

Populationsstruktur und -entwicklung der Gelbbauchunke (*Bombina variegata*) in Schaumburg (Niedersachsen)

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Population structure and development of the yellow-bellied toad (*Bombina variegata*) in the district of Schaumburg (Lower-saxony)

Amphibian declines are occurring worldwide. One species, which is affected in Europe, is the yellow-bellied toad (*Bombina variegata*). It is especially endangered at the northern limit of its distribution range primarily due to habitat destruction. Regarding to obtain information how to protect this species, the most northern populations in the Bückeberge including four subpopulations and two more in the Wesergebirge (Lower-Saxony, district of Schaumburg) were examined. The main questions were: (1) Which population size and age structure characterise each of the six subpopulations? (2) Are there possible conclusions about the population development (in terms of management strategies) in history and future? A capture-recapture analysis was conducted over eight consecutive years. In the whole study area almost 2400 individuals of the yellow-bellied toad were found over the investigation period. The sex ratio of this species varied seasonally but differed not between the subpopulations. It was balanced over the whole run of the study. There was a positive trend in metapopulation size with ten times more adult individuals after eight years. Juveniles and subadult individuals were difficult to find. There was a strong difference in structure between subpopulations within the years and there was an interaction between years and subpopulations. The largest number of individuals was found in an old quarry, which is exclusively managed for the yellow-bellied toad as a target species. In contrast, the population size in intensively used quarries was much lower. However, within these habitats populations showed also an increase in size over the course of the study. On a former military training area we recorded a small population with low reproduction. Other sites, surrounded by forests were sparsely populated but functioned as stepping-stones with sporadic reproduction. By comparing the population structure on the basis of mean snout-vent length we could draw conclusions about reproduction success in previous years. We predict a positive population trend for the following years.

Key words: Amphibia, *Bombina variegata*, population growth, population size, sex ratio.

Zusammenfassung

Amphibien sind derzeit weltweit stark im Rückgang begriffen. Eine in Europa betroffene Art ist die Gelbbauchunke (*Bombina variegata*), deren Bestände vorwiegend aufgrund von Lebensraumzerstörung und -veränderung besonders stark an ihrem Arealand zurückgehen. Um Informationen zum Schutz der Art gewinnen zu können,