

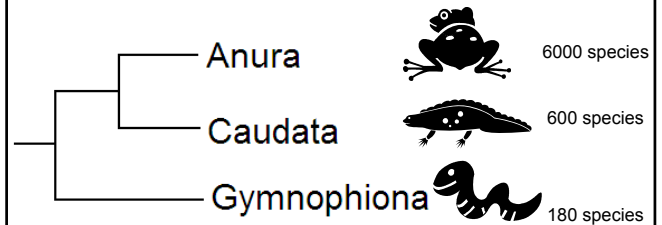
Amphibians and Reptiles of the Czech Republic

Zoology

Oldřich Kopecký
kopecky@af.czu.cz

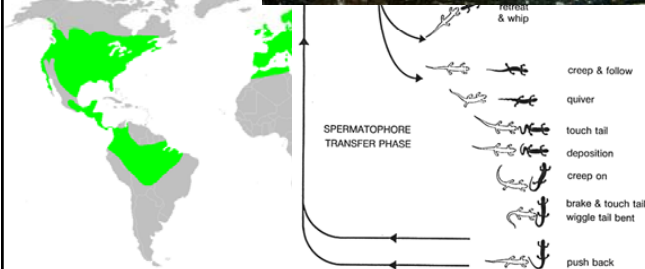
Lissamphibia

- all unamniotic tetrapods, also extinct species = Amphibia
- all recent living Amphibians = Lissamphibia



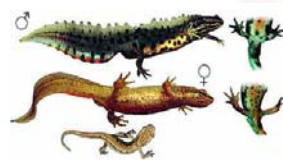
Salamanders

- four legs with tail
- without copulatory organs
- 9 families, cca 600 species
- distribution mainly on mountains



Common newt *Lissotriton vulgaris* (*Triturus*)

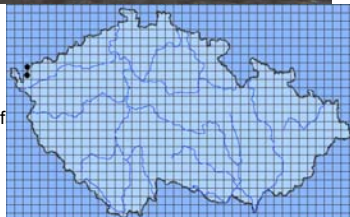
- up to 11 cm
- grooves on head
- underside with spots
- throat pale
- males during breeding
 - great, continuous crest on back and tail
 - webbed toes on hind legs



Palmate newt *Lissotriton helveticus* (*Triturus*)



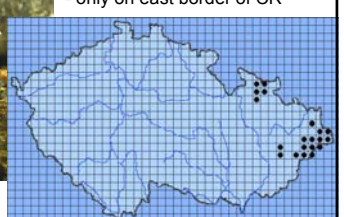
- up to 10 cm
- grooves on head
- on belly maybe small spots
- breeding males without crest, filament on end of tail
- only on west border of CR



Montandon's newt (*Lissotriton montandoni*) (*Triturus*)

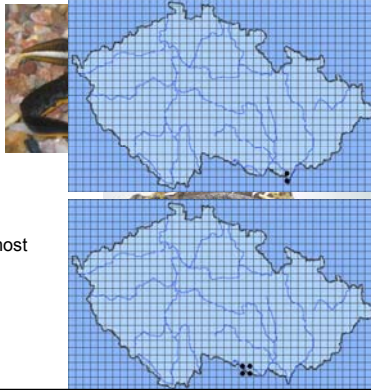
- alike palmate newt
- up to 10 cm
- grooves on head
- on belly maybe small spots
- breeding males without crest, filament on end of tail

- only on east border of CR



Great newts complex – Northern crested newt (*Triturus cristatus*), Danube crested newt (*T. dobrogicus*), Italian crested newt (*T. carnifex*)

- up to 18 cm
- without grooves on head
- underside with spots
- throat dark
- males during breeding
 - one crest on back
 - another crest on tail
- in CR 3 species
- Northern crested newt – most common
- Danube crested newt
- Italian crested newt



Alpine newt *Mesotriton alpestris* (*Triturus*)

- up to 12 cm
- without grooves on head
- underside without spots
- males during breeding
 - without crest or filament but colourful



