

*Booklet*

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Invertebrate Zoology  
(Crustacea)

THE  
BRITISH CYCLOPÆDIA

OF  
NATURAL HISTORY:

COMBINING  
A SCIENTIFIC CLASSIFICATION OF ANIMALS, PLANTS,  
AND MINERALS;

WITH  
A POPULAR VIEW OF THEIR HABITS, ECONOMY, AND STRUCTURE.

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THE VARIOUS ARTICLES ARE WRITTEN EXPRESSLY FOR THIS WORK  
BY AUTHORS EMINENT IN THEIR PARTICULAR DEPARTMENT.

THE WHOLE ARRANGED AND EDITED  
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PROFESSOR OF MECHANICAL PHILOSOPHY, AUTHOR OF VARIOUS WORKS ON NATURAL AND EXPERIMENTAL  
PHILOSOPHY, &c. &c.

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the front of the head being elongated into a kind of beak. Two other species, *C. elongatus* and *attenuatus*, have been mentioned as inhabitants of this country, but without sufficient authority.

**CYCHLA**, a genus of spinous-finned fishes, belonging to the family LABROIDÆ, which see.

**CYCLAMEN** (Linnæus). A genus of European tuberous rooted herbs, cultivated for the beauty of their flowers. The genus belongs to *Pentandria Monogynia*, and to the natural order *Primulaceæ*. Generic character: calyx bell-shaped, divided half way down into five parts; corolla base swollen, throat a little prominent, segments of the limb reflexed; stamens borne on small filaments inserted in the tube; anthers connivent and arrow-shaped; style filiform and protruding; seed-vessel a berry, but opening at last into five parts; seeds seated in the pulp. These plants were called sow-bread by the ancients, in allusion to the tubers being sought for and eaten by hogs. The Persian is the only greenhouse species, but all deserve to be kept in pots, and placed where they may be seen to most advantage. They yield abundance of seeds by which they are easily increased, provided the seed is sown soon as it is ripe.

**CYCLAS** (Lamarck), **TELLINA** (Linnæus). This genus of molluscs has been separated from the genus *Tellina*, in consequence of certain well-defined distinctions: these, nevertheless, though sufficient to separate them from that genus, have led to some speculation on the part of modern malacologists; and we find in the French school that the genus *Cyrena* of Lamarck, the genus *Cornea* and *Corbicula* of Megerle, and the *Galathea* of Cuvier, are all considered as subdivisions of the genus *Cyclas*; and though we do not advocate an useless multiplication of genera, we cannot altogether agree with that arrangement; however, as the general habits of these molluscs, as well as their organisation, nearly correspond, we give the following description in accordance to the French school:—The shells of this genus are small, of a very convex oval form; valves very thin, and always without three primary teeth on either of them; apices never eroded or decorticated; some species are so thin and fragile as to be transparent; the valves smooth or transversely striated; shell transverse, equi-convex, apices protuberant; primary teeth very small, almost obsolete, sometimes two on each valve, of which one is plaited in the middle of the one valve, and sometimes two plaited or folded teeth on the other. These constitute Lamarck's genus *Cyclas*. Such species as have a suborbicular form, the cardinal teeth rather variable, and always very small, if not altogether obsolete, with the apices not eroded, form the genus *Cornea* of Megerle. The species of a subtrigonal, or an elongated oval shape, having the apices eroded, and more anterior, with three cardinal teeth, the two posterior of which are bifid, constitute Lamarck's genus *Cyrena*, and those having the lateral teeth dentated, but corresponding in other respects, form the genus *Corbicula* of Megerle. The species of a subtrigonal form, with two-grooved cardinal teeth on one valve, three on the other, the middle one being larger and callous, form Lamarck's genus, *Galathea*. All these molluscs inhabit fresh water, generally buried in the mud; the two last sections only are known in Europe: the greater number of the others being from the Indian rivers, but every part of the world presents species of the first division; the shells are generally provided with an epidermal coat. The

animal has its body of an oval form, the edges of the mantle plain, the tubes short and united, the foot large, compressed at its base, and terminated by a species of foot, or appendage answering that purpose. This genus is classed in the third class *Accephalophora*, third order *Lamellibranchiata*, eighth family *Conchacea*.

