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Conservation
(Poster Presentations)

Ecological modeling and paedomorphosis: a study case in Montenegrin newts

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The expression of alternative developmental pathways such as paedomorphosis is dependent on environmental determinants. However, the distribution of morphs in natural populations is little explained. Our aim was to use some of the recent advances in ecological modeling to explain the presence of paedomorphs at three scales of habitat: the reproductive patch (i.e., pond or lake), the land use and the climatologic features. We studied three species of newts (*Lissotriton vulgaris*, *Mesotriton alpestris* and *Triturus macedonicus*) that exhibit the polyphenism in the Montenegrin karst to find out whether similar variables explained the distribution of alternative morphs. Results show that the study area is both an important hotspot for paedomorphosis and where intraspecific diversity is quickly disappearing (20 to 47% extirpation) because of fish introductions. Other habitat variables (water permanency, pH or the habitat origin) were shown to act on paedomorphosis but not consistently across species, confirming complexity of the evolutionary and ecological processes. This study highlights the need of detailed modeling studies to understand the causes of declines within such hotspots of intraspecific diversity. Particularly, alien species should be surveyed and used in experimental designs to understand how they affect paedomorphosis



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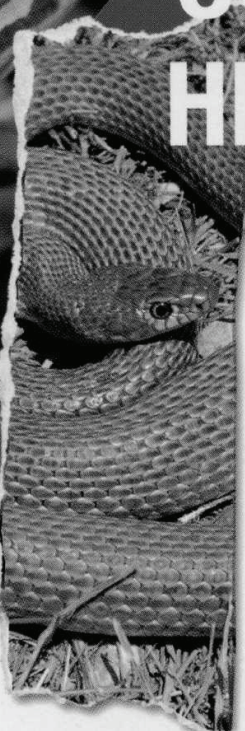
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