

Museum Specimens

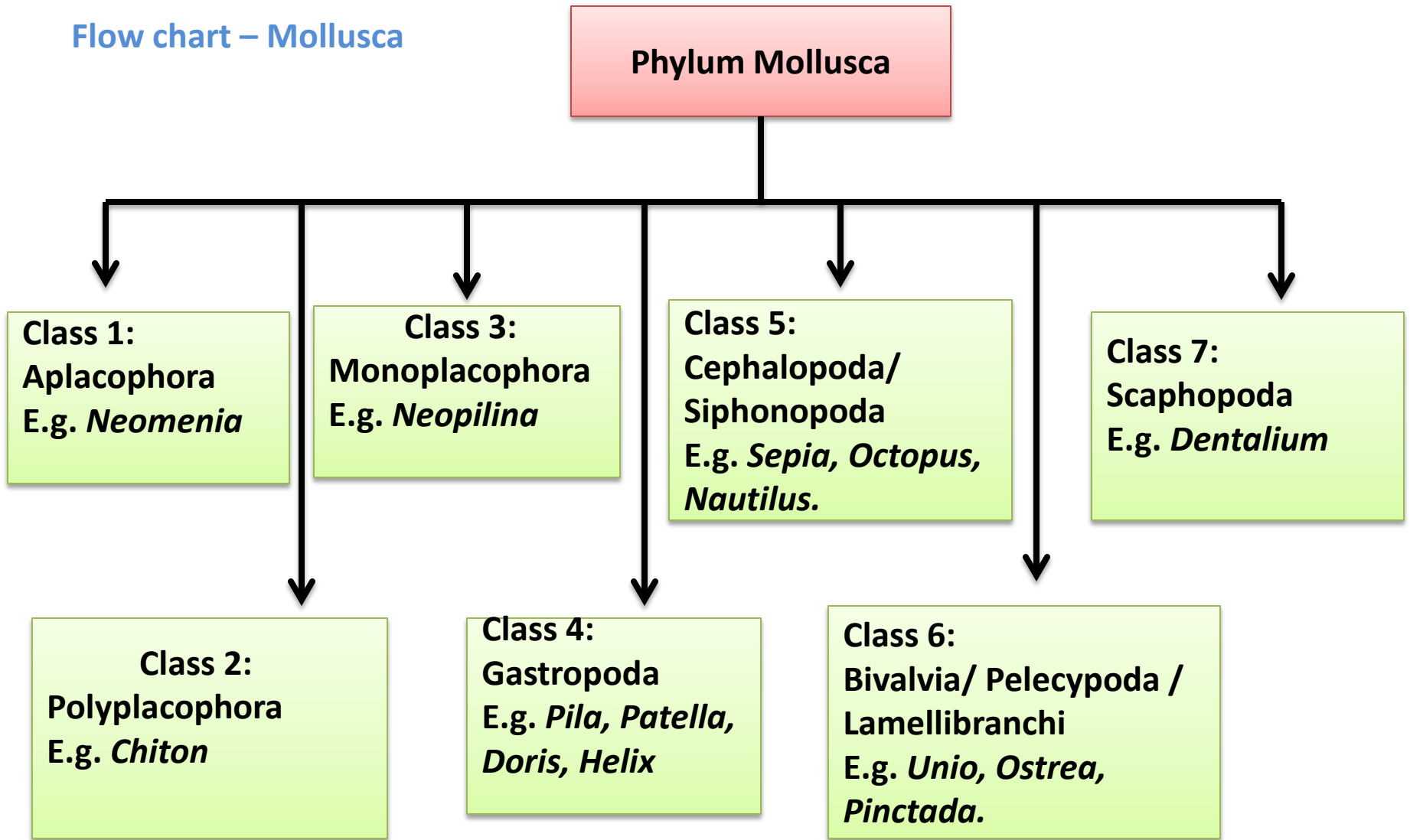
Phylum Mollusca

Specimens for Phylum Mollusca –
Chiton, Dentalium, Pila, Doris, Patella, Ostrea, Pinctada, Sepia, Octopus, Nautilus

Compiled by Dr. Sadqua Shameem
- Diagram credits -

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Flow chart – Mollusca



Chiton

Common name: Sea mouse

Geographical Distribution: *Chiton* is found all over the world.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class - Polyplacophora Body elliptical. Shell of eight dorsal plates. Head reduced.

