**General Characteristics of**

**Phylum : Mollusca**

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**Introduction :** The phylum Mollusca is second largest phylum after Arthropoda. Study of Mollusca is called Malacology. The term Mollusca was first applied by Aristotle to cuttle fish, then the Lamarck coined the term Molluscus. The animals of this phylum are soft-bodied, non-metameric, Triploblastic (body derived from three embryonic cell layers (ectoderm, mesoderm, and endoderm) coelomates (The fluid-filled cavity within the body of most multicellular animals) and fundamentally bilaterally symmetrical(basic body plan in which the left and right sides of the organism can be divided into approximate mirror images) invertebrates with a thin fleshy envelope the mantle, around the visceral (internal organs of the body) which may secrete calcareous shell. They are ( very slow activity) animals.

## ****General characters****

1. The molluscan are widely distributed all over the world. They are mostly aquatic (marine and few are fresh-water) and some are terrestrial living in damp soil.
2. Body is soft and unsegmented (except Neopilina). **Neopilina** is considered as connecting link between Annelida and Mollusca. It is primitive with segmented body.
3. Bilaterally symmetrical except gastropodas (asymmetrical) because the shell is coiled.
4. Schizocoel or Haemocoel cavity found as coelom.
5. Triploblastic (body derived from three embryonic cell layers (ectoderm, mesoderm, and endoderm)
6. Organ system level of body organization.
7. Body is divisible into head (absence in pelecypoda and scaphopoda), dorsal visceral mass, ventral muscular foot and mantle.
Mantle- is a dorsal glandular fold of the body wall. It is thick and muscular and encloses a mantle cavity.
Head- anterior part of the body, which contains mouth, eyes and tentacles and other sense organs.
Foot-is ventral in position usually thick and muscular and generally forms the main locomotory organs. Visceral mass- on dorsal side contains digestive, circulatory and reproductive organ of the body and it forms a hump or dome.
8. Body is covered by a hard calcareous structure, made up of calcium carbonate, called shell. In some molluscus, it is internal or reduced or even absent (oplacophora).
9. Locomotion takes place by ventral muscular foot.
10. Digestive system is well developed with a hard chitinous structure, called radula.
11. Respiration takes place through one or more gills or ctenidia, lung(pulmonary sac) or general body surface in the terrestrial forms.
12. Circulatory system is closed or open type.
13. Head consists tentacles and compound eyes.
Presence of one pair tentacles except octopus where tentacles are modified into arm.
14. Excretion takes place by paired metanephridia (kidney).
15. Nervous system consists of many paired ganglia, connectives and nerves.
16. Sense organs are eyes, tentacles, osphradium and statocyst.
17. Sexes are usually separate but some are monoecious.
Pila- sexual dimorphism.
Limax- hermaphrodite
Helix- hermaphrodite
18. Fertilization is external (in sessile group such as in oyster) or internal.
19. Development may be direct or indirect. Larva is trochopore or veliger or parasitic stage called glochidium larva.