Fire salamander (*Salamandra salamandra*)

- up to 25 cm
- parotids
- most terrestrial
- breeding in running water only for few days
- female do not lay eggs but directly larvae



Frogs (Anura, Salientia)

- four legs, without tail
- middle ear – vocalization, territoriality
- external fertilization
- cca 25 families, cca 6000 species
- except Arctic and Antarctic region, worldwide



Fire-bellied toad (*Bombina bombina*)

- up to 5 cm
- uniform back, colourful belly
- heart-shaped eye
- relatively poisonous = unken reflex
- eggs are laid singly
- red pattern on belly

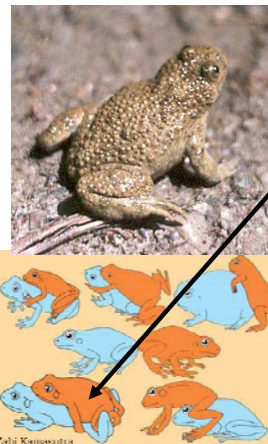


Yellow-bellied toad (*Bombina variegata*)

- yellow pattern on belly
- amplexus inguinalis

pectoral spots communicate with spots on fore legs

B. bombina x *B. variegata*



Common spadefoot (*Pelobates fuscus*)

- up to 8 cm
- vertical, cat like eye
- able to burrow = spade on hind foot
- amplexus inguinalis
- eggs in short strings
- tadpoles can hibernate in water and then can reach 15 cm



Common Toad (*Bufo bufo*)

- horizontal pupil
- parotids
- warty skin
- eggs in strings
- amplexus axillaris
- up to 12 cm
- uniform brown coloration



Natterjack (*Epidalea calamita*) (*Bufo*)

- up to 6 cm
- very short tadpole stage
- green marking with pale vertebral stripe
- do not jump
- amplexus axillaris



Green Toad (*Pseudepidalea viridis*) (*Bufo*)

- up to 8 cm
- green marking
- live on localities up to 450 m a.s.l.



Common tree frog (*Hyla arborea*)

- up to 5 cm
- green with dark brown stripe from nostril to groin
- horizontal pupil
- disc adhesive pads on tips of fingers
- males with large vocal sac
- amplexus axillaris
- eggs in clumps with max. 60





Common Frog (*Rana temporaria*)

- up to 10 cm
- brown with dark spots
- horizontal pupil
- belly with pale spots
- metatarsal tubercle small and soft
- amplexus axillaris
- eggs in clumps with about 3000





Moor frog (*Rana arvalis*)

- up to 10 cm
- brown with dark spots or stripes
- belly pale without spots
- males during breeding brightly blue
- metatarsal tubercle hard and prominent


Agile frog (*Rana dalmatina*)



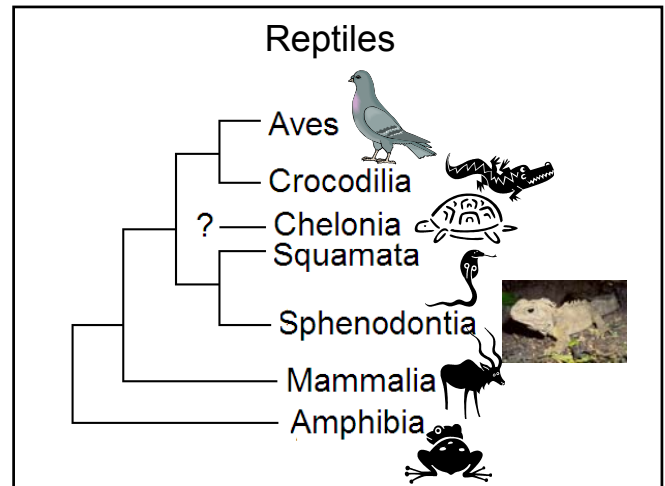
- up to 9 cm
- belly pale without spots
- metatarsal tubercle biggest from brown frogs
- ear-drum close to eye, large as same as eye
- longest hind feet

