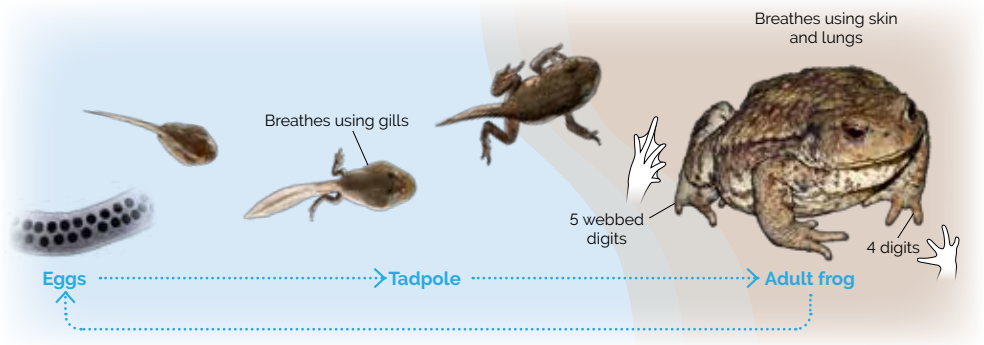
Amphibians

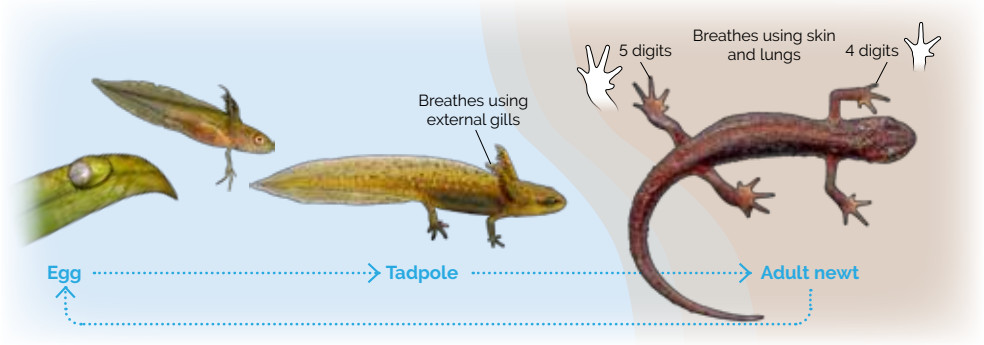
of Southwestern Slovakia

Amphibians are vertebrates that undergo an incredible transformation during their development – while starting their life in water, they spend most of their adulthood on land. Let us find out who they are and how they can survive in two different environments.

Frogs and Toads – Tailless Amphibians – Life Cycle



Salamanders and Newts – Tailed Amphibians – Life Cycle



European fire-bellied toad

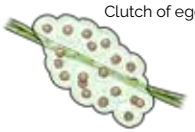
Bombina bombina

4—5 cm

Riparian forests and floodplain meadows, still waters.

D Mostly insects.

F Has poison glands in skin. Possible hybridization with the yellow-bellied toad in overlapping territories.



Yellow-bellied toad

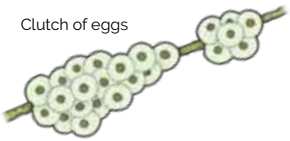
Bombina variegata

4—5 cm

Broadleaf, mixed as well as coniferous forests, seasonal water bodies (e.g. flooded in spring).

D Mostly insects.

F Has poison glands in skin. Possible hybridization with the European fire-bellied toad in overlapping territories.



European common spadefoot

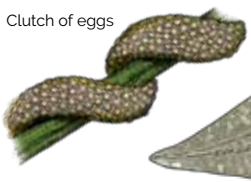
Pelobates fuscus

5—7 cm

Riparian forests and floodplain meadows. In Záhorie, it is also found in pine forests.

D Arthropods, worms, molluscs.

F During the daytime, it is mostly buried in soil, up to 1 m deep. Fully developed tadpole can be larger than the adult (17 cm).



Common toad

Bufo bufo

7—12 cm

Forests, meadows and cultivated steppe.

D Arthropods, worms, molluscs.

F Has poison glands in skin. Unlike other toad species, their tadpoles are never eaten by fish.

Clutch of eggs

Skin covered in warts

Tadpole

European green toad

Bufotes viridis

6—9 cm

Open landscape, cultivated steppe, excavated areas, developed municipal areas.

D Arthropods, worms, molluscs.

F The most common amphibian in urban environments. Our most drought-resistant amphibian species.

Skin covered in warts

Clutch of eggs

Tadpole

European tree frog

Hyla arborea

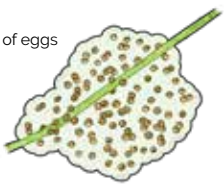
4—5 cm

Broadleaf forests, land with shrubs, bulrush or reed.

D Mostly arthropods (insects, arachnids).

F It can hold on to smooth, vertical surfaces using the discs on its toes.

Clutch of eggs



Tadpole

Moor frog

Rana arvalis

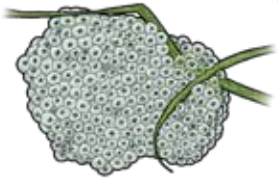
5—7 cm

Riparian forests, wet floodplain meadows.

D Arthropods, worms, molluscs.

F During breeding season, males attain blue colouration.

Clutch of eggs



Tadpole (ventral side)

Mating

Agile frog

Rana dalmatina

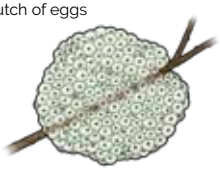
5—8 cm

Broadleaf forests, meadows, cultivated steppe.

