



## Wonderful metamorphic and paedomorphic alpine newts: diversity, biology and conservation

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Although the alpine newt (*Ichthyosaura alpestris*) has typically a developmental pathway that is characterised by the metamorphosis of an aquatic gilled larvae into a terrestrial morph, it can also exhibit paedomorphosis during which a larva can reach sexual maturity in retaining gills and other larval attributes. The plenary gives an overview of the diversity of patterns, processes and tactics exhibited by alpine newts, and this, by highlighting the specificities, costs, and benefits of the alternative phenotypes, the metamorphs and the paedomorphs. Despite a wide distribution and a broad range of habitats, the phenotypes differ in their use of freshwater environments, from temporary ruts to alpine lakes. Mark-recapture surveys and experiments revealed the proximate causes of metamorphosis and habitat transition, and on the advantages of dispersal from detrimental waters. The morpho-functional specializations of each morph give them multiple advantages in terms of spatial and food resource partitioning whereas trophic tactics improve energy acquisition. As evidenced by skeletochronology, growing in different habitats can be associated with contrasting developmental processes, progenesis and neoteny, both giving rise to paedomorphs. Particularly, an early maturation can give them immediate reproductive advantages. As with other newts, alpine newts display a rich variety of courtship displays, from foreplay to sperm transfer and beyond, with sneaking tactics depending on partner receptivity. Decoupling between somatic and reproductive development and behaviour makes it possible paedomorphs to breed. Often seen as less threatened than other species, alpine newts are yet declining. Longitudinal surveys revealed declines and population losses in both phenotypes but with an alarming extinction pattern in paedomorphs. Many anthropogenic drivers explain declines but the main one associated with the disappearance of paedomorphs is the introduction of alien teleosts. These fish can either prey on both phenotypes or disturb them, what results in a low fitness and, for metamorphs, dispersal. Conservation actions should therefore take place to maintain preserved habitats and remove threats, with a special focus on the last remaining populations of paedomorphs as a highly valuable part of diversity.



# Verbreitung, Ökologie und Schutz des Bergmolches (*Ichthyosaura alpestris*)

Lurch des Jahres 2019



Internationale Fachtagung zum Bergmolch am  
23. und 24.11.2019 in LINZ/OBERÖSTERREICH

Programm und Zusammenfassungen





12:20 – 12:30 Uhr KWET, A, ET AL.: **Vorstellung des Tier des Jahres 2020**

**12:30 – 14:00 Uhr** **Mittagspause**

Chair: ANDREAS MALETZKY

**14:00 – 14:45 Uhr** **Plenary:** DENOËL, M.: Wonderful metamorphic and paedomorphic alpine newts: diversity, biology and conservation

14:45 – 15:10 Uhr SCHLÜPMANN, M. ET AL: Beiträge zur Habitatwahl und räumlichen Einnischung des Bergmolches

15:10 – 15:35 Uhr GLASER F. & G. LUDWIG: Beobachtungen zur Reproduktion von Bergmolchen in temporären Pioniergewässern in den Tiroler Lechauen

**15:35 – 16:00 Uhr** **Kaffeepause**

Chair: ARNO GEIGER

16:00 – 16:25 Uhr GROSSENBACHER K.: Pigment- und Entwicklungsanomalien bei einheimischen Molchen, insbesondere dem Bergmolch; Beispiele aus der Schweiz

16:25 – 16:50 Uhr FOERSTER, K.: Alles Walzer, aber bitte Herrenwahl: Wie Bergmolchweibchen ihre Fekundität signalisieren

16:50 – 17:00 Uhr DENOËL, M.: Vorstellung Societas Europaea Herpetologica (SEH)

**17:15 – 18:45 Uhr** **Versammlung der DGHT - AG  
Feldherpetologie und Artenschutz**

ab 19:30 Uhr **Gemeinsames Abendessen im Klosterhof**

