

pear to a small extent, as greenish clayey sands, in the London basin, where they form part of the Middle Bagshot beds.

One of the most characteristic features of the English Middle Eocene division is the abundant terrestrial flora which has been disinterred especially from the plant-beds of Alum Bay and Bournemouth. It is remarkable that this vegetation is apt to occur in patches or "pockets" which may mark the sites of pools into which it was blown by wind or transported by streams, so that varied though it be, it probably affords no adequate picture of the variety of the flora from which it was derived. From Alum Bay, in the Isle of Wight, according to Ettingshausen's census, no fewer than 116 genera and 274 species belonging to 63 families have been obtained.²⁹ A feature of special interest in this flora is to be found in the fact that it is the most tropical in general aspect which has yet been studied in the northern hemisphere. This character is particularly indicated by the numbers of species of fig, and by the Artocarpeæ, Cinchonaceæ, Sapotaceæ, Ebenaceæ, Büttneriaceæ, Bombaceæ, Sapindaceæ, Malpighiaceæ, etc. The most conspicuous and typical forms are *Ficus Bowerbankii*, *Aralia primigenia*, *Dyandra acutiloba*, *D. Bunburyi*, *Cassia Ungerii*, and the fruits of *Cæsalpina*. Many of the dicotyledons belong to species elsewhere found in what have been considered to be Miocene deposits. More than fifty species of the Alum Bay flora are found also in those of Sotzka and Häring (p. 1610), while a lesser number occur in those of Sézanne (p. 1604) and the Lignitic series of Western America.³⁰ The Bournemouth beds are believed to be rather higher in the series than those of Alum Bay, and lie immediately below the Bracklesham beds. None of the prevailing types of plants are found in them that occur at Alum Bay, but this may no doubt be due to local accidents of deposition. The Bournemouth flora is likewise an abundant one, and suggests a comparison of its climate and forests with those of the Malay archipelago and tropical America.³¹ The celebrated lignitiferous deposit of Bovey Tracey in Devonshire has been referred by Mr. Gard-

²⁹ Mr. Gardner suspects that in this estimate species from other localities have been included with those from Alum Bay, "Geology of the Isle of Wight" in Mem. Geol. Surv. p. 105.

³⁰ Ettingshausen, Proc. Roy. Soc. 1880, p. 228. See J. S. Gardner, Geol. Mag. 1877, p. 129; Nature, vol. xxi. 1879, 181, the Monograph on Eocene Flora already cited, and "Geology of the Isle of Wight" in Mem. Geol. Surv. p. 104.

³¹ J. S. Gardner, Q. J. Geol. Soc. xxxv. 1879, p. 209; xxxviii. 1882, p. 1; Proc. Geol. Assoc. v. p. 51; viii. p. 305; Geol. Mag. 1882, p. 470.