

DISTRIBUTION AND DECLINE OF AN ENDANGERED AMPHIBIAN SPECIES (*TRITURUS CRISTATUS*): EFFECT OF POND CHARACTERISTICS AND LANDSCAPE MATRIX

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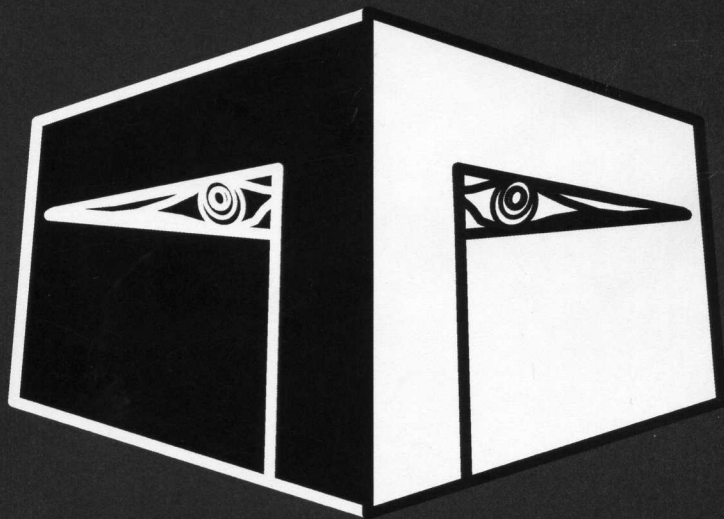
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Recent studies evidenced that amphibian species are declining worldwide at a high rate because of multiple stressors. The Great crested newt *Triturus cristatus* has been the target of several studies because of its endangered status (Habitat Directive: Annex II). However, the reasons of absence in ponds within areas where the species is present remain unclear. The aim of this study was to explain this pattern in analyzing at varied scales the determinants of its distribution and possible decline. To this end, with support of the Walloon Region, we censused 12 areas around populations that were described in a recent study in Pays de Herve (Belgium) and combined field, lab and GIS data (100 and 500m buffers around the 79 ponds). *T. cristatus* was found in 12 ponds (average reproductive population size: 7 individuals) but disappeared from six other ponds. Stepwise regression identified variables that act significantly at different levels: 1) Landscape composition and the possible structure in metapopulation (i.e. the number of ponds in the matrix); 2) Matrix configuration which determines the accessibility to the different landscape elements (i.e. the proximity of woods); and 3) The characteristics of the aquatic habitat (i.e. presence of favourable vegetation for egg-laying). In conclusion, this study shows that *T. cristatus* lost half the known populations in the study area and constitutes small-sized populations, which means it is locally endangered according to IUCN criteria. On another hand, the habitat analysis evidenced that conserving this and other species would imply to act at different scales.

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