Water or Green Frogs –
 Marsh frog (*Pelophylax ridibundus*), Pool frog (*P. lessonae*),
 Edible frog (*P. klepton esculenta*)


- from 8 – 16 cm
- green with dark brown spots or stripes
- mainly in water
- amplexus axillaris
- two vocal sacs
- Edible frog is hybrid of Marsh and Pool frog, Edible frog is able to reproduce
- = so certain distinction based only methods working with genes






Turtles (Testudines, Chelonio)

- shell (carapace, palstron)
- 13 families, 250 species
- from tropics to temperate zone
- terrestrial fresh water and salt water habitats



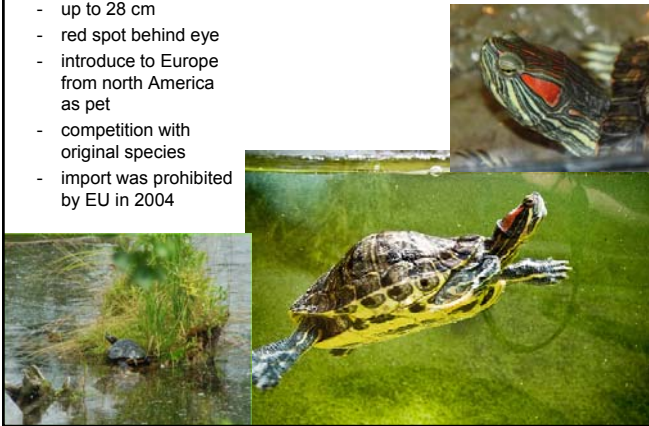
European pond terrapin (*Emys orbicularis*)

- up to 25 cm
- carapaces dark with yellow spots
- semiaquatic
- female lays up to 20 eggs in to soil near water
- in CR probably extinct

Red-eared terrapin (*Trachemys scripta*)

- up to 28 cm
- red spot behind eye
- introduce to Europe from north America as pet
- competition with original species
- import was prohibited by EU in 2004



Scaled Reptiles (Squamata)

Suborder Lizards (Sauria)

- 16 families, cca 4000 species
- except Arctic and Antarctic region, worldwide
- terrestrial (also arboreal and subterranean)
- eye lids moveable, external ear visible
- autotomy of tail in some families
- they laid eggs and some of them are viviparous
- in CR 5 species from 2 families Slow worms (Anguidae), Lacertid lizards (Lacertidae)

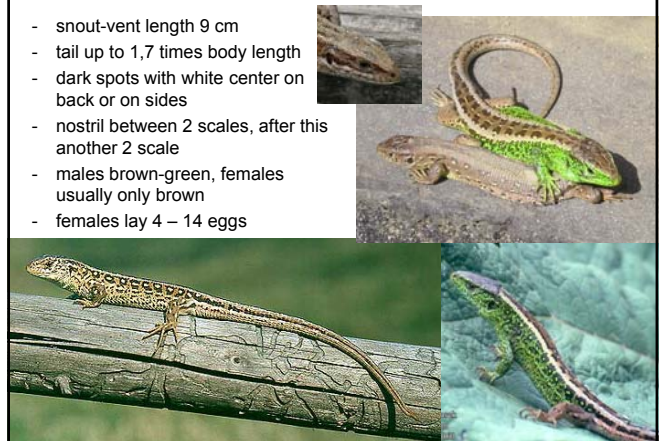
Slow worm (*Anguis fragilis*)

- up to 50 cm
- brown, sometimes with blue spots
- eye lids
- scales on back and on belly same
- females give birth to max. 26 live young



