
Aquatic Worms, Group Descriptions Without Keys

Segmented Worms (Annelida)

Oligochaeta

These rounded and segmented worms are best described by the loose translation of their name; with few (oligo) spines (chaetae).

The body segments behind the first have bundles of chaetae, the number and shape of which are important in identification of the families and genera. Other distinguishing characteristics are quite variable in presence and form among the species. Such characteristics include reproductive organs, body texture, eyespots, gills, and proboscis (or nose).

Oligochaetes are widely distributed and occupy most habitats. Most are quite tolerant of organic enrichment, and one family, the Tubificidae, are commonly referred to as sludge worms. Oligochaetes burrow in sediments or live in constructed tubes. They are detritivores. They are easily distinguished from the insect order Diptera by their lack of a head capsule or hardened head parts.

Leeches (Hirudinea)

The leeches are typically known as blood-suckers, though many are predators of macroinvertebrates. All are fluid feeders, and those that ingest macroinvertebrates evacuate the hard parts after extracting the fluids.

The leeches are segmented, lack chaetae, have an oral sucker and usually an anal sucker, and have male and female genital openings one in front of the other central on the underside. Variation in eyespots, body and sucker form, coloration, sub-segmentation, and position of genitalia are used for identification to family and genus.

Leeches are diverse in habitat preference, dependent on host or prey preferences. Predatory leeches are usually nocturnal and opportunistic.

Oligochaeta



Leeches



Roundworms

Nematoda

Nematodes are common in all water types and on many substrates. They are parasitic in invertebrates and plants, burrow, or attach to substrate using a sticky mucous, in which microorganisms are captured as food. The largest nematodes, of the family Mermithidae, are usually collected as adults following development within an invertebrate host. All have a complete intestinal tract except the Mermithidae, in which the intestine becomes detached from the remainder of the alimentary tract.

Nematodes are generally less than 1 cm long. They have a pointed tail section behind the anal pore. The body surface may have lengthwise grooves, hairs, or pocks, but are not segmented like the Annelids. The larger Mermithidae can be distinguished from Nematomorpha by their lack of pigment and fragile body wall.

Horsehair worms (Nematomorpha)

The nematomorphs, or horsehairworms, were once thought to arise from horsehairs that had fallen into water. This was scientifically disproven by Leidy in 1870 when after several months, his horsehairs in water never vivified. They are parasitic on invertebrates until the final adult stage, when they are free living. At this stage, these unsegmented worms are dark, long, thin and are generally rounded at the ends. They are usually several centimeters long.

Flatworms

Turbellarians

The turbellarian flatworms are of the phylum Platyhelminthes. They are classic laboratory specimens (e.g. *Planaria*) and are the subject of regenerative experiments, as any part dismembered will regrow into a whole animal. The most commonly recognized order, the Tricladida, are flat elongate animals with two eyespots on the arrow- or diamond-shaped head.

The flatworms are quite variable and not all are flat. Most have a single opening to the digestive tract (*Phagorata* has more than one opening to the digestive tract), with no distinct anus. Most are less than 1 mm, though the Tricladida are larger. Pigmentation varies.

The group is diverse in habitat preferences and may be found interstitially in gravel, in sand or silt beds, among coarse organic material or on vegetation. Flatworms feed on bacteria, algae, protozoans and invertebrates. Tricladida are mostly predaceous.

Ribbonworms (Nemertea)

Nemerteans are unsegmented worms with a sticky muscular proboscis, or long probe, which is coiled within a cavity connected to the mouth. Through rapid extension and recoiling, this proboscis is used in both predation and locomotion. Unlike turbellarians, nemerteans have an anus. Adults only crawl, while juveniles can also swim.

Little is known of habitat selection by nemerteans, but they have been found in lakes and streams, in muddy and gravelly substrates and in filamentous algae. In the MBSS samples, the genus *Prostoma* of the group Hoplonemertea has been identified.