Genus – Chiton



Chiton

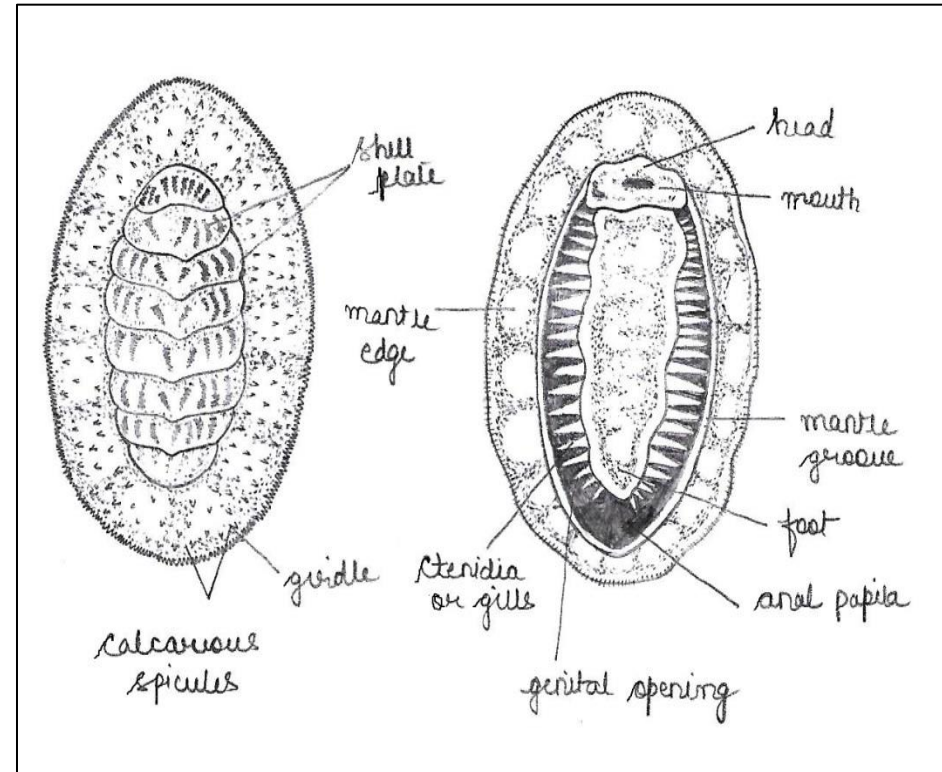
Characteristic features:

1. Body is elongated, bilaterally symmetrical and dorsa- ventrally compressed.
2. It consists of shell, foot, mantle and the visceral mass.
3. Shell composed of a series of eight calcareous pieces.
4. Foot is flat and ventral.
5. Mouth and anus are at opposite ends.
6. Head is not distinct. Eyes and tentacles are absent.
7. Mantle covers the main part of the body and covered the shell plates.
8. Foot is ventral, muscular with a flat sole ex whole extending along the length of the body.

Additional resources:

www.youtube.com/watch?v=r1iEU2Kx7MI

www.youtube.com/watch?v=tFwRAMO1E30



Chiton

Dentalium

Common name: Tusk shell

Geographical Distribution: They are found in all seas except polar.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class - Scaphopoda Shell and mantle tubular . Foot conical.

