

Morphological comparison of two populations of the Smooth Newt, *Triturus vulgaris*, from western Anatolia

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Abstract. Individuals of the Efes population of *Triturus vulgaris* were found to be significantly smaller than other populations of the nominate subspecies in Turkey. This difference had been found previously and thus seems to be constant over the years. Comparison was made with a population from Manisa, which is only 110 km away from Efes, but is separated by the Bozdağlar Mountains up to 2159 m high. Males in particular differ significantly in various morphometric characters, whereas females were found to be quite similar. The question of whether the difference between the two populations can be attributed to environmental factors or may be due to genetic isolation is discussed. Some external characters such as the form of the crest and the tail tip were shown not to be constant over the years and are thus not useful for taxonomic analysis.

Kurzfassung. Beim Teichmolch *Triturus vulgaris* sind die Angehörigen der Population aus Efes signifikant kleiner als jene von anderen Populationen der Nominatunterart in der Türkei. Dieser Unterschied war bereits zuvor festgestellt worden und scheint über die Jahre hinweg konstant zu bleiben. Es wurde ein Vergleich mit der Population von Manisa, das nur 110 km von Efes entfernt ist, aber durch die bis zu 2159 m hohen Bozdağlar-Berge getrennt wird, angestellt. Besonders bei den Männchen fanden sich signifikante Unterschiede bei verschiedenen morphologischen Merkmalen, während die Weibchen weitgehend gleich waren. Es wird diskutiert, wie weit sich diese Unterschiede durch Umwelteinflüsse erklären lassen oder auf genetische Isolation zurückgeführt werden können. Einige externe Merkmale wie Form des Kamms oder Form der Schwanzspitze erwiesen sich als über die Jahre hinweg nicht konstant und können daher in taxonomische Analysen nicht einbezogen werden.

Key words. Genetic isolation, Efes, Manisa, Turkey, Aegean region, Middle East.

Introduction

Up to four subspecies of the Smooth Newt, *Triturus vulgaris*, have been recognized from Turkey: *T. v. vulgaris* occurs in Thrace and West Anatolia from Gemlik through Bursa, Balıkesir, Manisa and İzmir to Efes (BAŞOĞLU et al. 1996, OLGUN et al. 1999) and *T. v. kosswigi* extends from the east of the Bosphorus through to İzmit, Adapazarı and Abant to Ereğli on the Black Sea coast (HUŞENGI 1980, YILMAZ 1983, OLGUN et al. 1999). The Georgian subspecies *T. v. lantzi* is thought to occur in north-eastern Turkey by SCHMIDTLER & SCHMIDTLER (1967) and TARKHNISHVILLI (1996), but not by others (YILMAZ 1989, OLGUN et al. 1999). The subspecies *T. v. schmidlerorum* from the coastal area of the Sea of Marmara and western Anatolia, which is characterized by its smaller size, pointed projections on the free margin of the dorsal crest, an indistinct foot webbing and no tail filament (RAXWORTHY 1988, 1990, MACGREGOR et al. 1990, GRIFFITHS 1996), is provisionally included in *T. v.*