

Herpetology

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HERPETOLOGY is the study of two groups of animals - amphibians and reptiles. While these two groups are alike in many ways, they are also very different. Because of this, herpetologists usually specialize in one group or the other.

AMPHIBIANS and REPTILES are both VERTEBRATE animals. This means they have a backbone.

AMPHIBIANS and REPTILES are both ECTOTHERMIC animals. Another name for this is POIKILOTHERMIC. It means "cold-blooded". But what does THAT mean?

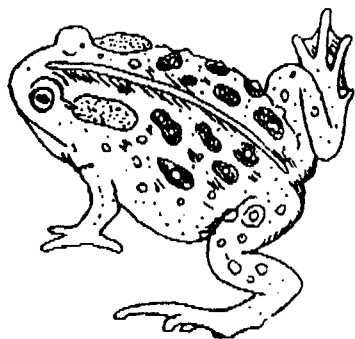
You and I, and other mammals and birds, are ENDOTHERMIC. Our body temperature remains the same most of the time, and is kept the same by our METABOLISM - our body "burning" the food we eat to produce body heat and energy. Reptiles and amphibians, and also fish, insects and other INVERTEBRATES, depend on outside sources for their body heat. A lizard will sit in the sun to keep warm. A turtle will bask on a log, storing up heat in its body from the sun. When the temperature of its surroundings gets too cold, a reptile will become inactive or even unable to move!

AMPHIBIANS

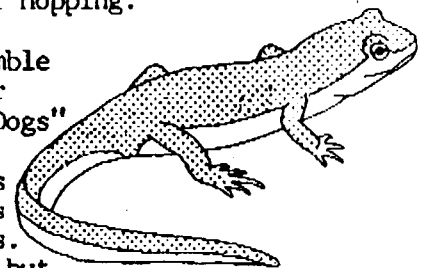
Amphibians have moist, "naked" skin (not covered with fur, feathers or scales), and have no true claws or nails. Some lay their eggs in water and go through an aquatic larval ("tadpole" or "polliwog") stage, breathing with gills and later developing lungs and emerging onto land. Thus the name "amphibian", from Greek words meaning "both-lived". All amphibians need moisture to survive and will die if they dry out.



FROGS are the major group of amphibians. There are 2,510 or more kinds of frogs in the world, including those we call toads, treefrogs, spadefoots and peepers. Adult frogs are tailless, and their hind legs are longer than their front legs for leaping or hopping.



SALAMANDERS have tails, and generally resemble lizards, except that they have no scales or claws. "Mudpuppies", "Congo Eels", "Water Dogs" and "Newts" are all types of salamanders. One group of animals called SIRENS contains three species that have just two front legs and live in the water, breathing with gills. Some scientists consider them salamanders, but others put them in a group of their own.



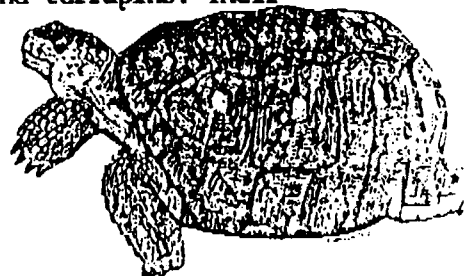
A third group of amphibians is called CAECILIANS. These are legless and look like giant earthworms (except they have backbones, of course). These are found in tropical regions of the world. There are no Caecilians in the United States. Only frogs and salamanders are found in California.

REPTILES

Reptiles were the first vertebrate animals to break ties with the water by developing dry, moisture-conserving, scale-covered skin and a self-contained egg able to be laid on land.

REPTILES are divided into four groups:

TURTLES include those we call tortoises, box turtles and terrapins. Their pelvic girdle and shoulder girdle are INSIDE their rib cage - a totally unique adaptation that has served them well for more than 200 million years. Their backbones and ribs are fused together to form the foundation of their "shell". There are about 230 kinds of turtles in the world.



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CROCODILIANS are large reptiles and include the crocodiles, alligators, caimans and the Indian Gavial (or Gharial). There are only 21 kinds of crocodilians in the world. Only two are found in the United States - the American Alligator and the American Crocodile. Both are found in the Southeast (the crocodile only in Florida).



THE TUATARA is a reptile in a group by itself. It is the sole survivor of a group that once had many species, but all of them had died by the time the dinosaurs had disappeared - 65 million years ago. All of them except the tuatara. About 1500 of these reptiles live on a few lonely islands off New Zealand, and nowhere else in the world. It looks like a big lizard, but inside it is very different.

SNAKES, LIZARDS AND THEIR RELATIVES make up the largest group of reptiles - about 6,000 species throughout the world. These reptiles are grouped together because they share many CHARACTERISTICS, and in some cases it is hard for herpetologists to decide if an animal is a snake, a lizard, or an AMPHISBAENIAN - a group of reptiles related to both; most are legless, but one type from Mexico has just two front legs. There are about 3,000 kinds of lizards, almost as many snakes, and 40 or so amphisbaenians (one of which is found in Florida).



There are only TWO POISONOUS LIZARDS in the world -- the Gila Monster of the Southwestern U.S. and the Beaded Lizard of Mexico.

Only about 10% of all the world's snakes are venomous. In California, only the rattlesnakes are dangerous to people. They are generally not deadly, and will not attack anyone. They prefer to be left alone -- and they should be!



A lot of people don't like reptiles and amphibians. They think these animals are "creepy", "slimy" or "gross". Some people even go so far as to kill every snake that they see! This is a stupid attitude; even if you don't like an animal you have no right to kill it. Every animal and plant has a place in the world. Many snakes eat lots of rodents that otherwise eat our crops or carry disease. Frogs and lizards eat tons of insects, including many that we consider "bad". Even those animals that we don't understand have some "job" to do in nature, and just because we don't know what it is doesn't mean it's not important. Reptiles and amphibians belong in the world, and intelligent people will do their best to help preserve them, as well as all other wildlife, to keep the planet as interesting and beautiful as they can.

