

**Chapter 1 : Details - A history of British Mollusca and their shells / - Biodiversity Heritage Library**

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Diversity[ edit ] Diversity and variability of shells of molluscs on display. They include snails , slugs and other gastropods ; clams and other bivalves ; squids and other cephalopods ; and other lesser-known but similarly distinctive subgroups. The majority of species still live in the oceans, from the seashores to the abyssal zone , but some form a significant part of the freshwater fauna and the terrestrial ecosystems. Molluscs are extremely diverse in tropical and temperate regions, but can be found at all latitudes. Estimates of the numbers of nonmarine molluscs vary widely, partly because many regions have not been thoroughly surveyed. There is also a shortage of specialists who can identify all the animals in any one area to species. For comparison, the great majority of mollusc species are marine, but only 41 of these appeared on the Red List. Mollusc shell Anatomical diagram of a hypothetical ancestral mollusc Because of the great range of anatomical diversity among molluscs, many textbooks start the subject of molluscan anatomy by describing what is called an archi-mollusc, hypothetical generalized mollusc, or hypothetical ancestral mollusc HAM to illustrate the most common features found within the phylum. The depiction is visually rather similar to modern monoplacophorans. The shell is secreted by a mantle covering the upper surface. The underside consists of a single muscular "foot". It contains the body organs. It is lined with epidermis, and is exposed, according to habitat , to sea, fresh water or air. The cavity was at the rear in the earliest molluscs, but its position now varies from group to group. The anus , a pair of osphradia chemical sensors in the incoming "lane", the hindmost pair of gills and the exit openings of the nephridia "kidneys" and gonads reproductive organs are in the mantle cavity. Mollusc shell The mantle edge secretes a shell secondarily absent in a number of taxonomic groups, such as the nudibranchs [10] that consists of mainly chitin and conchiolin a protein hardened with calcium carbonate , [12] [32] except the outermost layer, which in almost all cases is all conchiolin see periostracum. In gastropods, it secretes mucus as a lubricant to aid movement. In forms having only a top shell, such as limpets , the foot acts as a sucker attaching the animal to a hard surface, and the vertical muscles clamp the shell down over it; in other molluscs, the vertical muscles pull the foot and other exposed soft parts into the shell. Although molluscs are coelomates , their coeloms are reduced to fairly small spaces enclosing the heart and gonads. The main body cavity is a hemocoel through which blood and coelomic fluid circulate and which encloses most of the other internal organs. These hemocoelic spaces act as an efficient hydrostatic skeleton. The heart consists of one or more pairs of atria auricles , which receive oxygenated blood from the gills and pump it to the ventricle , which pumps it into the aorta main artery , which is fairly short and opens into the hemocoel. A pair of nephridia "little kidneys" to the rear of and connected to the coelom extracts any re-usable materials from the urine and dumps additional waste products into it, and then ejects it via tubes that discharge into the mantle cavity. Respiration[ edit ] Most molluscs have only one pair of gills, or even only a singular gill. Generally, the gills are rather like feathers in shape, although some species have gills with filaments on only one side. They divide the mantle cavity so water enters near the bottom and exits near the top. Their filaments have three kinds of cilia, one of which drives the water current through the mantle cavity, while the other two help to keep the gills clean. Each gill has an incoming blood vessel connected to the hemocoel and an outgoing one to the heart.

## Chapter 2 : A History of British Mollusca

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Molluscs form the second largest invertebrate group with over living species and known fossils. This group includes the familiar slugs, snails, clams, oysters, squids and octopuses and is thought to have evolved from some type of non-segmented flat worm. Despite great differences in form, the molluscs have a unique non-segmented body plan with five basic parts: The head, with eyes usually on tentacles; The foot, a locomotory organ; The visceral mass containing the digestive, excretory, circulatory and reproductive organs; The mantle, an epidermal covering that secretes the shell; The shell, a calcareous involucre. The most characteristic feature of a mollusc is the shell, which supports and protects the soft body. The shell is composed of several layers: Aquatic molluscs respire with gills situated in the mantle cavity. Terrestrial species breathe with an elementary lung. Wax models of cowries crawling over coral show the typical features of the molluscan body. Molluscs have adopted a wide range of feeding habits: The mouth occurs on the lower surface of the head. The pharynx contains the tongue and a radula, a ribbon like organ with rows of recurved, chitinous teeth stretched over a cartilaginous base, which is used to scrape up food. In many molluscs, the radula has been modified for other types of feeding. Molluscs are either dioecious, with separate sexes, or hermaphroditic, one individual bearing both male and female sex organs. The eggs of aquatic species of bivalves and some species of gastropods develop into trochophores, which in turn usually develop into veliger larvae. Both stages are planktonic and serve for dispersal of the species. The eggs of cephalopods and terrestrial molluscs hatch into tiny replicas of their parents. The phylum Mollusca is divided into the following seven classes: The first two classes are thought to represent primitive molluscs, the last three classes include the great bulk of living species. Diagram indicating the evolutionary relationships between the seven classes. Our shells The shells and molluscs in this collection have come from a number of sources. Some were donated by the Museum of Science and Art in the late 19th century. Others were bought from G. Sowerby, the Victorian naturalist who was so successful in popularising the collecting of shore animals by the general public that the fauna of rock pools around the British Isles were drastically diminished. Many of the cephalopods were purchased by J. Ashworth from a marine institute in Italy. Most of the gastropod and bivalve shells come from a very varied collection of several thousand shells of unknown origin.

## Chapter 3 : Mollusca - Wikipedia

*A History of British Mollusca and Their Shells [Sylvanus Charles Thorp Hanley, Edward Forbes] on racedaydvl.com \*FREE\* shipping on qualifying offers. This is an EXACT reproduction of a book published before*

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*History of British Mollusca And Their Shells by Edward Forbes. Vol. 4. History of British Mollusca And Their Shells by Edward Forbes and Sylvanus Hanley Volume 4.*

## Chapter 8 : List of non-marine molluscs of Great Britain - Wikipedia

*A History of British Mollusca And Their Shells by A History of British Mollusca And Their Shells by the Collection of the Museum of Natural History.*

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