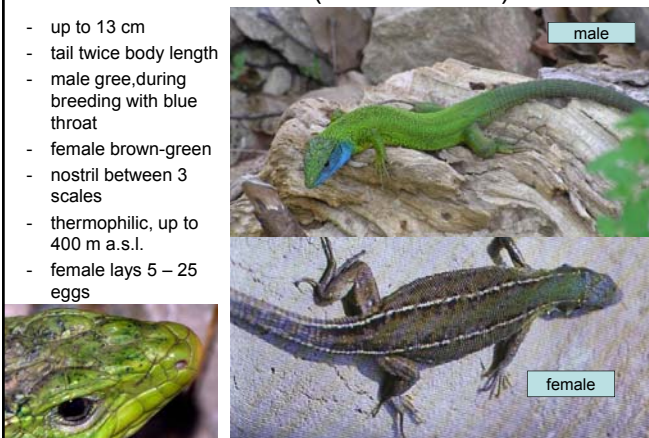
Sand lizard (*Lacerta agilis*)

- snout-vent length 9 cm
- tail up to 1,7 times body length
- dark spots with white center on back or on sides
- nostril between 2 scales, after this another 2 scale
- males brown-green, females usually only brown
- females lay 4 – 14 eggs



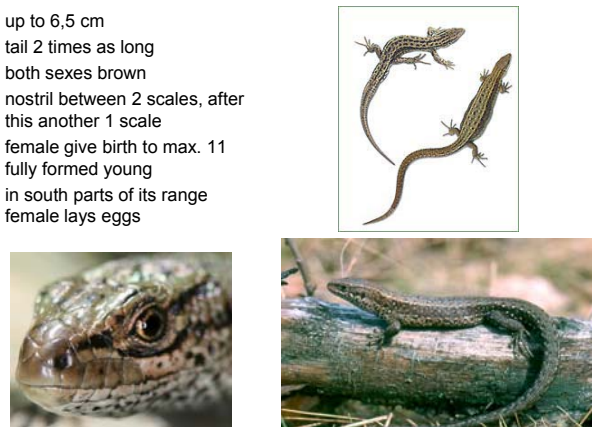
Green lizard (*Lacerta viridis*)

- up to 13 cm
- tail twice body length
- male green, during breeding with blue throat
- female brown-green
- nostril between 3 scales
- thermophilic, up to 400 m a.s.l.
- female lays 5 – 25 eggs



Viviparous lizard (*Zootoca vivipara*)

- up to 6,5 cm
- tail 2 times as long
- both sexes brown
- nostril between 2 scales, after this another 1 scale
- female give birth to max. 11 fully formed young
- in south parts of its range female lays eggs



Common wall lizard (*Podarcis muralis*)

- up to 7,5 cm
- tail 2,3 longer than body
- nostril between 2 scales, after this another 1 scale
- females can produce about 10 eggs
- in CR only one locality

ŠTRAMBERK



Suborder Snakes (Serpentes)

- 18 families, cca 3500 species
- worldwide except Arctic and Antarctic region
- terrestrial and also water habitats
- without eye lids, eye scale



Grass snake (*Natrix natrix*)

- up to 150 cm
- back grey with dark spots
- underside yellow
- scales on head large
- scales on body keeled
- yellow spots „half-moon“ behind head
- clutch with max. 100 eggs
- may feign dead when handled



Dice snake (*Natrix tessellata*)

- up to 130 cm
- adults with uniform brown coloration
- underside yellow
- scales on head large
- scales on body keeled
- pupil rounded
- clutch with max. 40 eggs
- aquatic, live around rivers



Smooth snake (*Coronella austriaca*)

- up to 70 cm
- back grey with dark spots
- underside orange, red, grey or blackish
- scales on head large
- scales on body smooth
- pupil rounded
- Fully formed young are produced, most broods are made up of about 3 - 9 babies



Aesculapian snake (*Zamenis longissima*)

- up to 220 cm
- adults with uniform brown coloration
- underside yellow
- scales on head large
- scales on body smooth
- pupil rounded
- clutch with max. 18 eggs
- thermophilic in CR in 3 areas up to 500 m a.s.l.



Adder (*Vipera berus*)

- up to 65 cm
- scales on head small
- scales on body keeled
- zig-zig vertebral stripe, maybe completely black
- vertical, cat-eye
- poisonous
- female give birth to max. 18 young

