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# **Study of external and internal organization of commercially important Molluscs**

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# General characters of Mollusc

- ❖ Molluscs are essentially aquatic, mostly marine, few freshwater and some terrestrial forms.
- ❖ The body is soft, unsegmented, bilaterally symmetrical and consists of head, foot, mantle and visceral mass.
- ❖ The body is clothed with a one layered often ciliated epidermis.



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- ❖ Body is commonly protected by an exoskeleton calcareous shell of one or more pieces, secreted by the mantle.
- ❖ Head is distinct, bearing the mouth and provided with eyes, tentacles and other sense-organs excel: the Pelecypoda and Scaphopoda.
- ❖ Ventral body wall is modified into a muscular flat or plough-like surface, the foot which is variously modified for creeping, burrowing and swimming.



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# Class - Pelecypoda

## External Features

- ❖ **Shape and size**
- ❖ **Shell**
- ❖ **Valves:**
- ❖ **Hinge-ligament:**
- ❖ **Umbo:**
- ❖ **Lines of Growth:**
- ❖ **Hinge teeth**
- ❖ **Muscle scars**



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# CEPHALOPOD-SQUID

❖ The squid has a tapering somewhat torpedo-shaped or spindle-like body, hence the nickname "sea-arrow".



Unlike other animals, the long axis of the body is dorso-ventral so that when the animal swims, the morphologically ventral surface is anterior, the dorsal surface is posterior, the anterior surface is dorsal and the posterior surface is ventral.



The average length for an adult squid is about 30 cm. but some species are only 25 cm. long.



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- ❖ The body is divisible into an anterior head region and a posterior tapering visceral hump, jointed together by a narrow neck
- ❖ The head is distinct, though small, and bears a pair of large eyes and the central mouth surrounded by 10 fleshy arms arranged in a ring.
- ❖ Two powerful horny jaws, like an inverted parrot's beak, protrude from the mouth, the ventral jaw overlapping the dorsal.



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- ❖ The foot is modified into the funnel and the 10 arms surrounding the mouth at the end of the head, 8 arms are short, stumpy and non-retractile and 2 are long, slender retractile tentacles, used in capturing prey.
- ❖ The inner surface of each arm bears pedicellate and cup-like suckers decreasing in size from the base to the tip of the arms.
- ❖ The suckers give the animal a good grip on anything around which it wraps the arms.



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- ❖ The largest cephalopods are the giant squids, Architeuthis, of the North Atlantic, one of which attained a total body length of 16 meters.
  
- ❖ The tentacles alone were 11 meters long and the body circumference 3-6 meters.