

# Science and the Sea



## Incredible Variety of Fishes

Insects. There are so many of them and no place to escape. They're everywhere...except underwater.

But the aquatic world has its own group of animals that, like insects on land, live just about everywhere and come in thousands of varieties. Fishes.

There are about 25,000 kinds of fishes in the world, more than half of all the animals with backbones alive today. The vast majority are bony fishes, species such as perch, bass, carp, tuna, and catfish that have a skeleton made of bone. For about 850 species, the skeleton is made of cartilage. These are the sharks,

stingrays, skates, and rattfishes. There is also a small number of very primitive species that don't even have jaws. These hagfishes and lampreys sift through sediments for food or attach to other fishes as parasites.

Ninety-seven percent of the Earth's water is in the oceans, so you might be surprised to learn that about 40% of all fish species live in fresh water. This is because lakes and streams provide a great variety of separated habitats. In contrast, most of the ocean's waters are in the continuous worldwide ocean depths. So, four-fifths of the fishes in the sea live along shallow coastlines, where habitats vary most.

This incredible diversity of fishes is possible because of the ability of fishes to adapt to virtually any aquatic habitat. Some live at temperatures as low as 29 degrees Fahrenheit, which would freeze other species. Others survive temperatures over 100 degrees and salt concentrations more than three times that of sea water.

With about 200 new species of fishes described by scientists each year, it will be some time before the total comes close to the one million species of insects. But most people would agree that fishes are not only larger but more appealing. Think about that next time you're swatting flies.

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