Phänotypische Plastizität bei Wachstum und Entwicklung von Larven der Nördlichen Geburtshelferkröte (*Alytes obstetricans*) in einem Thüringer Karstbach

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Phenotypic plasticity in the growth and development of larvae of the common midwife toad (*Alytes obstetricans*) in a karst brook in Thuringia

The growth and development of the larval population of the Common midwife toad (*Alytes obstetricans*) were examined between 2003 and 2009 in a karst brook in northern Thuringia, Germany. The flow is highly seasonal from early summer, the karst stream breaks up into a series of scour basins, which differ significantly in their water temperature and sunshine. Depending on the temperature profile, growth and development of the larvae are prioritized differently. The development rate is high in the warmer, sun-drenched scour basins, and more or less strong growth takes place depending on the temperature. The development period is short and the larval size for metamorphosis remains relatively small. All or almost all larvae metamorphose in the hatching year. In the cold, sun-drenched scour basins, the development is inhibited and, depending on the temperature, leaves room for the growth of the larvae. Combined with a long development time, the larvae metamorphose with a high body mass. The larvae population overwinter here either entirely completely or in high proportions. In a shaded scour basin both growth and development processes are inhibited, even though the water temperature takes average values of the pools. Wintering larvae are particularly at risk of drifting due to the spring floods, but survivors should bring better starting conditions for their life on land due to the larger mass at the time of the metamorphosis. The conditions for the important factor water temperature, which determines the prioritization between growth and development, are discussed.

Key words: Amphibia, midwife toad, *Alytes obstetricans*, larvae, development, growth, water temperature.

Zusammenfassung

Wachstum und Entwicklung des Larvenbestandes der Nördlichen Geburtshelferkröte (*Alytes obstetricans*) wurden zwischen 2003 und 2009 in einem Karstbach Nordthüringens untersucht. Ab dem Frühsommer zerfällt der Karstbach in eine Reihe von Kolken, die sich deutlich durch ihre Wassertemperatur und Besonnung unterscheiden. Entsprechend des Temperaturverlaufs werden Wachstum und Entwicklung der Larven unterschiedlich priorisiert. In den wärmeren besonnten Kolken ist die Entwicklungsrate hoch, daneben findet je nach Temperaturausstattung mehr oder weniger starkes Wachstum statt. Die Entwicklungsdauer ist kurz und die Larvengröße zur Metamorphose bleibt relativ gering. Alle oder ein hoher Anteil der Larven me-