MOLLUSCS

Slug

Cuttlefish

Oyster

Squid

Limpet

Snail

Scallop

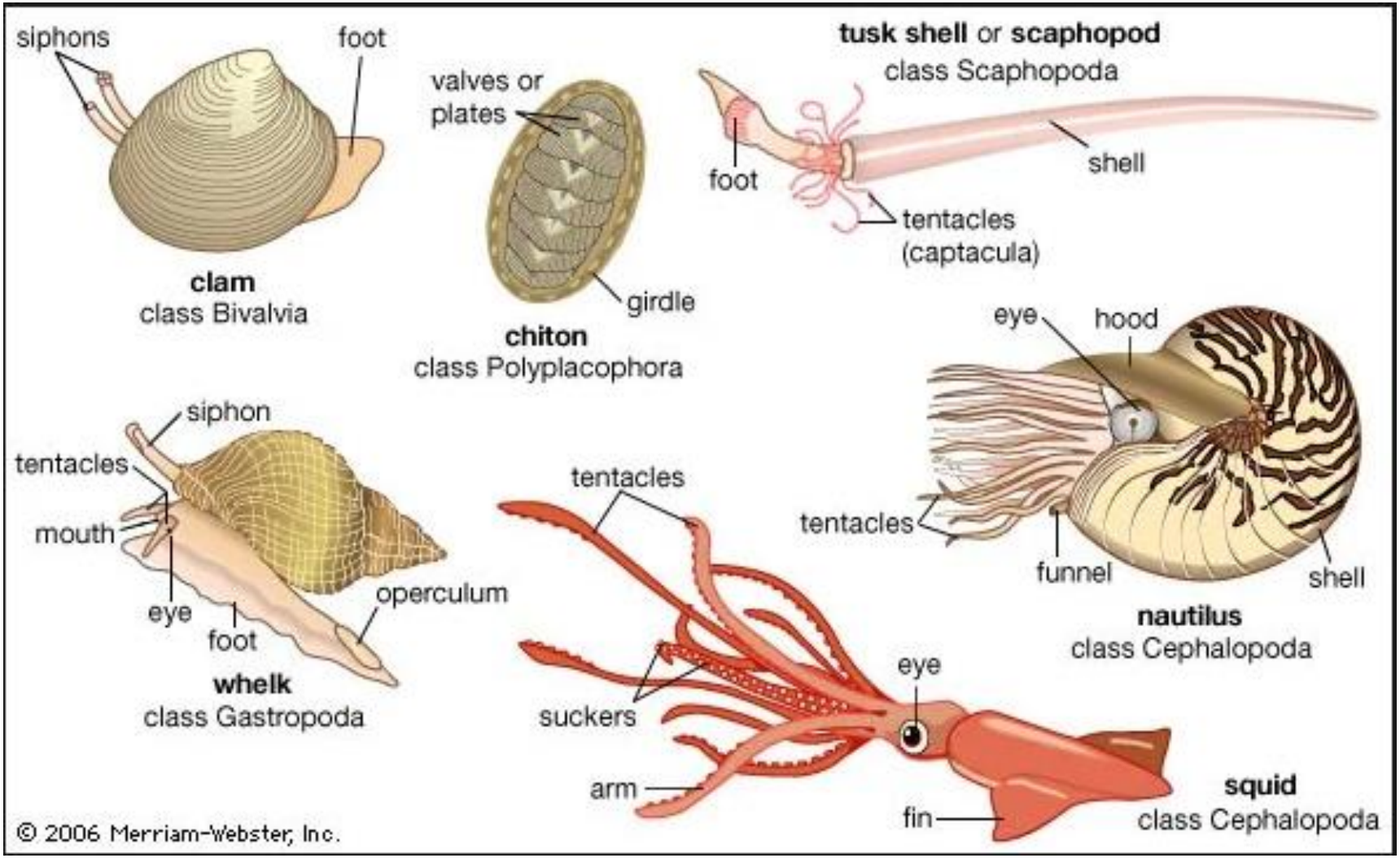
Mussel

Octopus

Nautilus

Clam

Winkle


siphons
foot
clam
class Bivalvia
valves or plates
girdle
chiton
class Polyplacophora
tusk shell or scaphopod
class Scaphopoda
foot
shell
tentacles (captacula)
eye
hood
tentacles
funnel
shell
nautilus
