steamboats. These plants are allied to the cocoa-nut tribe on the one side, and on the other to the *Pandanus*, or screw-pine. The fruits of other palms besides those of the cocoa-nut tribe are also met with in the clay of Sheppey; also three species of *Anona*, or custard-apple; and cucurbitaceous fruits (of the gourd and melon family) are in considerable abundance. Fruits of various species of *Acacia* are in profusion, and these, although less decidedly tropical, imply a warm climate.

The contiguity of land may be inferred not only from these vegetable productions, but also from the teeth and bones of crocodiles and turtles, since these creatures, as Dr. Conybeare has remarked, must have resorted to some shore to lay their eggs. Of turtles there were numerous species referred to extinct genera. These are, for the most part, not equal in size to the largest living tropical turtles. A sea-snake, which must have been 13 feet long, of the genus *Palæophis* before mentioned (p. 214), has also been described by Professor Owen from Sheppey, of a different species from that of Bracklesham. A true crocodile, also, *Crocodilus toliapicus*, and another saurian more nearly allied to the gavial, accompany the above fossils; also the relics of several birds and quadrupeds. One of these last belongs to the new genus *Hyracotherium* of Owen, allied to the Hyrax, Hog, and Chæropotamus; another is a *Lophiodon;* a third, a pachyderm called *Coryphodon eocænus* by Owen, larger than any existing tapir. All these animals seem to have inhabited the banks of the great river which floated down the Sheppey fruits. They imply the existence of a mammiferous fauna antecedent to the period when nummulites flourished in Europe and Asia, and therefore before the Alps, Pyrenees, and other mountain-chains now forming the backbones of great continents, were raised from the deep; nay, even before a part of the constituent rocky masses now entering into the central ridges of these chains had been deposited in the sea.

The marine shells of the London clay confirm the inference derivable from the plants and reptiles in favor of a high temperature. Thus many species of *Conus* and *Voluta* occur, a large *Cypræa*, *C. oviformis*, a very large *Rostellaria* (fig. 223), a species of *Cancellaria*, six species of *Nautilus* (fig. 225), besides other cephalopoda of extinct genera, one of the most remarkable of which is the *Belosepia** (fig. 226). Among many characteristic bivalve shells are *Leda amygdaloides* (fig. 227) and *Axinus angulatus* (fig. 228), and among the Radiata a star-fish called *Astropecten* (fig. 229).

These fossils are accompanied by a sword-fish (*Tetrapterus priscus*, Agassiz), about 8 feet long, and a saw-fish (*Pristis bisulcatus*, Ag.), about 10 feet in length; genera now foreign to the British seas. On the whole, no less than 50 species of fish have been described by M. Agassiz from these beds in Sheppey, and they indicate, in his opinion, a warm climate.

* For description of Eocene Cephalopoda, see Monograph by F. E. Edwards, Palæontograph. Soc. 1849.