Genus – *Dentalium* Tusk shell



Dentalium

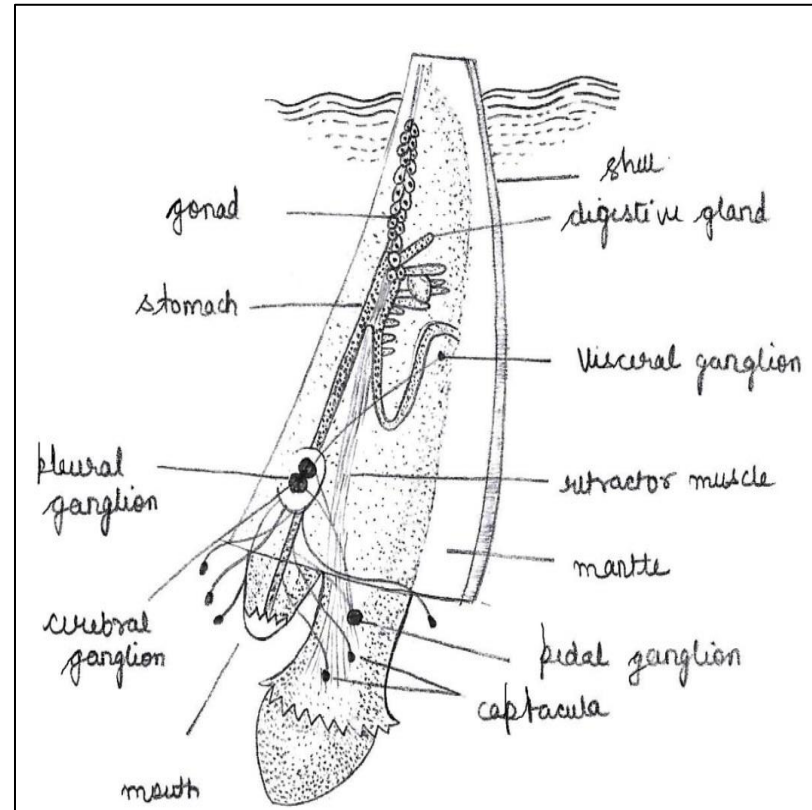
Characteristic features:

1. Dentalium is marine and found in the sand at the depth.
2. Body is **bilaterally symmetrical** and enclosed in a **tubular shell** open at both end.
3. Soft body of the animal is enclosed in a shell. Body consist of **head, foot, mantle** and **visceral mass**.
4. Foot is **long** and **conical**, protrudes through the anterior opening of the shell and is used in burrowing.
5. Anus lies behind the base of the foot.
6. Sexes are separate.
7. Development is indirect and includes a veliger larva.
8. Shell of *Dentalium* is used for ornamental purposes. Its shells were once used

Additional resources:

www.youtube.com/watch?v=hiZO2V1gzEU

www.youtube.com/watch?v=r1iEU2Kx7MI



Dentalium

Patella

Common name: True limpet

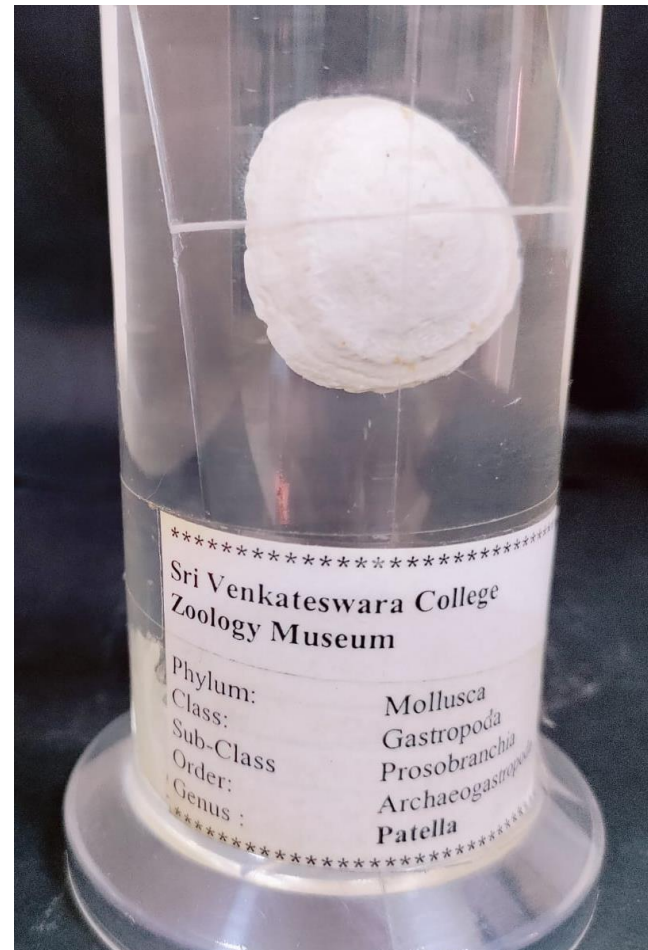
Geographical Distribution: *Patella* is found on the rocky ocean coasts worldwide.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class – Gastropoda Viscera asymmetrical in spirally coiled shell. Univalved