class Cephalopoda
siphon
tentacles
mouth
eye
foot
operculum
whelk
class Gastropoda
tentacles
suckers
eye
arm
fin
squid
class Cephalopoda
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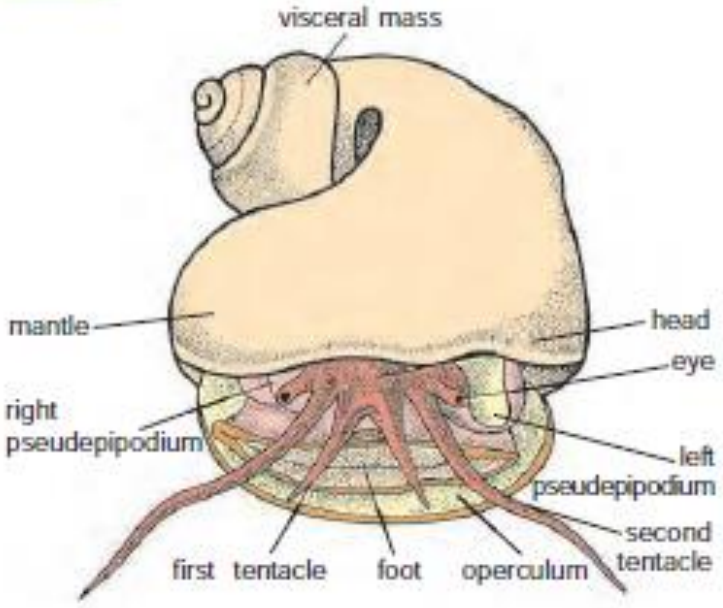
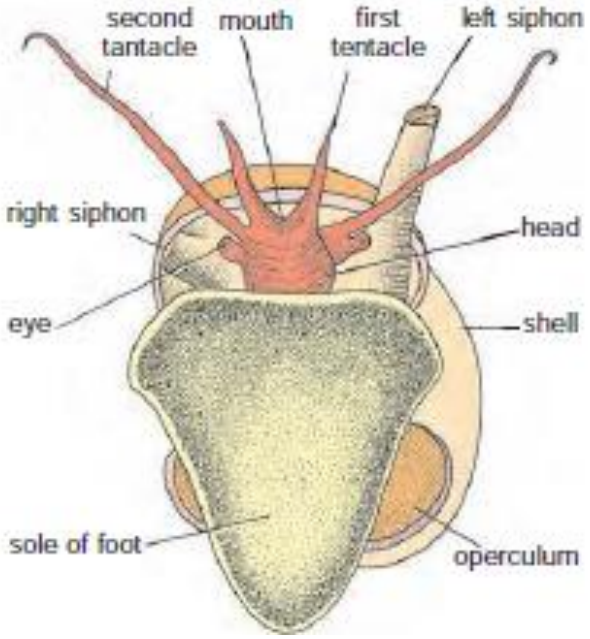
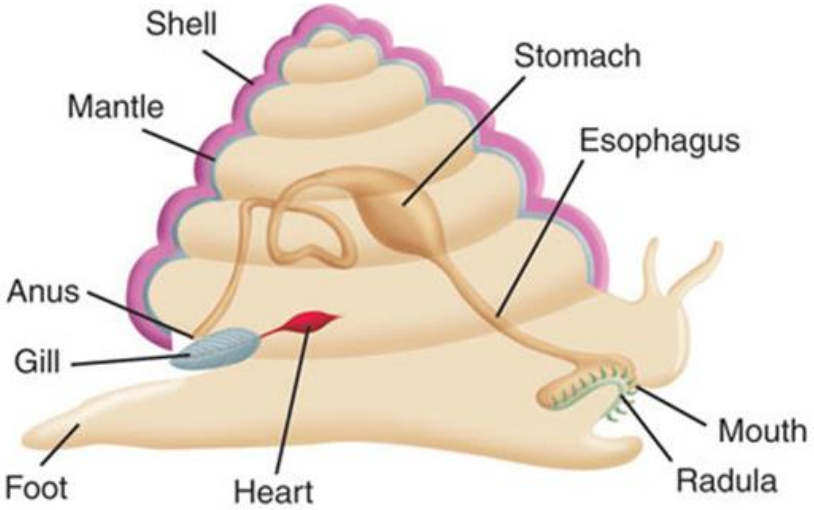
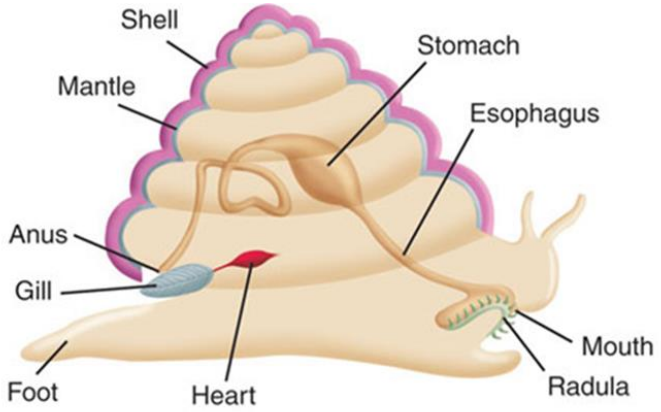

