

MARINE SHELLS OF BRACKLESHAM BEDS.

Fig. 215.

*Pleuroloma attenuata*, Bow.

Fig. 216.

*Voluta laterella*, Lam.

Fig. 217.

*Turritella multisulcata*, Lam.

Fig. 218.

*Lucina serrata*, Dixon.
Magnified.

Fig. 219.

*Conus deperditus*.

LOWER EOCENE FORMATIONS OF ENGLAND.

London Clay proper (C. 1, Table, p. 208).—This formation underlies the preceding, and consists of tenacious brown and bluish-gray clay, with layers of concretions called septaria, which abound chiefly in the brown clay, and are obtained in sufficient numbers from sea-cliffs near Harwich, and from shoals off the Essex coast, to be used for making Roman cement. The principal localities of fossils in the London clay are Highgate Hill, near London, the island of Sheppey, and Bognor in Hampshire. Out of 133 fossil shells, Mr. Prestwich found only 20 to be common to the calcaire grossier (from which 600 species have been obtained), while 33 are common to the "Lits Coquilliers" (p. 228), in which only 200 species are known in France. We may presume, therefore, that the London clay proper is older than the calcaire grossier. This may perhaps remove a difficulty which M. Adolphe Brongniart has experienced when comparing the Eocene Flora of the neighborhoods of London and Paris. The fossil species of the island of Sheppey, he observes, indicate a much more tropical climate than the Eocene Flora of France. Now the latter has been derived principally from the gypseous series, and resembles the vegetation of the borders of the Mediterranean rather than that of an equatorial region; whereas the older flora of Sheppey belongs to an antecedent epoch, separated from the period of the Paris gypsum by all the calcaire grossier and Bagshot series—in short, by the whole nummulitic formation properly so called.

Mr. Bowerbank, in a valuable publication on the fossil fruits and seeds of the island of Sheppey, near London, has described no less than thirteen fruits of palms of the recent type *Nipa*, now only found in the Molucca and Philippine islands and in Bengal (see fig. 220). In the delta of the Ganges, Dr. Hooker observed the large nuts of *Nipa fruticans* floating in such numbers in the various arms of that great river, as to obstruct the paddle-wheels of

Fig. 220.

*Nipadites elliptica*, Bow.
Fossil palm of Sheppey.