

A Brief Classification of the Animal Kingdom

KINGDOM ANIMALIA Multicellular eukaryotic organisms, usually motile, lacking chloroplasts and developing from a hollow ball of cells (blastula).

Phylum PORIFERA. Sponges. Animals possessing specialized cells but no organized tissues.

Phylum MESOZOA. A small group of species, containing organisms with only a few cells each, without organized tissues.

Phylum CNIDARIA. The coelenterates or cnidarians, a diverse group possessing stinging cells, and including corals, anemones, hydroids, and jellyfish. Two tissue layers (endoderm and ectoderm) present.

Phylum CTENOPHORA. "Comb jellies", animals with a "biradial" symmetry, like that of a two-armed pinwheel.

Phylum PLATYHELMINTHES. Flatworms, including planarias, parasitic flukes, and parasitic tapeworms. Tissues formed by three germ layers (ectoderm, mesoderm, endoderm) but no body cavity present.

Phylum RHYNCHOCOELA or NEMERTEA. Ribbon worms; similar to flatworms but with a protrusible head structure (proboscis).

LOPHOTROCHOZOA includes the next 10 phyla:

Phylum ROTIFERA. Microscopic aquatic organisms containing a ring of cilia that beat in a circular pattern resembling a wheel.

Phylum ACANTHOCEPHALA. A group of parasitic worms with hook-studded heads.

Phylum ENTOPROCTA. A small group of filter-feeders (animals that strain small particles from the water).

Phylum PHORONIDA. A small group of filter-feeding wormlike animals.

Phylum BRYOZOA (ECTOPROCTA). Small filter-feeding "moss animals", usually living in colonies.

Phylum BRACHIOPODA. Filter-feeding animals with a shell composed of two unequal parts and a stalk that attaches the adults to a fixed location.

Phylum MOLLUSCA. A large and diverse group of animals possessing a cavity lined with a layer of cells (called a 'mantle') that usually secretes some kind of an inflexible shell of calcium carbonate. Includes snails, clams, octopus, squid, and related species.

Class Monoplacophora. Primitive mollusks with dome-shaped shells

Class Polyplacophora. Chitons.

Class Gastropoda. Snails and slugs.

Class Bivalvia. Clams.

Class Scaphopoda. Tusk shells.

Class Cephalopoda. Nautiloids, octopus, squids, etc.

Phylum ANNELIDA. Segmented worms, including earthworms and sandworms.

Phylum SIPUNCULIDA. Peanut-shaped worms.

Phylum ECHIURIDA. A small wormlike group.

ECDYSOZOA includes the next 8 phyla:

Phylum NEMATODA. Roundworms, an abundant group including both free-living and parasitic species.

Phylum KINORHYNCHA. Parasitic worms related to roundworms.

Phylum GASTROTRICHA. Small wormlike animals related to roundworms.

Phylum GORDIACEA. Elongated "horsehair worms".

Phylum PENTASTOMIDA. Small parasitic worms whose head and claws give the appearance of a five-branched head.

Phylum TARDIGRADA. Tiny aquatic "water bears", segmented animals with clawed appendages.

Phylum ONYCHOPHORA. Segmented, wormlike organisms with clawed appendages.

Phylum ARTHROPODA. Animals with jointed legs, protected by an external skeleton that permits hinge-like movements between its more rigid parts. The largest phylum of all.

Class Trilobita. Extinct trilobites.

Class Crustacea. Lobsters, crabs, shrimp, barnacles, etc.

Class Merostomata. Horseshoe crabs.

Class Pycnogonida. Sea spiders.

Class Arachnida. Scorpions, spiders, mites, etc.

Class Chilopoda. Centipedes

Class Diplopoda. Millipedes.

Class Insecta (Hexapoda). Insects

DEUTEROSTOMIA includes the next 4 phyla:

Phylum CHAETOGNATHA. Arrow worms.

Phylum ECHINODERMATA. Crinoids, starfishes, sea urchins, etc., possessing a water-vascular system, numerous tube-like feet, and in most cases a five-part radial symmetry in the adult stage.

Phylum HEMICHORDATA. Acorn worms, pterobranchs, and graptolites, related to the Chordata but not sharing all chordate characteristics.

Phylum CHORDATA. Animals with a notochord (a stiff, flexible rodlike structure), a dorsal hollow nerve cord, and gill slits, each at some stage of life.

Subphylum UROCHORDATA. Sea squirts (tunicates), salps, and their relatives, with actively swimming larval stages and generally with nonmotile filter-feeding adults.

Subphylum CEPHALOCHORDATA. Sea lancets such as amphioxus, with motile filter-feeding adult stages.

Subphylum VERTEBRATA. Animals with a backbone. See also Box 6.1.

Class Agnatha. Jawless fishes.

Class Placodermi. Extinct, armored fishes.

Class Chondrichthyes. Cartilage fishes (sharks, etc.).

Class Osteichthyes. Bony fishes (the vast majority of fishes).

Class Amphibia. Frogs, salamanders, and other amphibians.

Class Sauropsida. Reptiles and birds.

Class Mammalia. Mammals.