

Animal Classification

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CHAPTER

1

Animal Classification

Learning Objectives

- Give an overview of animal classification.
- Give examples of animals in the major animal phyla.
- Define vertebrate and invertebrate.



Plant or animal?

Animal. What type? Now that is a good question. This azure vase sponge is an animal, but how is it classified? It is estimated that there are easily over a million species of animals on Earth. How are all these species divided into their various classifications?

Classification of Animals

All animals share basic traits. But animals also show a lot of diversity. They range from simple sponges to complex humans.


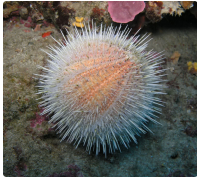

Major Animal Phyla

Members of the animal kingdom are divided into more than 30 phyla. **Table 1.1** lists the nine phyla with the greatest number of species. Each of the animal phyla listed in the table has at least 10,000 species.

TABLE 1.1: Major Phyla of the Animal Kingdom

	Phylum	Animals It Includes
	Porifera	sponges
	Cnidaria	jellyfish, corals
	Platyhelminthes	flatworms, tapeworms, flukes
	Nematoda	roundworms
	Mollusca	snails, clams, squids
	Annelida	earthworms, leeches, marine worms

TABLE 1.1: (continued)

	Phylum	Animals It Includes
	Arthropoda	insects, spiders, crustaceans, centipedes
	Echinodermata	sea stars, sea urchins, sand dollars, sea cucumbers
	Chordata	tunicates, lancelets, fish, amphibians, reptiles, birds, mammals

Invertebrate vs. Vertebrate

The first eight phyla listed in **Table 1.1** include only invertebrate animals. **Invertebrates** are animals that lack a **vertebral column**, or **backbone**. The last phylum in the table, the Chordata, also includes many invertebrate species. Tunicates and lancelets are both invertebrates. Altogether, invertebrates make up at least 95 percent of all animal species. The remaining animals are vertebrates. **Vertebrates** are animals that have a backbone. All vertebrates belong to the phylum **Chordata**. They include fish, amphibians, reptiles, birds, and mammals.



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Summary

- Vertebrates have a backbone, but invertebrates do not.
- Except for the chordates, all animal phyla consist only of invertebrates.
- Chordates include both vertebrates and invertebrates.

Review

1. State how the phylum Chordata differs from other animal phyla.
2. Compare and contrast invertebrates and vertebrates.