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Abnormally pigmented anurans, both adults and tadpoles, have been observed for several species, with abnormalities including both albinism and leucism (no skin pigment but eyes pigmented) (reviews in Hensley, 1959; Dyrkacz, 1981). Here I report leucism in a tadpole Wood Frog (*Lithobates sylvaticus*) from central Ohio. Previously, Mitchell and White (2005) reported a leucistic Wood Frog tadpole from northern Virginia. Toledo et al. (2011) suggested that we need more reports of such abnormal pigmentation to better understand their appearance and distribution in nature.

As part of a mesocosm experiment, I introduced a total of 2550 Wood Frog tadpoles into 48 mesocosms (1135 L cattletanks filled with 800 L of well water) on 6 April 2014. Tadpoles were Gosner Stage 25 (Gosner, 1960) when introduced into the experiment. Wood Frog tadpoles were derived from 8 partial clutches collected from a local pond on the Denison University Biological Reserve, Granville, Licking Co., Ohio, USA (40°05'07.32"N, 82°30'33.92"W; datum: WGS84, elev. = 341 m). During the course of the experiment, the abnormally pigmented tadpole was noticed in one of the mesocosms (Fig. 1), and its status was noted throughout the experiment. The tadpole had pigmented eyes, and there appeared to be a cream color to its body, but it was lacking any darker pigments observed in other Wood Frog tadpoles. Thus, it appears this tadpole exhibited leucism, and is similar to the description by Mitchell and White (2005). Thompson and Rea (2013) reported a leucistic adult *L. sylvaticus* from a population in British Columbia, Canada. To my knowledge, the only other previous observation of leucism in tadpoles of *L. sylvaticus* was that reported by Mitchell and White (2005) (see reviews in Hensley, 1959; Dyrkacz 1981).

Fig. 1. Leucistic Wood Frog (*Lithobates sylvaticus*) tadpole observed in a mesocosm in Granville, Licking Co., Ohio, USA. Note the normally pigmented Wood Frog tadpole to the right of the leucistic tadpole.
The abnormally pigmented tadpole did not metamorphose by the end of the experiment on 27 June 2014. It had reached Gosner Stage 39-40. I attempted to continue raising the tadpole to metamorphosis in the laboratory but the tadpole died 2 days later. Mitchell and White (2005) observed that the leucistic tadpole they found developed slower relative to other Wood Frog tadpoles in their ponds.

The observed abnormal pigmentation is quite rare since only one such tadpole was observed (= 0.039% of those introduced to the experiment; = 0.054% [1 of 1851] recovered at the end of the experiment). These estimates of frequencies are likely overestimates since I did not observe any abnormal pigmentation in the tadpoles not used in the experiment. In addition, I have observed no similar tadpoles or metamorphs in local ponds over the past 13 years. Taken together with the observations of Mitchell and White (2005), it is clear that leucism is very rare in Wood Frog tadpoles.

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Literature Cited


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