visceral mass
mantle
head
eye
right
pseudepipodium
left
pseudepipodium
second
tentacle
first tentacle
foot
operculum


second
tantacle
mouth
first
tentacle
left siphon
right siphon
head
eye
shell
sole of foot
operculum

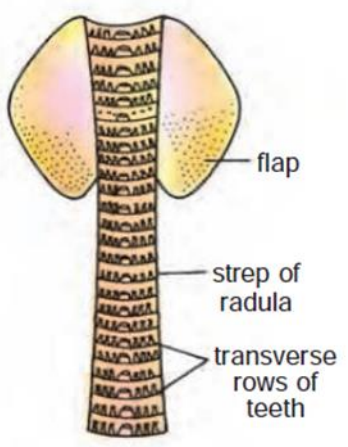

Shell
Stomach
Mantle
Esophagus
Anus
Gill
Mouth
Radula
Foot
Heart

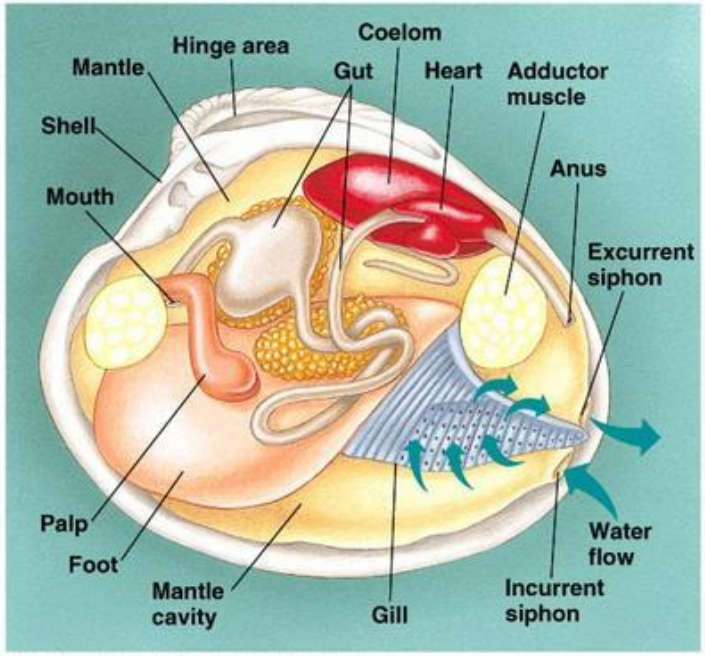
GENERAL CHARACTERS OF MOLLUSCS

- Molluscs are essentially **aquatic** mostly **marine**
- The body is **soft**, **unsegmented** and **bilaterally symmetrical**
- It consists of **head**, **foot**, **mantle** and **visceral mass**.
- Body is protected by an exoskeletal **calcareous shell**
- Head is distinct, bearing the mouth and provided with **eyes**, **tentacles** and other **sense organs**
- **Ventral body wall** is modified into the foot.
- The foot is variously modified for **creeping**, **burrowing** and **swimming**.

