

Phylum Mollusca

Second Largest Animal Phylum

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



ADW Mollusca Pictures



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/>](http://www.umich.edu/) [Museum of Zoology](http://www.ummz.lsa.umich.edu/) [<http://www.ummz.lsa.umich.edu/>](http://www.ummz.lsa.umich.edu/). The ADW Team gratefully acknowledges their support.
©1995-2006, The Regents of the University of Michigan and its licensors. All rights reserved.

Oct 19 - 7:33 PM

First group to have a true coelom

Trochophore- larval stage shared by mollusks and annelids

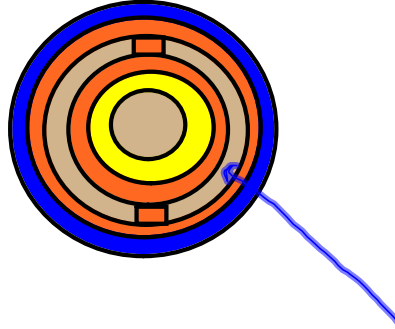
body cavity

There are 7 classes of Mollusca

Oct 19 - 8:09 PM

Key Characteristics

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



Oct 19 - 8:10 PM

2. Symmetry- most have bilateral symmetry



ADW Mollusca Pictures



Oct 19 - 8:12 PM

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

Oct 19 - 8:12 PM

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

5. Shell- an exoskeleton protecting the soft body



ADW Mollusca Pictures

Oct 19 - 8:14 PM

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

Oct 19 - 8:15 PM

Organ Systems

Only coelomates without segments bodies, one - way digestive system

Oct 19 - 8:16 PM

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

Oct 19 - 8:18 PM

Circulation- three chambered heart and open circulatory system
Octopus and Squid have a closed circulatory system

Oct 19 - 8:19 PM

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

Oct 19 - 8:20 PM

Class Gastropods

Snails and Slugs

Size microscopic- 1 meter

Some have shells some do not



ADW Mollusca Pictures



Oct 19 - 8:21 PM

Many are herbivores that scrape with their radula

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

Oct 19 - 8:22 PM

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

Oct 19 - 8:23 PM

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

Oct 19 - 8:24 PM

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



ADW Mollusca Pictures

Oct 19 - 8:24 PM

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



ADW Mollusca Pictures



Oct 19 - 8:25 PM

Complex nervous system and a well-
developed brains

Capable exhibiting Complex
behavior

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

Some species have color vision

Oct 19 - 8:26 PM

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

Oct 19 - 8:27 PM