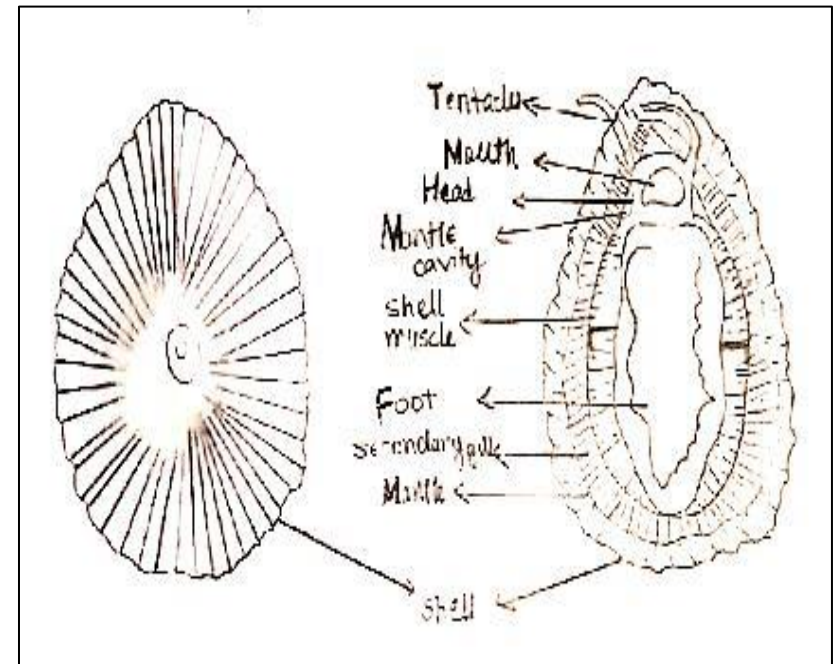
Genus – Patella



Patella

Characteristic features:

1. *Patella* is a sluggish marine gastropod. It attaches itself to the rocks and feed on minute algae.
2. Shell is oval and rounded without operculum.
3. The head bears one pair of stout, sensory tentacles and eyes.
4. Mantle cavity is restricted anteriorly.
5. Foot is ventral, broad and flat used for adhering and creeping.
6. *Patella* is eaten in several countries like France, Italy and Ireland.
7. The shells of *Patella* are used in decoration.
8. Sexes are separate.



Patella

Additional resources:

www.youtube.com/watch?v=hfUNJmk_RxM

www.youtube.com/watch?v=vd7KkAKSiIA

Pila

Common name: Apple snail

Geographical Distribution: *Pila* is commonly found in freshwater ponds, lakes, tanks, pools, marshes, paddy fields, streams and rivers of Northern India.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class – Gastropoda Viscera asymmetrical in spirally coiled shell. Univalved.

Genus – *Pila*



Pila

Characteristic features:

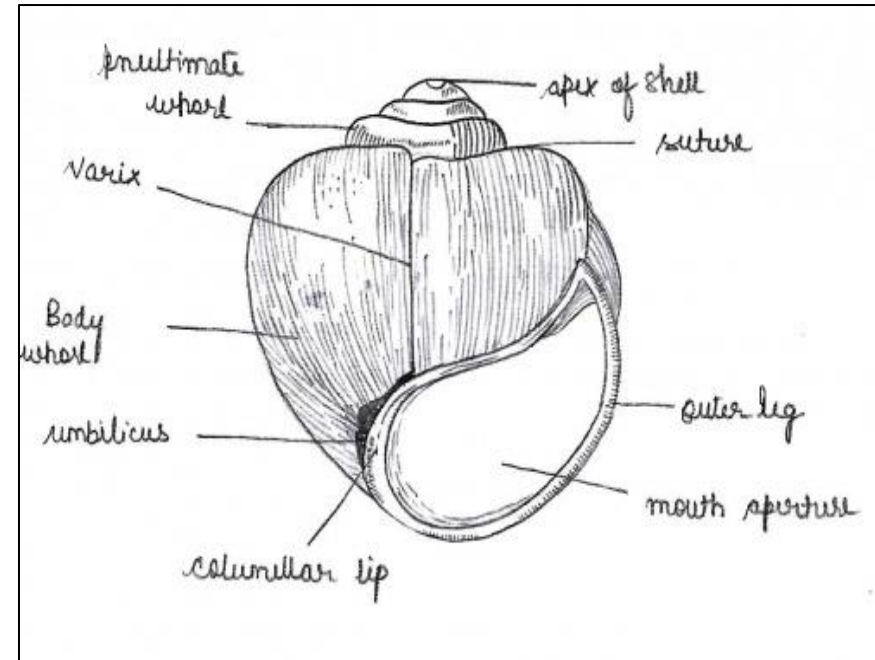
1. Shell is univalve and coiled around a central axis in a right handed spiral.
2. Operculum is well developed and closes the aperture or the mouth of the shell.
3. The body is soft and is enclosed in a shell. It consists of head, foot and visceral mass.
4. Head is the anterior fleshy part of the body overhanging the foot. It bears mouth, two pairs of contractile tentacles and a pair of eyes.
5. Foot is the locomotory organ of *Pila* and lies below the head.
6. All visceral organs are contained in this lump like structure that lies above the head-foot complex.
7. Skin of the visceral mass forms a thin and delicate covering called the mantle.

Additional resources:

www.youtube.com/watch?v=S3x76aeCiyc

www.youtube.com/watch?v=vAyrkZu4bCk

www.youtube.com/watch?v=wP54CvMxk9g



Pila

Sepia

Common name: Cuttle fish

Geographical Distribution: *Sepia* is cosmopolitan in distribution. It is commonly found in Europe, India and Mediterranean region.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class – Cephalopoda Shell internal or external or none .Mouth with horny jaws and surrounded by 8 , 10 or many arms

Genus – *Sepia*



Sepia

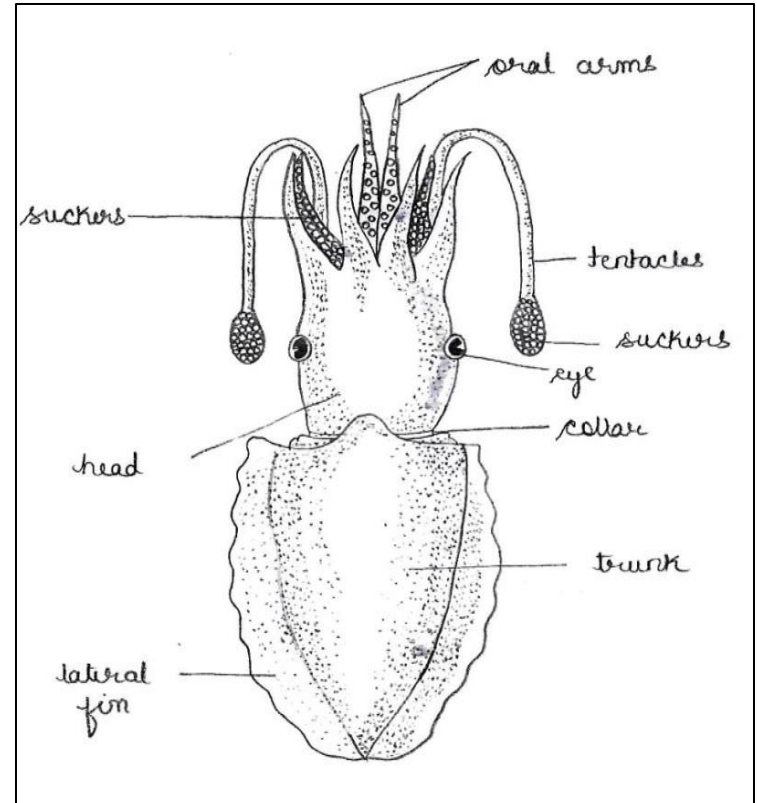
Characteristic features:

1. Body is soft, unsegmented and bilaterally symmetrical. It is divisible into a large head, a small neck or collar and trunk.
2. The head is well developed, bears a pair of eyes and 10 oral arms which are a modification of foot. 8 oral arms are smaller while two are longer and are called tentacles.
3. Collar is constricted and connects the head with the trunk.
4. The trunk extends into flaps called lateral fins on either side that help the animal in swimming.
5. It is covered by a thick muscular mantle, enclosing a large mantle cavity, on the ventral side which contains viscera.
6. It has a life expectancy of 1-2 years.

