

Biologie der Erdkröte (*Bufo bufo*) in einer Wildflusslandschaft (obere Isar, Bayern)

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Biology of *Bufo bufo* in a dynamic floodplain of a braided river (upper Isar, Bavaria)

A *Bufo b. bufo* population is described which in several biological respects contrasts with the well-known pattern in this species. The population lives in a dynamic floodplain of an unregulated braided river at the northern border of the Alps. The toads cope with habitat dynamics and unpredictability by means of flexibility in reproductive biology, ecological and behavioural plasticity, alternative mating strategies, distinct habitat selection and local genetic adaptations. – Spawning occurs synchronously, but in an opportunist fashion as soon as the small temporary ponds are filled. Spawning ability is maintained for at least 3.5 months (end of March until beginning of July). Advertisement calls are an important male mating strategy. Spawn site selection is very distinct, which minimizes losses of spawn and larvae and allows rapid egg and tadpole development. Metamorphosis can be completed as fast as 40–45 days after egg-laying. Spawning aggregations are small; aggregation size depends on pond size, warming up capability and quantity of vegetation or other structures. Local genetic adaptations underlie the trade-off between egg size and egg number and probably underlie a prolonged ovulation ability, a delayed resorption of spawn as well as an enhanced temperature tolerance of eggs and larvae. Toads that spawn late for endogenous reasons, are more frequent than in regular populations. Breeding pond fidelity is very high in the dynamic floodplain habitat, too, but some males change waterbodies even within one season. Adult toads are relatively big and old, survival rates are high. Males can get ≥ 13 , females ≥ 14 years. Characteristics of life courses, demography and population dynamics fit in with phenotypic plasticity and probably clinal variation with altitude.

Key words: Amphibia, Anura, *Bufo bufo*, alternative strategy, braided river, demography, floodplain, habitat dynamics, habitat selection, local adaptation, long-term study, phenotypic plasticity, reproductive plasticity.

Zusammenfassung

In der Wildflussaue der oberen Isar am südbayerischen Alpenrand lebt eine Erdkrötenpopulation (*Bufo b. bufo*), deren Biologie deutlich von dem aus zahlreichen anderen Populationen bekannten Muster abweicht. Die Erdkröten meistern die Herausforderungen des dynamischen Lebensraumes mittels ökologischer, fortpflanzungsbiologischer und ethologischer Plastizität, einer alternativen Paarungsstrategie, distinkter Habitatselektion und lokaler genetischer Anpassungen. – Die Individuen der Population laichen zwar weitgehend synchron, aber phänologisch flexibel und opportunistisch, sobald die temporären Laichgewässer gefüllt sind. Die Laichbereitschaft hält mindestens dreieinhalb Monate an (Ende März bis Anfang Juli). Lockrufen ist eine sehr wesentliche Paarungstaktik der Männchen. Eine differenzierte Aus-