which occupy ancient depressions in the surface of the Patuxent formation. These lenses have been traced all the way from Cecil county to the border of the District of Columbia. The clays are highly carbonaceous, lignitized trunks of trees being often encountered in an upright position with their larger roots still intact. Scattered through the tough, dark clays are vast quantities of nodules of iron carbonate, at times reaching many tons in weight, and known to the miners under the name of " white ore." In the upper portion of the formation the carbonate ores have changed to hydrous oxides of iron, which the miners recognize under the name of " brown ore." The largest lenses have been found to reach a thickness of nearly 125 feet.

The fossils thus far found consist mainly of Dinosaurian remains, which Professor Marsh regards as indisputable proof of the Jurassic age of the deposits. Among the few plant fossils thus far collected from this horizon no dicotyledonous types of vegetable life have as yet been detected, and from what is known of the flora there is nothing that would hinder its reference to the Jurassic. Both the physical and paleontological characteristics of the deposits point to swamp conditions as affording the only satisfactory explanation for the origin of the formation. This could have been brought about by landward tilting of the continent accompanied by a clogging of the drainage lines.

THE CRETACEOUS PERIOD.

The formations grouped under this head comprise members of both the lower and upper Cretaceous, a marked line of unconformity occurring between the two groups. To the north of Maryland, in eastern New Jersey, deposits of undoubted Cretaceous age pass conformably over into the basal strata of the Tertiary, but in Maryland the break between the uppermost member of the Cretaceous series and the Eocene is sharply defined. The Cretaceous deposits extend as a broad belt from New Jersey across Maryland into Virginia. Five distinct formations may be recognized in Maryland, viz.: the Patapsco and Raritan formations of lower Cretaceous age and the Matawan, Monmouth and Rancocas formations of upper Cretaceous age.

THE PATAPSCO FORMATION.—The Patapsco formation, so called