Additional resources:

www.youtube.com/watch?v=lcwfTOg5rnc

www.youtube.com/watch?v=WqMNjUp6UeA



Sepia

Octopus

Common name: Devil fish

Geographical Distribution: *Octopus* is cosmopolitan in distribution. It is generally found in Europe, India, Pacific and Atlantic coasts.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class – Cephalopoda Shell internal or external or none .Mouth with horny jaws ad surrounded by 8 , 10 or many arms

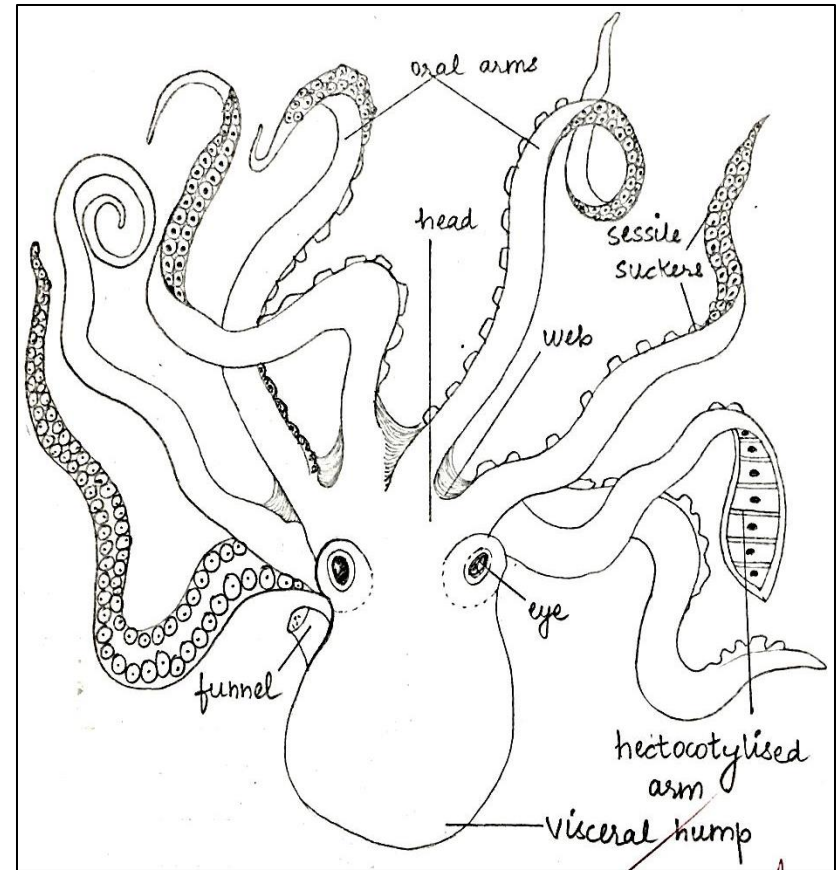
Genus – *Octopus*



Octopus

Characteristic features:

1. *Octopus* is a nocturnal marine creature inhabits many diverse regions of the ocean, including coral reefs, pelagic waters and the ocean floor.
2. The body is unsegmented, symmetrical and soft bodied animals.
3. The head bears a pair of eyes. The mouth is surrounded by eight elongated equal arms usually bearing suckers.
4. Shell is absent.
5. It moves around by crawling or swimming.
6. For defense it ejects ink from the ink-gland into the surrounding water, producing a smoky cloud.



