

Phylum Annelida: Segmented Worms



Phylum Annelida includes earthworms and many marine worms. Their body plan is segmented. You might recognize these segments in the rings you see on an earthworm. Annelids are the first organism to have a true body cavity or a coelom, that develops from a middle layer of tissue called the mesoderm. The coelom of the annelids is filled with fluid and divided by partitions. The segments act as a hydrostatic skeleton and can be contracted in a sequence by longitudinal muscles which lengthen and shorten segments while circular muscles increase or decrease the diameter of the segments. These movements allow the segmented worms to be excellent crawlers and burrowers.



Most marine annelids are in the class Polychaeta (polychaetes). Each of the body segments in a polychaete has a pair of flattened extensions (paddles) called parapodia (podia means feet!). These parapodia have sharp bristles called setae. These help with movement as well. Some polychaetes are tube worms. These tubes will be burrowed in the mud and the worms have reduced parapodia. Some have tentacles which allow them to filter feed of particles in the water.

In annelids, blood is moved throughout the body entirely within blood vessels. Therefore, they have a closed circulatory system. Like the organisms listed before, small annelids exchange gases directly through the body wall. However, larger annelids have gills that may be located on the parapodia. These gills have capillaries that allow for greater respiratory exchange of gases.

Other classes of marine annelids include the Oligochaetes, which are the marine version of the earthworm and Hirudinea, or leeches. Leeches are more typically freshwater organisms, but marine species can be found attached to fish and invertebrates. They are highly specialized annelids that are distinguished by their suckers (for attachment) and the lack of parapodia.

Click the link to see a video of a "Feather Duster" worm (polychaete) at <http://www.youtube.com/watch?v=kloN2PCvL4o>. It is a tube worm and the body of the worm is in the tube, most of which is buried in the sediment. The tentacles come out to filter food from the water and take it to the worm's mouth.

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