

## **Dynamik einer Kammolch-Metapopulation (*Triturus cristatus*) auf militärischem Übungsgelände (Schmittenhöhe, Koblenz):**

### **2. Saisonale Variation der Bestände in zwei Laichgewässern**

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#### **Dynamics of a crested newt metapopulation (*Triturus cristatus*) at a military training area (Schmittenhöhe, Koblenz):**

##### **2. Seasonal variation of population size in two breeding ponds**

In 1995 and 2001 the dynamics of two local populations which formed part of a crested newt metapopulation were studied in ponds located within a military training area (Rhineland-Palatinate). In the isolated pond 1 without training impact and significant littoral and submersed vegetation, the Jolly-Seber estimate of the breeding population size was about 75–125 individuals and did not vary between 1995 and 2001. Accumulation rates of registered individuals suggested a population size of 70 (1995) and 100 newts (2001), respectively. However, timing of immigration to the pond, breeding period and emigration differed markedly between the years. Immigration did not start before late April 1995 and thus, was delayed by about one month compared to immigration in 2001. Immigration was completed within two weeks. Duration of reproductive activity (6–7 weeks) was about the same in both years, but was delayed in 1995 due to late immigration. In pond 2 with high training impact and very little vegetation in 2001, the Jolly-Seber estimate of the breeding population size was about 230–320 individuals, whereas only 200 individuals were registered. Following breeding 68 % and 77.5 % of the newts left pond 1 and 2, respectively. Most of the other newts stayed until late August. Estimates of population size and rates of migratory individuals were hampered by a low sampling efficiency (5–27 %) per census, but overall sampling efficiency varied between 56 % and 80 % (per season). The condition index of males continuously declined from the beginning to the end of the aquatic residence, but significantly stronger in pond 2, suggesting little food resources. However, average condition index was significantly higher in pond 2. In contrast to males, the condition index of females regained initial values at the end of the aquatic period and there were no difference between average condition of the inhabitants of ponds 1 and 2.

**Key words:** Amphibia, Urodela, Salamandridae, *Triturus cristatus*, Jolly-Seber, condition index, accumulation rate.

#### **Zusammenfassung**

In den Jahren 1995 und 2001 wurde die Bestandsdynamik von zwei Lokalpopulationen innerhalb einer Kammolch-Metapopulation in zwei Laichgewässern auf einem Standortübungsplatz der Bundeswehr (Schmittenhöhe bei Koblenz, Rheinland-Pfalz) untersucht. Im isoliert gelegenen Tümpel 1 ohne Übungseinfluss und mit ausgeprägter Ufer- und Unterwasservegetation betrug die Jolly-Seber Schätzwerte der Bestandsgröße 75–125 Molche sowohl 1995 als auch 2001. Die Akkumulationskurven