Additional resources:

www.youtube.com/watch?v=mFP_AjJeP-M

www.youtube.com/watch?v=abRPaXgJGQg

Octopus

Doris

Common name: Sea Lemon

Geographical Distribution: Cosmopolitan but specially found in the water of New England.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class –

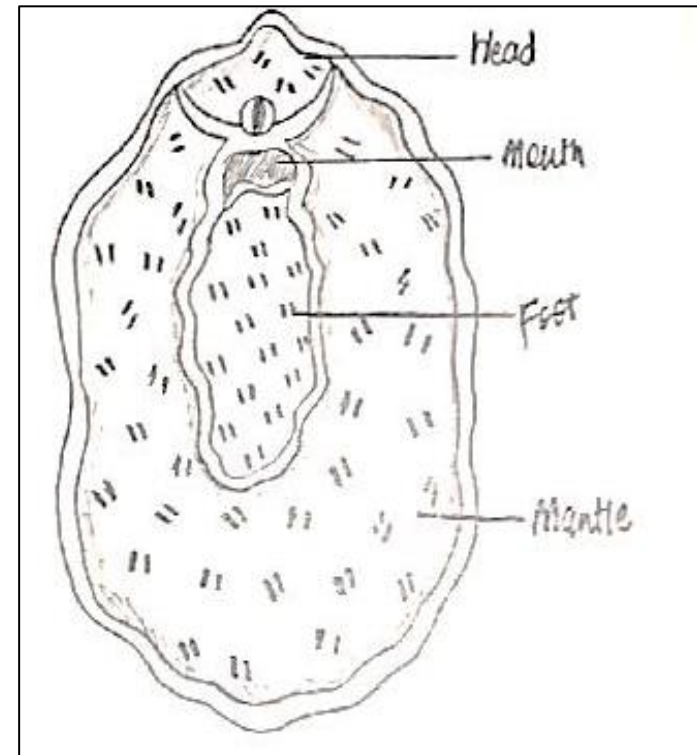
Genus – *Doris*



Doris

Characteristic features:

1. Body consists of more or less ovoid mass with a convex wart dorsal side.
2. Colour is purplish brown.
3. Head bears a pair of short retractile tentacles or rhinophores beset with calcareous spicules.
4. Mantle is usually pigmented and contains calcareous spicules or dorsal tubercles.
5. The anus lies mid-posteriorly and is surrounded by a circlet of feathered retractile secondary branchiae.
6. Ventral surface has mouth, head, tentacle and mantles.
7. Foot has large creeping role.



Doris

Additional resources:

www.reeflex.net/tiere/10390_Doris_chrysoderma.htm

www.vedantu.com/question-answer/sea-lemon-is-a-echinarachnius-b-doris-c-limax-d-class-11-biolo

Ostrea

Common name: Edible oyster

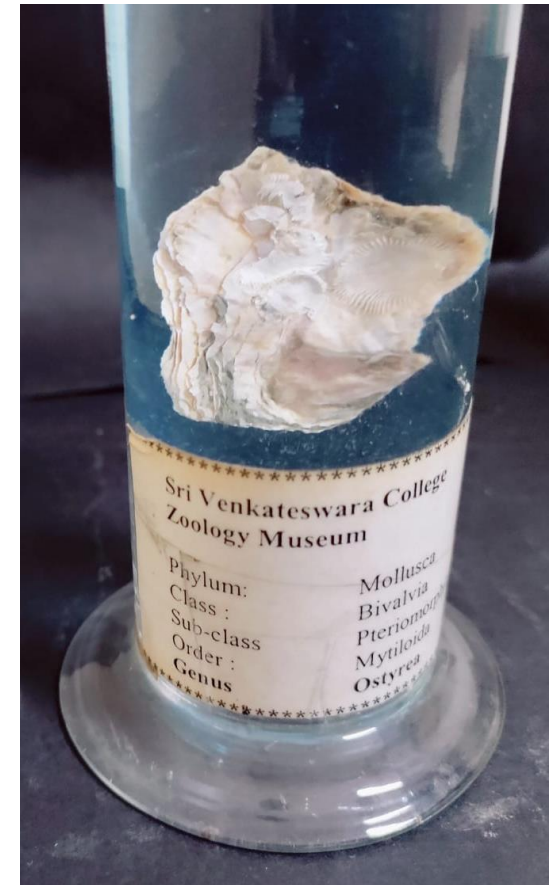
Geographical Distribution: It is found in Atlantic and Pacific coasts, India and Gulf of Mexico to Massachusetts.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class - Bivalvia Body enclosed in shell of a lateral valves. Foot hatchet – shaped.

