances of winter breeding have been observed during February in the SRD. These data suggest that winter mating and egglaying may actually be a common phenomenon in ringed salamanders. At the present, however, it remains unclear as to why *A. annulatum* frequently breed during the winter in the SRD as well as why this observation has not been reported in other geographic areas in the Interior Highlands.

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