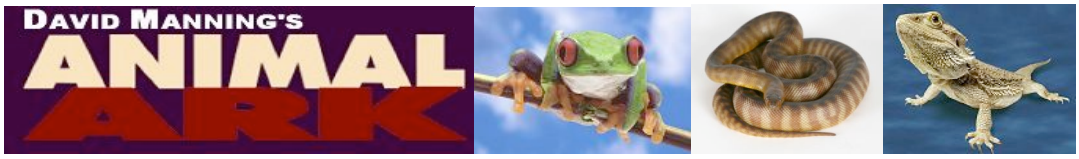


INTRODUCTION TO AMPHIBIANS

These moist skinned creatures were the first vertebrate hunters to colonize the land. Rarely venturing far from water, this group of animals includes the familiar frog and toad, and the more secretive newt and salamander.

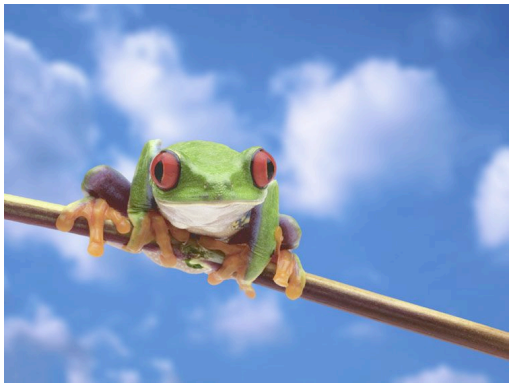
Amphibians ruled the earth before any reptiles or mammals even existed. They were the first predatory vertebrates to adapt to life on land. The word amphibian is derived from the Greek words 'amphi' meaning both and 'bios' meaning life. As their name suggests, amphibians are suited to both life on land and in the water. However few of them venture far from water.

KEEPING WARM

Amphibians are ectotherms and they are entirely reliant on environmental warmth to maintain bodily functions. Most species from temperate climates hibernate in winter to avoid lethally cold temperatures. Species from tropical climates aestivate to avoid lethally hot conditions.

SKIN

Amphibians have delicate, moist skin. This water-permeable skin offers very little protection from external toxins and chemicals, making amphibians very sensitive to their environment. They slough regularly and the nutritious, sloughed skin is generally eaten. Many amphibians display wonderful colours, either for the purpose of camouflage or as a warning to potential predators to show that they possess toxic skin.



DIET

All adult amphibians are predators. They feed mainly on spiders and insects and the larger species are even capable of eating other small animals. Foods are swallowed rather than

chewed. To aid this process frogs, for example, possess tiny peg like teeth to hold the prey before swallowing.

As hunters, the eyes of amphibians are essential tools and need to be kept clean and wet. The eyes are covered with a fine membrane and blinking causes this membrane to wipe clean and moisten the eyeball in one action.

LIFE CYCLE

Amphibians generally lay soft, jelly covered eggs into an aquatic environment. Thousands of eggs may be laid, but mortality is very high. The eggs hatch into larvae, also known as tadpoles, and these eventually undergo a shape changing metamorphosis into the adult form. These young adults then leave the water and adopt a more terrestrial lifestyle.

A tree frog from Australia.
This frog is arboreal.

SKELETON/ANATOMY

A frog skeleton. The skeleton helps protect organs inside the body. Like all vertebrate animals frogs have a heart, stomach, liver and lungs.
You can just see the tiny teeth that held hold onto prey.

Glossary

Aestivation The act of passing the summer or dry season in a dormant state.
Aquatic Growing living or found in water.
Arboreal Living above ground in trees or bushes.
Camouflage To hide something by making it look like its surroundings.
Ectotherm Any animal that relies on external heat sources to maintain its body temperature.
Hibernate. To pass the winter or a cold period in a dormant state with a reduced metabolic rate.
Metamorphosis Rapid transformation of a larvae into an adult – example tadpole to frog.
Predator An animal that hunts and eats other creatures.
Vertebrate. An animal with a bony skeleton - all amphibians, reptiles, birds and mammals.