

THE EFFECT OF FOOD ON ONTOGENETIC PATHWAY SWITCHING IN PAEDOMORPHIC ALPINE NEWTS

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Paedomorphosis concerns the retention of larval characteristics in adult individuals. Newts that forgo metamorphosis and then retain gill and gill slits in the adult stage maintain an aquatic life but keep potential for undergoing metamorphosis. They are thus good biological models to test evolutionary hypotheses predicting ontogenetic pathway switching in unfavourable and stressful environments. They are also interesting targets to understand their maintenance in a large range of habitats. Our aim was then to examine the effect of food level on growth and metamorphosis of paedomorphic Alpine newts *Triturus alpestris apuanus* (Amphibia, Salamandridae) in an experimental replicated design. Paedomorphs metamorphosed later in treatments with food as a non-limiting factor than in stressful treatments where food was limited. Timing of metamorphosis did not differ between males and females. Food level greatly affected growth rates. These results confirm and extend optimality models that predict paedomorphosis under advantageous aquatic conditions (paedomorph advantage hypothesis) and metamorphosis in stressful aquatic habitats. M. Denoël is "Chargé de recherches du FNRS".

KEYWORDS: Alpine newt, Amphibian, Organism, Developmental processes – Predictive plasticity



Program

Abstracts

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