D Arthropods, worms, molluscs.

F Due to the warming climate in Central Europe, it has spread into previously unpopulated colder areas (such as Kysuce) in the recent decades.

Clutch of eggs



Tadpole

Common frog

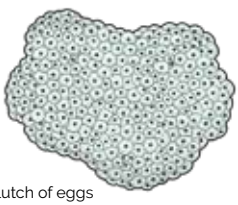
Rana temporaria

6—10 cm

Forests, meadows.

D Arthropods, worms, molluscs.

F Our most cold-resistant frog species.



Clutch of eggs

Tadpoles

Pool frog

Pelophylax lessonae

5—7 cm

Water bodies in riparian forests and humid meadows.

D Arthropods, worms, molluscs.

F Together with the marsh frog and the edible frog, they belong to the group of "aquatic" frog species. Out of these, pool frog is the species least attached to life in water.

Clutch of eggs

Tadpole

Marsh frog

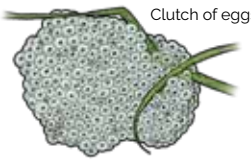
Pelophylax ridibundus

8—12 cm

Banks of ponds, gravel pits, channels and rivers.

D Mostly arthropods (insects, arachnids) as well as small vertebrates.

F Probably our largest native amphibian species (common toad can grow to similar size).



Clutch of eggs

Tadpole

Edible frog

Pelophylax kl. *esculentus*

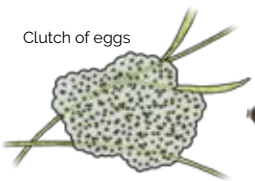
6—9 cm

Banks, swamps, floodplain meadows in open land as well as in riparian forests.

D Mostly arthropods (insects, arachnids) as well as small vertebrates.

F Being a hybrid of the marsh frog and the pool frog, it is not a true species in the genetic sense.

Male with inflated vocal sacs



Clutch of eggs

Tadpole

Smooth newt

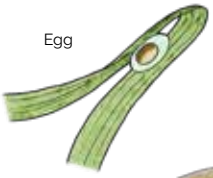
Lissotriton vulgaris

7—10 cm

Floodplain meadows, cultivated steppe, broadleaf and mixed forests.

D Worms, molluscs, arthropods; in the aquatic stage, mainly aquatic invertebrates as well as amphibian eggs and larvae.

F During the breeding season, males differ from females by the crest present on their back and tail and the vivid colour pattern. The only native species of newt whose males have toe flaps on hindfeet during the breeding season.



Danube crested newt

Triturus dobrogicus

10—14 cm

Riparian forests and floodplain meadows.

D Worms, molluscs, arthropods, small vertebrates.

F Male has specific courtship display – positioned in front of the female, he kinks his back upward while flapping his tail towards her.

Presently, amphibians face several threats

- They are exposed to pesticides and other substances absorbed directly from the polluted environment or indirectly in their diet.
- A major part of aquatic biotopes (wetlands) has been destroyed or transformed into forms unsuitable for amphibians (drainage, regulation of river banks, etc.).
- In spring, some populations are decimated by vehicles when crossing roads during their migration from wintering grounds to breeding grounds.

Amphibians have been in continuous decline and need protection, just like the biotopes they inhabit.

Simple tips on protection of amphibians

- Unless necessary, do not touch amphibians with your hands.
- Create a pond in your garden with no chemical treatment; ideally, there should be no fish either.
- Limit the usage of chemical treatment in your garden and preferably use nature-based plant treatment products,
- Help with construction of barriers during amphibian spring migration;
- Do not introduce invasive (foreign) species into our natural environment.
- Do not transfer any frogs/salamanders, tadpoles or eggs without previous consultation with the State Nature Conservancy or the Slovak Republic (ŠOP SR; www.sopsr.sk).


Smooth newt


Young toads

Fire salamander

15—20 cm

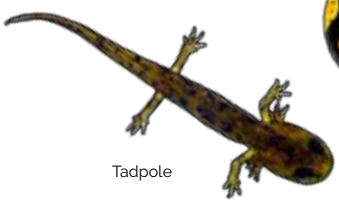
Salamandra salamandra

Broadleaf or mixed forests.

D Worms, molluscs, arthropods.

F Has poison glands in skin.

Females deposit developed larvae into water.


Tadpole

Life of Amphibians

Amphibians (Amphibia) spend the early stage of their life in aquatic environment and, just like fish, use **gills** to obtain oxygen. Later, they undergo a significant bodily transformation called **metamorphosis**. This includes development of **lungs** for absorption of oxygen from the air, and many species will spend most of the rest of their life on land. This is why they are called "amphibians" – Greek "amphibios" means two lives, referring to their life in two different environments – in water and on land.

Most native species reproduce annually with females laying tens to thousands of eggs. **Eggs** have no solid shell; they are laid into water as on land they would desiccate rapidly and die. **Larva (tadpole)** hatches from the egg. It breathes using gills and continues living in the water. Salamander tadpoles hatch inside the female's body.

During tadpole **metamorphosis**, the animal adapts to life on land. Lungs develop and gills disappear – the animal changes its way of breathing; in frogs, the tail is lost too.


Toad eggs


Salamander egg

All amphibian species **feed** on animal diet, mostly invertebrates, preferably insects and their larvae. From this perspective, many species can be considered useful for humans. Frog tadpole diet includes both small animals and plants, salamander tadpoles are carnivorous. At the same time, amphibians themselves serve as food for many other wild animals.


White stork


Black stork


Grass snake


Red fox


Tawny owl


Eurasian otter

Legend

English name
Scientific name
Size — Biotope
♂ Male — Diet
♀ Female — Fun fact

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