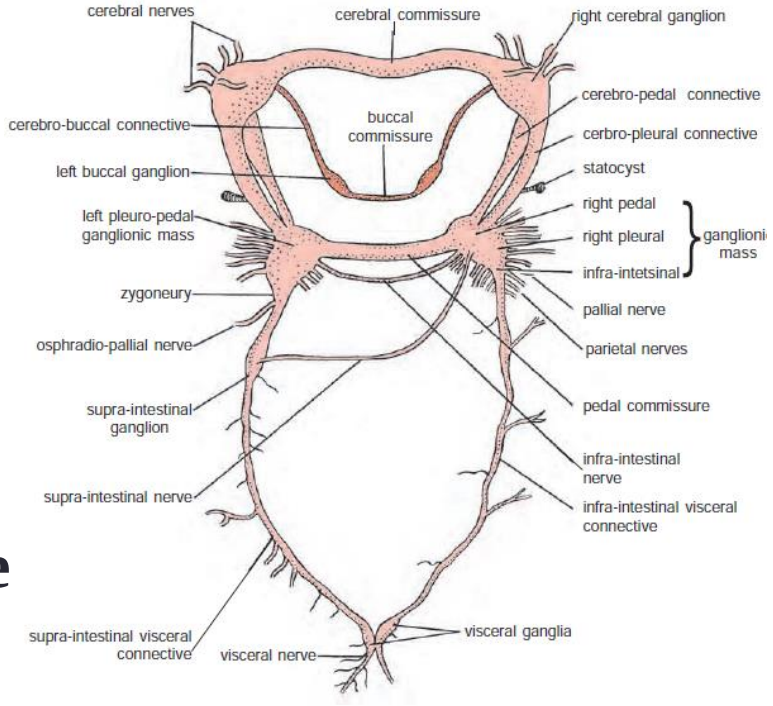


- **Visceral mass** contains the vital organs of the body in a compact form
- **Digestive tract** is simple with an anterior mouth and posterior anus
- In **gastropods**, **scaphopods** and **cephalopods** the intestine becomes U-shaped
- **Pharynx** contains a rasping organ, the **radula**
- Respiratory organs consist of numerous **gill** or **ctenidia**
- Excretory system consists of a pair of **metanephridia**





- **Circulatory system** is open
- **Nervous system** consists of paired cerebral, pleural, pedal and visceral ganglia
- Sexes usually separate (**dioecious**)
- Fertilization is external or internal
- Development is either direct or with metamorphosis through the **trochophore** stage called **veliger larva**



Classification of Mollusca

- **CLASS 1. APLACOPHORA**

- Body **worm-like**, bilaterally symmetrical and cylindrical.
- Head, mantle, foot, shell and nephridia are absent.
- Digestive tract straight generally provided with a radula.
- Eg. ***Neomenia***

- **CLASS 2. POLYPLACOPHORA**
- Mostly **bilaterally symmetrical**, dorso-ventrally flattened molluscs
- Body elliptical, convex dorsally and flattened ventrally
- Shell composed of a longitudinal series of eight calcareous pieces.
- *Eg. Chiton*

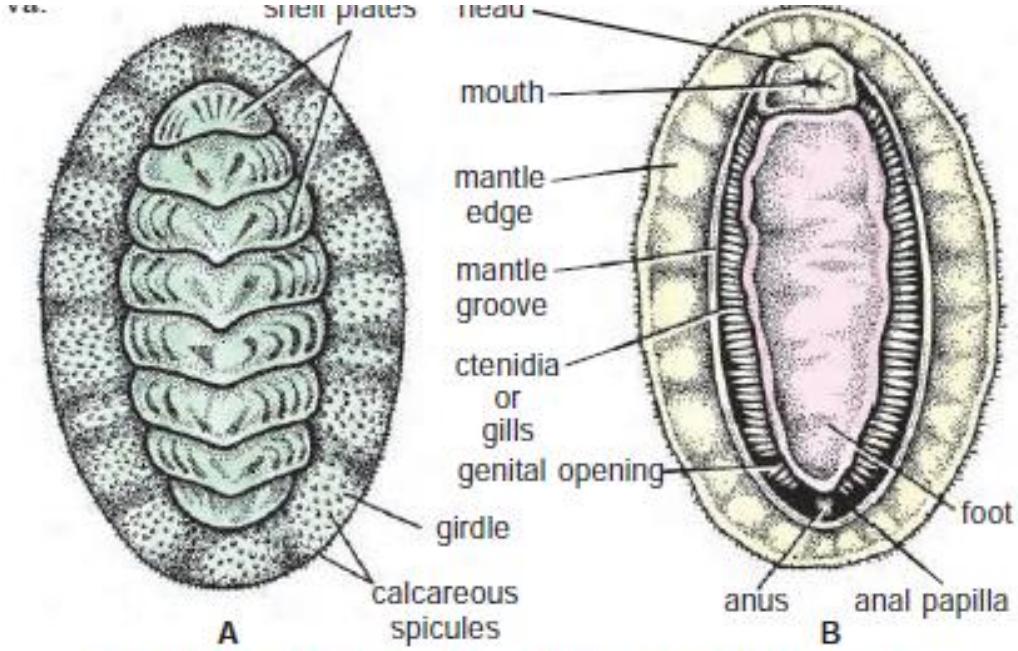


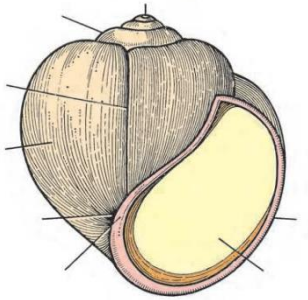
Fig. 62.1. *Chiton*. A—Dorsal view ; B—Ventral view.