**CYCLICA** (Latreille). An extensive division of coleopterous insects belonging to the section *Tetramera*, distinguished by the generally short and rounded form of the body. They differ from the *Rhynchophora* or weevils, in not having the head produced into a rostrum; from the *Xylophaga*, by having the antennæ not clavate; from the *Platysoma*, by the body not being flattened; from the *Longicornes*, in the antennæ being shorter than the body; and from the *Eupoda*, in having the hinder part of the thorax as wide as the base of the elytra.

For the particular characters of this division as well as for an account of the families of which it is composed, we must refer to our article headed *CHRYSOMELIDÆ*, where, in consequence of this division nearly corresponding with the Linnæan genus *Chrysomela*, we have thought it more convenient to give a description of this group.

**CYCLOBRANCHIATA** is the name given to an order of molluscs having the organs of respiration branchial, in the form of tufts, more or less developed, symmetrically arranged near the vent, which is situated in the median line of the posterior part of the animal's body. The skin is naked, though sometimes tuberculated. This order includes the genera *Doris*, *Onchidoris*, and *Peronia*; of the second class, *Paracephalophora*. they will be described in their respective places.

**CYCLOPS** (Muller). A genus of minute aquatic crustaceous animals, considered by M. Edwards as entitled to the rank of an order, to which he has given the name of *Copepoda*. These little creatures, which abound in fresh and standing waters, are seldom more than one-eighth of an inch long, and may constantly be observed jerking about by the assistance of their long tails. In their forms they somewhat resemble a lobster in miniature, the thoracic part of the body being of an oval form, furnished with a single eye in front (whence the generic name of the group). This part of the body is divided at its hinder part into several segments, which are succeeded by an articulated tail or abdomen, from the base of which in the females depends on each side a large membranous bag containing the eggs. The abdomen is forked at its extremity, each division being furnished with strong setæ; the upper antennæ are very long and multiarticulate, but the inferior are short and four-jointed. The legs, which are very short, consist of five pairs, each leg being divided into two cylindrical branches. From their curious forms, great agility, and odd motions, these little insects form conspicuous objects in the exhibitions of the solar microscope, with which instrument so much instruction and amusement is capable of being produced. The upper and long antennæ perform the offices of legs, and the lower pair of these organs, from their being kept in a continual rapid motion, produce a kind of whirlpool, which brings into its vortex the minute particles upon which they feed. At the period of coupling the males are extremely active. The eggs which are of a brown, blue or green colour, varying according to their age, become transparent when nearly ready to

produce the young; and it is an extremely curious circumstance, which has been well confirmed, that a single act of impregnation is sufficient for several successive generations. A female cyclops in the space of three months gives birth to not less than ten distinct broods; and if we calculate only eight broods, each having only forty young, it will be seen how immense must be the increase of these creatures. The duration of the egg state varies from two to ten days, according to circumstances, such as the degree of temperature, the period of the year, &c. When hatched, the young have only four legs, with the body of a rounded form, and destitute of tail. Muller, the celebrated Danish writer upon these and other allied animals, not knowing them to be the young of the cyclops, formed them into a distinct genus with the name of *Anymome*. Shortly afterwards they acquire an additional pair of legs, and these for the same reason were formed by the same author into the genus *Nauplius*. After the first shedding of their skin they are said to possess all the organs of their perfect form, but of a diminished size, especially as regards the antennæ and legs; and that after the third moulting they become adult; but in this manner of reckoning it will follow that two pairs of legs must be developed without a corresponding moulting having taken place, and this is so contrary to what is observed amongst the invertebrated animals that the correctness of such observation may perhaps be questioned. The chief food of these animals consists of minute particles of animal matter floating in the water, but in default of this they will feed upon vegetable substances in a decaying state. When one of the antennæ is cut off no change at first takes place, but at the following moulting the loss is repaired by the production of a new antenna.

