

Phylum Mollusca

Second Largest Animal Phylum

Slugs, snails, oysters, clam, scallops, octopus, and squid



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Citation: Myers, P., R. Espinosa, C. S. Parr, T. Jones, G. S. Hammond, and T. A. Dewey. 2006. The Animal Diversity Web (online). Accessed October 12, 2006 at <http://animaldiversity.org>. Sponsored in part by the Interagency Education Research Initiative, the Homeland Foundation and the [University of Michigan](http://www.umich.edu). <http://www.umich.edu>> [Museum of Zoology](http://www.ummz.lsa.umich.edu) <<http://www.ummz.lsa.umich.edu>>. The ADW Team gratefully acknowledges their support.
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First group to have a true coelom

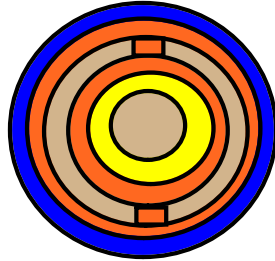
Trochophore- larval stage shared by mollusks and annelids

There are 7 classes of Mollusca

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Key Characteristics

1. Body Cavity - a true coelom
although it can be small in some animals
like only surrounding the heart



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2. Symmetry- most have bilateral symmetry



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3. Three-part Body Plan

- a. Visceral Mass- a central section that contains the mollusk's organs
- b. Mantle- a layer of heavy fold tissue that forms the outer layer of the body
- c. Foot - muscular region used for locomotion

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4. Organ System- have organ systems for excretion, digestion, respiration, digestion, and reproduction

5. Shell- an exoskeleton protecting the soft body



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6. Radula- all except bivalves have these, rasping tongue like organ, has thousands of pointed back ground in rows the teeth scrape

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Organ Systems

Only coelomates without Segments bodies, one - way digestive system

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Excretion- use their coelomates as a

collecting place for body fluids

Beating cilia pulls the fluid into tiny tube structures (nephridia).

The Nephridia recover useful molecules and the rest leaves through a pore in the mantle

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Circulation- three chambered heart and open circulatory system

Octopus and Squid have a closed circulatory system

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Respiration-Most use gills, terrestrial snails have a primitive lung like membrane

Reproduction- Most have distinct males and females, some snails and slugs are hermaphrodites, some oysters and sea slugs can change from one sex to another and back again

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Class Gastropods

Snails and Slugs

Size microscopic- 1 meter

Some have shells some do not



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Many are herbivores that scrape with their radula

Some slugs are predators, some attack other mollusks by making a hole in the shell and suck out the mantle

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Class Bivalves

Most are marine but some are

freshwater

Oysters, mussels, and clams

All bivalves have a 2 part hinged

shell

Abductor muscles- two thick muscles that connect the valves

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Do not have a distinct head or radula
A small nerve ganglion like brain
Have sensory cells that respond to
light and touch
Most reproduce by releasing sperm or
egg into the water

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Filter feeding animals
Siphons- hollow tube used for sucking
in and releasing water
Oyster makes pearls- sand is covered
by a thin sheet of nachre



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Class Cephalopods

Squids, cuttlefish, nautiludes

A large head with tentacles attached

The tentacles have either suction cups
or hooks for seizing prey

The most intelligent
of all invertebrates



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Complex nervous system and a well-
developed brains

Capable exhibiting complex
behavior

Octopuses can be trained to
distinguished between classes of object
like square and cross

Some species have color vision

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The eyes of some giant squid can be 40 cm long.

Squid and octopuses can release a dark cloud to hide the direction of their escape
They are Predators