

*Macrurans*, — from the Greek for *long-tailed*, the abdomen being rarely shorter than the rest of the body.

Among the *Tetradecapods*, Figs. 378, 380 represent species of the tribe of *Isopods* (a word meaning *equal-footed*), and Fig. 379 of that of *Amphipods* (feet of 2 kinds). Fig. 378 is the Sow-bug, common under stones and dead logs in moist places. Fig. 379 is the Sand-flea, abundant among the seaweed thrown up on a coast.

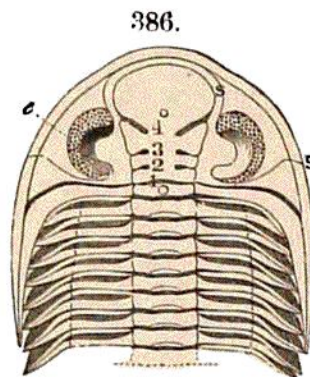
Under Entomostracans, the *Cyclops group* (Copepods) includes very small species having a shrimp-like, or Caridoid, form, as in Fig. 381. Sometimes the male and female differ much in form: 382 is male, and 381 female of *Sapphirina Iris*; *ab* is the cephalothorax, and *bd* the abdomen. In the *Cypris group*, the animal is contained in a bivalve shell, as in Fig. 384, and they are hence called *Ostracoids*.

In the *Phyllopod group*, the form is either *Caridoid*, approaching *Cyclops*, or like *Daphnia* or *Cypris*; but the abdominal appendages or legs are usually foliaceous and excessively numerous: the name is from the Greek for *leaf-like feet*. The Ostracoid Phyllopods are multiplicate species (that is, excessive in number of body segments or limbs) of the tribe of Ostracoids, and the Caridoid kinds often resemble multiplicate species of Copepods.

In the *Cirriped* or *Barnacle group*, the animal has usually a hard, calcareous shell, and is permanently attached to some support, as in the *Anatifa* (Fig. 385) and *Barnacle*. The animal opens a valve at the top of the shell, and throws out its several pairs of jointed feet looking a little like a curl, and thus takes its food, — whence the name, from the Latin *cirrus*, a *curl*, and *pes*, *foot*. The *Anatifa* has a fleshy stem, while the ordinary *Barnacle* is fixed firmly by the shell to its support. Barnacles are common on the rocks of the seacoast between high and low tide. The young Cirriped or Barnacle is a free-swimming Ostracoid, much like Fig. 384 in form, but, on passing to the adult stage, it drops its bivalve shell, and commences the sedentary life of the species, and the hard, permanent, calcareous shell of the animal is then formed. As with other Crustaceans the animal periodically casts its skin with progress in size, but not the hard calcareous shell about the body. The shell of ordinary Crustaceans is not calcareous, but chitinous, and more or less flexible; the Cirripeds are an exception as regards this outer shell, but not in the integument over the legs and body within this shell. The composition of the chitinous covering of a lobster is given on page 73.

*Trilobites* are Paleozoic Crustaceans related to the Isopods. They have the general form of an Isopod, the higher division of the Tetradecapods, and were placed near this group, with a query, by the author in 1852. But they are Phyllopod-like or multiplicate species, with the exception of a few of embryonic relations. Like the Isopods, and unlike species of Apus, and most other Entomostracans, they undergo no metamorphosis. Trilobites are represented in Figs. 383, 386, and 387–391.

In the *Trilobite*, the shell of the head-portion (*ab*, Fig. 383) is called the *buckler*; the tail (or properly, abdominal) shield, when there is one (Fig. 383, *d*), the *pygidium*. The buckler (*ab*) is divided by a longitudinal depression into the *cheeks* or lateral areas, and the *glabella* or middle area (Figs. 383, 386). The cheeks are usually divided by a suture extending from the front margin by the inner side of the eye to either the posterior or the lateral margin of the shell. In Fig. 383 (*Calymene Blumenbachii*), this suture terminates near the posterior outer angle. The glabella may have a plane surface, or be more or less deeply transversely furrowed (Fig. 383), and usually has only three pairs of furrows. The suture running from the anterior side of the eye forward or outward, and from the posterior side of the eye outward (*s* in Fig. 386), is the *facial suture*; a prominent piece on the under surface of the head, covering the mouth, is called the



*Dalmanites Hausmanni*.