- **CLASS 3. MONOPLACOPHORA**
- Body bilaterally symmetrical and segmented.
- Shell comprises single piece or valve
- Sexes separate

- *Neopilina*

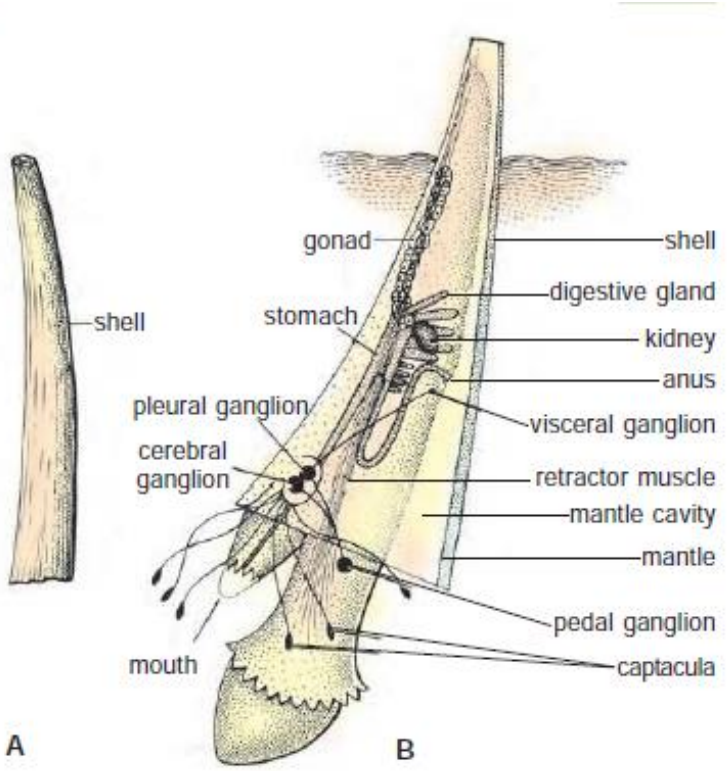
CLASS 4. GASTROPODA

- Body unsegmented, asymmetrical typically with a univalve, **spirally coiled** shell.
- Head distinct bearing tentacles, eyes and mouth.
- Visceral mass spirally coiled exhibiting torsion.
- *Eg. Murex, Conus, Pila*



CLASS 5. SCAPHOPODA

- Body is bilaterally symmetrical, elongated
- and enclosed in a **tusk-like** shell open at both ends
- Eyes, tentacles and gills are absent.
- Foot is reduced, used for digging
- *Eg.* ***Dentalium***



CLASS 6. PELECYPODA

- Body is bilaterally symmetrical and laterally compressed.
- Shell consists of two lateral valves, hinged together mid-dorsally.
- Head is not distinct
- Tentacles are absent.
- *Eg. Unio, Cardium, Teredo.*

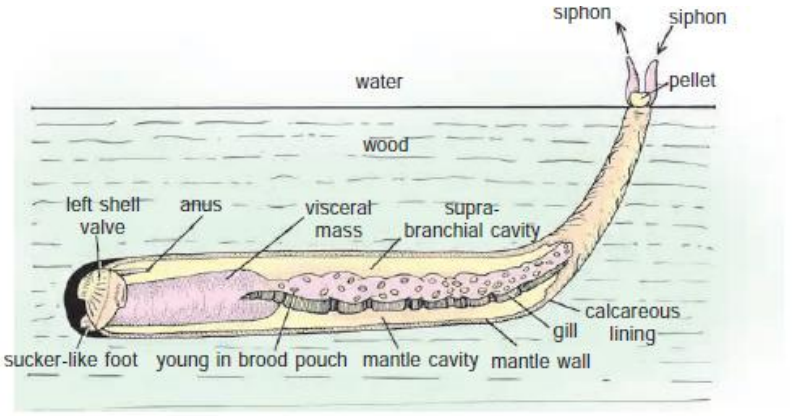


Fig. 62.14. *Tereto*. Anatomical features (diagrammatic).

CLASS 7. CEPHALOPODA

- Body bilaterally symmetrical with head and trunk.
- Head bears large eyes and mouth.
- Foot altered into a series of sucker bearing arms or tentacles encircling the mouth.

Eg. Sepia, Loligo, Octopus, Nautilus