

## Populationssysteme, Habitatnutzung und Gefährdung der Wasserfrösche (*Pelophylax* sp.) im österreichischen Bundesland Salzburg und Teilen Oberösterreichs

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### Population systems, habitats and conservation status of water frogs (*Pelophylax* sp.) in the Austrian province of Salzburg and parts of Upper Austria

Three water frog taxa occur in the Austrian province of Salzburg: The pool frog (*Pelophylax lessonae*), the marsh frog (*P. ridibundus*) and their hybrid the edible frog (*P. esculentus*). Because of difficulties of exact species identification, almost all earlier records did not differentiate between the three forms which are different concerning ecology and protection status. In order to adopt EU-wide as well as local species protection regulations, the current research provides first concrete distribution maps as well as IUCN Red List criteria for each water frog taxon for the province of Salzburg. In the years 2011 and 2012 we examined 259 water frogs of 34 locations all over Salzburg as well as adjacent parts of Upper Austria. Eight morphometric parameters were measured of each frog. According to these parameters specific indices were calculated and statistically analyzed. Cluster analysis was able to plausibly assort 254 frogs into three species. 134 specimens (52,8%) were classified as *P. esculentus*, 62 (24,4%) as *P. ridibundus* and 58 (22,8%) as *P. lessonae*. *Pelophylax ridibundus* dominates in the northern lowland area of Salzburg (Flachgau) and was found here in 80% of sampled populations, while it is absent from the disjunct upper Salzach valley (Oberpinzgau). *Pelophylax lessonae* on the other hand dominates the inner Alpine area and was found here in 75–100% of sampled populations, while in the northern lowlands it could only be found in 24% of sampled populations. The hybrid taxon *Pelophylax esculentus* was found together with at least one of the parent species on every location with more than 5 samples. *Pelophylax ridibundus* and *P. esculentus* inhabit various kinds of ponds, even in very anthropogenically influenced areas and were ranked as „Least concern“. Furthermore there are a lot of reports of recent colonization of habitats around the city of Salzburg by water frogs, which turned out to be *P. ridibundus*-*P. esculentus* (RE)-populations. This leads to the conclusion that *P. ridibundus* is a spreading and possibly invasive species for Salzburg. *Pelophylax lessonae* was only found in very natural habitats like raised bogs as well as inner Alpine wetlands and is now ranked as „critically endangered“. In order to preserve this species in Salzburg, which is listed on Annex IV of the EU Habitats Directive, there is need of strict habitat protection and long-term restoration of habitat-networks.

**Key words:** Water frogs, *Pelophylax*, Salzburg, Upper Austria, morphometric species identification, cluster analysis, distribution, invasive species, conservation.