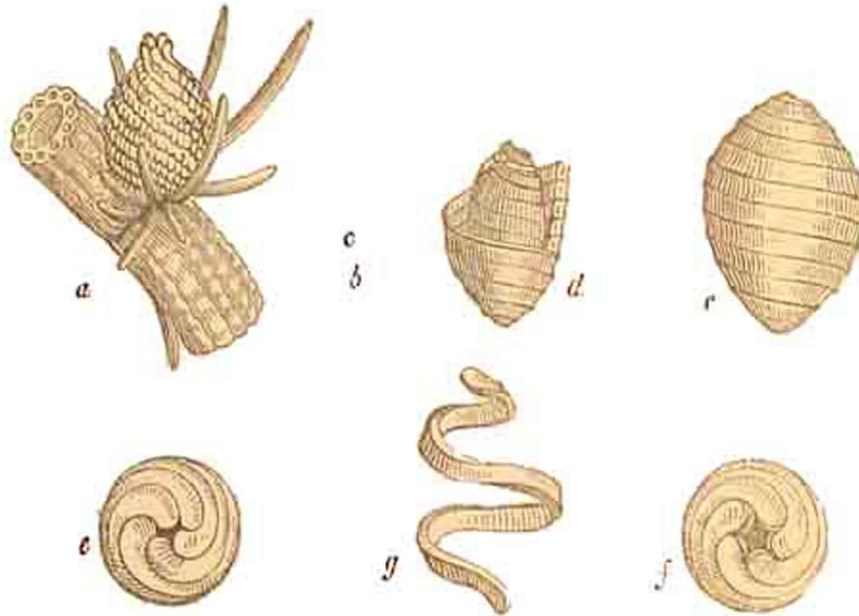


*Chara hispida*, which abounds in the lakes of Forfarshire, and which has become fossil in the Bakie Loch, each of the spiral valves of the seed-vessel turns rather more than twice round the circumference, the whole together making between ten and eleven rings. The number of these rings differs greatly in different species, but in the same appears to be very constant.

Fig. 79.

Seed-vessel of *Chara hispida*.

- a, Part of the stem with the seed-vessel attached. Magnified.  
 b, Natural size of the seed-vessel.  
 c, Integument of the Gyrogonite, or petrified seed-vessel of *Chara hispida*, found in the Scotch marl-lakes. Magnified.  
 d, Section showing the nut within the integument.  
 e, Lower end of the integument to which the stem was attached.  
 f, Upper end of the integument to which the stigmata were attached.  
 g, One of the spiral valves of c.

The stems of *Charæ* occur fossil in the Scotch marl in great abundance. In some species, as in *Chara hispida*, the plant when living contains so much carbonate of lime in its vegetable organization, independently of calcareous incrustation, that it effervesces strongly with acids when dry. The stems of *Chara hispida* are longitudinally striated, with a tendency to be spiral. These striæ, as appears to be the case with all *Charæ*, turn always like the worm of a screw from right to left, while those of the seed-vessel wind round in a contrary direction. A cross section of the stem exhibits a curious structure, for it is composed of a large tube surrounded by smaller tubes (fig. 80., b, c) as is seen in some extinct as well as recent species. In the stems of several species, however, there is only a single tube.\*

The valves of a small animal called cypris (*C. ornata?* Lam.) occur completely fossilized, like the stems of *Charæ*, in the Scotch travertin above mentioned. The same cypris inhabits the lakes and ponds of England, where, together with many other species, it is not uncommon. Although extremely minute, they are visible to the naked eye, and may be observed in great numbers, swimming swiftly through the waters of our stagnant pools and ditches. The antennæ,

\* On Freshwater Marl, &c. By C. Lyell. Geol. Trans., vol. ii., second series, p. 73.