

other seems to be more arbitrary, being founded on considerations of a purely palæontological kind. It will at all events be most easy in this book to treat of the strata as consisting of a lower fresh-water and estuarine, a middle marine, and an upper fresh-water and estuarine series.

The *Thanet Sand*, absent in the Isle of Wight, is so named by Professor Prestwich because it is so well developed in the Isle of Thanet on the Thames. It lies at the base of the Eocene strata of England, and consists of fine, light-coloured, quartzose sands, partly mixed with clayey matter. It usually lies on a layer of Chalk flint, of an olive-green colour externally, and which probably represents the effect of the waste of the carbonate of lime of the chalk which was carried away in solution as bicarbonate, through the infiltration of rain-water after the deposition of the sands, the associated silica having been concentrated and deposited in this band. These sands range from the Isle of Thanet westward to the neighbourhood of London, varying from about 50 feet thick, in parts of Kent, to 4 feet, at East Horsley, where they disappear, being overlapped by the Woolwich and Reading beds. They are quite unknown in the Hampshire basin.

The fossils of this subformation are entirely marine, and embrace about 70 known species. Among these are a shark of the genus *Lamna*, *Pisodus*, and others; a *Nautilus*; Gasteropoda, such as *Fusus tuberosus*, *Scalaria Bowerbankii*, *Natica*, *Aporrhais*, &c.; a considerable number of Lamellibranchiata, such as *Nucula Thanetania*, &c.; *Pholadomya Koninckii* &c.; *Corbula*, *Cardium*, *Ostrea Bellovacina*, &c. &c.; Crustacea, *Hoploparia*, and *Palæocorystes*; spines of *Echini* (rare), a coral, a few Foraminifera, and *land-plants*. In the