

5-A The True Fish

Many animals that live in water are called fishes. A fish is a water-dwelling, cold-blooded animal that has a backbone and breathes by means of gills. It normally has two pairs of fins instead of arms and legs, as well as several other fins. Many fishes are covered with scales. More than 20,000 living kinds of fishes are known, and new species are discovered every year. This is more than all the other kinds of backboned animals combined.

Other animals also live in the water at least part of the time. They, too, have backbones and early in life breathe underwater by means of gills. These are the amphibians-primarily frogs, toads, and salamanders.

How can one tell fishes from amphibians? Fishes have fins as appendages, and most have scales that cover the body. Most adult amphibians have legs and no body scales. Fishes never have true legs. The scales of a fish overlap each other like shingles on a roof. The scales are not shed like the hair or feathers of mammals and birds. But if any are lost by accident, new ones grow to take their place.

The most highly developed fishes are those with a bony skeleton. They are also the most abundant and familiar. The mackerel is typical of this highest order of fishes. Observing how easily and swiftly fishes cut the water,

people pattern boats and submarines after their streamlined bodies. A typical fish is spindle-shaped but somewhat wider in front of the middle. The head joins the body without a neck. The eyes are flush with the head; the gill openings are covered with a smooth flap. Only the fins extend beyond the body, and they can be pressed flat against the sides. These features help the fish move smoothly through the water. Water resistance is further lessened by a coating of slime.

Unlike human beings, most fishes continue to grow as long as they live. Old fish may become very large. The exceptions are fish such as the salmon, which have a definite period of growth before spawning and, after spawning, die. Carp are said to have a life span of 100 years, but few fish in the wild die of old age. Though many fishes are believed to reach ages of 50 to 100 years, scientific documentation for individuals reaching ages beyond 15 to 20 years in natural environments is rare.