

about 600 feet. Prof. Prestwich has pointed out that there are traces of the existence of palæontological zones in the clay, the lowest zone indicating, in the east of the area of deposit, a maximum depth of water, while a progressive shallowing is shown by three higher zones, the uppermost of which contains the greater part of the terrestrial vegetation, and also most of the fish and reptilian remains. The fossils are mainly marine mollusca, which, taken in connection with the flora, indicate that the climate was somewhat tropical in character. The plants include the fruits, seeds, or leaves of the following, among other genera, the fossils having been mostly obtained from the Isle of Sheppey: *Sequoia*, *Pinus*, *Callitris*, *Salisburia*; *Musa*, *Nipa*, *Sabal*, *Chamærops*; *Quercus*, *Liquidambar*, *Laurus*, *Nyssa*, *Diospyros*, *Symplocos*, *Magnolia*, *Victoria*, *Hightea*, *Sapindus*, *Cupania*, *Eugenia*, *Eucalyptus*, *Amygdalus*.²⁶ Diatoms are plentifully diffused through the London Clay, and numerous foraminifera have been found by washing it. Crustacea abound (*Xanthopsis*, *Hoploparia*). Of the lamellibranchs some of the most usual genera are *Avicula*, *Cardium*, *Corbula*, *Leda*, *Modiola*, *Nucula*, and *Pinna*. Gasteropods are the prevalent mollusks, the common genera being *Pleurotoma* (45 species), *Fusus* (15 species), *Cypræa*, *Murex*, *Natica*, *Cassis* (*Cassidaria*), *Pyrula*, and *Voluta*. The cephalopods are represented by 6 or more species of *Nautilus*, by *Belosepia sepioidea*, and *Beloptera Levesquei*. Nearly 100 species of fishes occur in this formation, the rays (*Myliobates*, 14 species) and sharks (*Odontaspis*, *Lamna*, etc.) being specially numerous. A sword-fish (*Tetrapterus priscus*), and a saw-fish (*Pristis*) have likewise been met with. The reptiles were numerous, and markedly unlike, as a whole, to those of Secondary times. Among them are numerous turtles and tortoises (*Chelone*, 10 species, *Trionyx*, 1 species, *Platemys*, 6 species), two species of crocodile, and a sea-snake (*Palæophis toliapicus*), estimated to have equalled in size a living *Boa constrictor*. Remains of birds have also been met with (*Lithornis vulturinus*, *Halcyornis toliapicus*, *Dasornis londinensis*, *Odontopteryx toliapicus*, *Argillornis longipennis*). The mammals included forms resembling the tapirs (*Hyracotherium*, *Coryphodon*, etc.), an opossum (*Didelphys*), and a bat. The carcasses of these animals must

²⁶ Ettingshausen and Gardner, "British Eocene Flora," *Palæontograph. Soc.* p. 12; Ettingshausen, *Proc. Roy. Soc.* xxix. 1879.