There are numerous species belonging to this group, of which the *Monoculus quadricornis* of Linnæus (a name improperly changed by Dr. Leach to *C. vulgaris*) is the type; it is very variable in its colours, being sometimes reddish, at others green, bluish, or whitish. It is a very common species. Some of the species (forming the genus *Calanus* of Dr. Leach, including the *C. finmarchianus* of Muller,) have the inferior antennæ obsolete, whilst others (forming our genus *Canthocampus*, having for its type the *C. staphylinus*), have the abdomen of the females recurved with a spine beneath at the base, and in some there is but a single egg-pouch (forming our genus *Diaptomus*), and of which the *C. castor* is the type.

CYCLOPTERUS, a genus of soft-finned fishes, belonging to the order with the ventral fins under the pectorals, and to the third family of the order *Discoboles*, and including the lump-fish and some others. The following are their most remarkable generic characters:—

The rays of the ventral fins are dispersed all round the lower part of the thorax, and united by a single membrane of considerable strength into a concave oval disc, which the fish employs as a sucker for attaching itself to the rocks. This is their most remarkable character; and it is from it that they get the name of *Cyclopterus*, or fin all round. Their other characters in brief are: the mouth very large, with small pointed teeth in both jaws, and also in the pharynx; their gill lids small, their gill flaps with six rays; their pectorals very large and united below the throat so as to unite with the disc formed by the ventrals; their skeleton is soft and very imperfectly ossi-

fied; and their skin viscous and without scales, but powdered over with small hard grains. Their stomach is large with numerous cæca; their intestine and air bladder of mean size. They are usually divided into two sub-genera, the chief distinction being the form of the dorsal fin.

1. LUMP FISHES. These have a first dorsal fin more or less visible, but always very low and with simple rays; the second dorsal has the rays articulated, and is placed immediately over the anal fin; the body of these fishes is very thick and clumsy, and also very soft, and not very manageable in the water; but they are enabled to hold on upon the rocks by means of the ventral disc, and thus catch the food which is brought to them by the current of the water, and they are much less liable to be injured by the current beating them against the rocks than if their bodies were of firmer texture.

COMMON LUMP FISH (*Cyclopterus lumpus*). This species is common on all the coasts of the British islands, and in most parts of the North Seas. The back is sharp and raised, the belly flat, the body of the fish deep, the dorsal and anal fins short, and the sides marked with rows of osseous tubercles. The length is usually about eighteen inches; the colours—dusky on the back, and red on the under part; the flesh is soft, oily, and tasteless, and seldom used as human food; but as the fish is as lumpish in its motions as in its form, it very readily falls a prey to sharks, seals, and other predatory inhabitants of the waters. It is not understood to eat fish, but rather medusæ and other soft and gelatinous animals which float about freely in the water, and are brought to the eddies where it fastens itself upon the rocks. It is sometimes apt to vary in colour, and hence there are different names for it. There are, also, however, one or two smaller species, all inhabiting the North Seas, but of no use or interest whatever.

2. CYCLOGASTER. These have one dorsal fin, of the same length as the animal. Their bodies are smooth, elongated backwards, and considerably compressed, and they are much more active than the former subgenus.

SEA MOUSE (*Cyclopterus musculus*). This is a small fish, about seven or eight inches in length, found on the shores of the Channel; and gets its common name from its colour and the activity of its motions.

THE LIPARIS (*Cyclopterus liparis*). This species grows to a much greater size than the former, being frequently eighteen inches in length. It is a very northerly fish, and found on the icy coasts, though it sometimes makes an excursion as far southward as the shores of England and France. Its muzzle is rounded; its head broad and flat; its mouth large with two small fleshy beards to the upper lip. The back and fins are brown, the sides yellow, and the belly white. The flesh of this species is eaten by some of the northern people, but it is of very inferior quality. There is another species found in the north, chiefly in the White Sea, which is different from this, and has been called *Cyclopterus linetus*, the sides of this species are striped longitudinally with brown and white, and it differs from the former in a few other particulars; but it is a fish of no interest or value.

CYCLOSTOMA (modern authors), (*Helix* of Linnæus, *Turbo* of Muller). The shells constituting this genus are all of them terrestrial, and from the