

## Der Fadenmolch (*Triturus helveticus*) in Europa – Ansätze zur Erklärung eines Verbreitungsgebietes

MARTIN SCHLÜPMANN

Biologische Station Westliches Ruhrgebiet, Ripshorster Straße 306, D-46117 Oberhausen,  
martin.schluepmann@bswr.de

### The palmate newt (*Triturus helveticus*) in Europe – First attempts to explain a distribution range

The distribution of the palmate newt represents an atlantic or sub-atlantic range type. The species reaches more than 2400 m NN in Northern Spain and only 800 m NN in Scotland at the northern border of its range, but does not exceed the montane zone in most regions. In Northern Portugal, Spain, France and Great Britain the palmate newt occurs even in the coastal region but at the continental border of its range it is less abundant in lowlands and limited to the montane zone in Central Europe. Thus the palmate newt exhibit a clear relation to mild humid climate of oceanic type, especially cool to moderate summer temperatures and relatively high precipitation. These conditions are given in the western part also in the planar zone but are limited to the montane zone in the eastern part of the range. Forests guaranteeing a humid and equable terrain climate are preferred habitats. The geology (silicate or limestone) of the terrain has no direct influence on the occurrence. However, it indirectly influences the type of landscape. The palmate newt occurs sympatrically with other newt species and is often even syntopic with them. In Central Europe it is only the alpine newt, which is significantly syntopic to the palmate newt. Concerning the smooth newt with its similar food preferences the palmate newt seems to avoid a syntopic existence, due to a different habitat preference directed to forested areas. The isolated populations north of the range border in Lower Saxony and in Saxony as well as at the southern edge on the Iberian Peninsula indicate relatively recent changes of the range, although it is dubious, if these populations are relicts or pioneers.

**Key words:** Amphibia, Urodela, Salamandridae, *Triturus helveticus*, area of distribution, vertical distribution, limit of distribution, areal diagnosis, climatic type, wood, syntope (*Triturus*), chorology.

### Zusammenfassung

Der Fadenmolch ist eine atlantisch bis subatlantisch verbreitete Art. Sie erreicht in den nordspanischen Gebirgen Höhen von über 2400 m NN, in Schottland am Nordrand der Verbreitung nur noch etwa 800 m NN. Die montane Zone wird meist nicht überschritten. Während die Art in Nord-Portugal, Spanien, Frankreich und Großbritannien bis zur Küste vorkommt, fehlt sie in Zentraleuropa in Richtung zur kontinentalen Verbreitungsgrenze zunehmend in den niedrigen Lagen und beschränkt sich auf die montane Zone. Der Fadenmolch zeigt eine deutliche Bindung an gemäßigte, ozeanisch geprägte, humide Klimate mit ausgeglichenen Temperaturen, insbesonde-