

# RESEARCH AND CONSERVATION OF THREATENED LATVIAN AMPHIBIANS



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## INTRODUCTION

Latvia has 13 species of amphibians, all of which are widely spread across Europe. While in the IUCN Red list all species are listed as Least Concern, a **reevaluation** of native Latvian populations by IUCN criteria showed that three species are actually **threatened** (*Bombina bombina*, *Epidalea calamita*, *Bufo viridis*) and two are **near threatened** (*Triturus cristatus*, *Hyla orientalis*) (Ceirāns 2022). It should be noted that many of these species distribution areas reach their northern limit in Latvia. This shows the importance of assessing **native populations** to find out their conservation needs. Zoos can provide **essential help** for native species research and conservation. Riga ZOO research team currently works with three of the threatened amphibian species. Currently our work mostly focuses on **genetic research** and **monitoring**. Since the first record of *Ranavirus* in Latvian wild (Birbele et al. 2023) the monitoring of amphibian **pathogens** has also increased in priority.

### EASTERN TREE FROG *Hyla orientalis*



#### BACKGROUND

The tree frog in Latvia was reintroduced by Riga ZOO in late 90ties after **extinction** (Zvirgzds et al. 1995). Since then the population has been slowly growing and **expanding**, but preliminary research (Birbele et al. in press) raised concerns about the current genetic condition of the population.



#### CONSERVATION GOAL

Assess the genetic condition and perform genetic restoration



#### CURRENT ACTIONS

- Testing for genetic diversity and inbreeding level
- Identifying potential donor population for breeders
- Pathogen analysis for presence of *Ranavirus* and Chytrid fungus (Bd, Bsal)

### NATTERJACK TOAD *Epidalea calamita*



#### BACKGROUND

The natterjack toad has several **fragmented** populations in Latvia and across Baltic states. For many years Rīga ZOO has been **supplementing** the native population with captive bred toads.



#### CONSERVATION GOAL

Merge the fragmented populations to ensure gene flow and connectivity



#### CURRENT ACTIONS

- Supplementation of populations
- Monitoring survival rate of released toads
- Genetic analysis of gene flow
- Pathogen analysis for presence of *Ranavirus* and Chytrid fungus (Bd, Bsal)

### GREEN TOAD *Bufo viridis*



#### BACKGROUND

Little is known about the green toad population in Latvia. Therefore the first steps are assessing the population **distribution** with special interest in the **metropolitan area** of Riga. Currently green toad conservation actions are in planning stages.



#### CONSERVATION GOAL

Gain knowledge about the distribution and condition of the population



#### PLANNED ACTIONS

- Population monitoring involving citizens.
- Pathogen analysis for presence of *Ranavirus* and Chytrid fungus (Bd, Bsal)

## REFERENCES

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