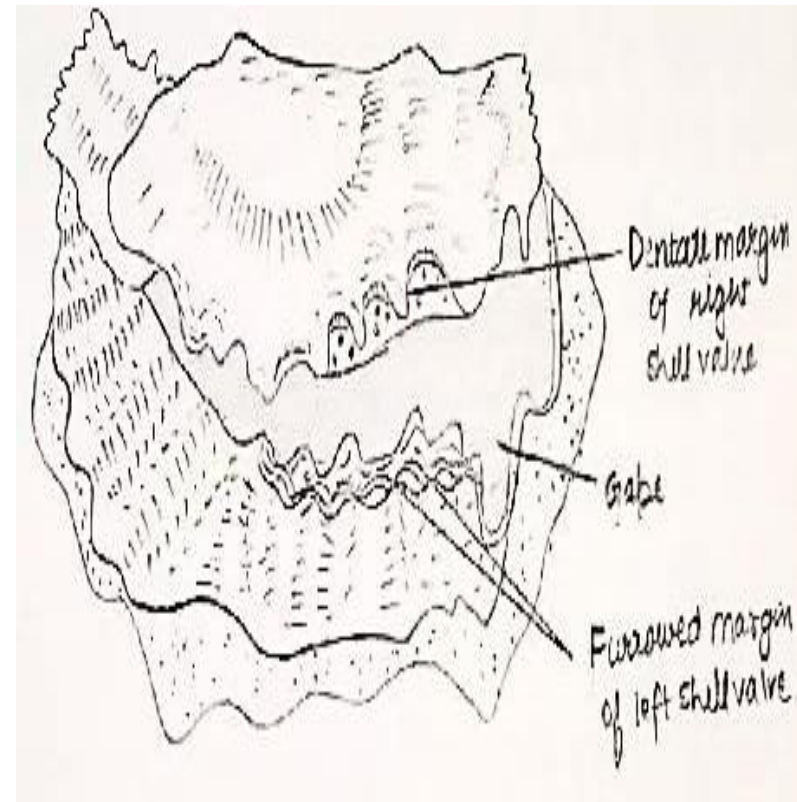
Genus – *Ostrea*



Ostrea

Characteristic features:

1. Shell valves are irregular and variable in shape. Very thick and often with folded layer.
2. Left valve is large, thick convex and permanently attached to rocks by byssus. The right valve is small and flattened, forming lid. The surface of the shell is coarse, irregular and ruffled.
3. Foot is totally absent.
4. Umbo and hinge at forward end.
5. The sex is changeable in oysters. Most of the young oysters are male but later on half of them change into female.



Ostrea

Additional resources:

www.youtube.com/watch?v=f97Yy_8XX4I

www.youtube.com/watch?v=tRPJavxrxRo

Nautilus

Common name: Pearly nautilus

Geographical Distribution: Commonly found in Indian and Pacific oceans.

Scientific Classification with Justifications:

Phylum – Mollusca Body is soft , unsegmented ,bilaterally symmetrical and divisible into head , foot , mantle and visceral mass. Many of their shells.

Class- Cephalopoda Shell internal or external or none .Mouth with horny jaws ad surrounded by 8 , 10 or many arms

Genus – *Nautilus*



Nautilus

Characteristic features:

1. Body of animal lies flat and spirally-coiled shell in one plane, which is internally divided into various chamber by septa, which bear septal necks. The chamber increase in size from inner to outer side of the spiral, i.e., outermost chamber is the largest.
2. Shell measures up to 25 cm.
3. Shell is differentiated into a large body chamber, containing head and tentacles and several small coiled chambers having prolongation of visceral mass called as *siphuncles*.
4. Eyes are open vesicles without cornea or lens.
5. Ink gland and chromatophores absent
6. Sexes are separate.



Nautilus

Additional resources:

www.youtube.com/watch?v=4ys9mfrQsQA

www.youtube.com/watch?v=-GfGTKrbwCA