

Cenomanian.¹³⁵—Under the name of *Upper Greensand* have been comprised sandy strata, often greenish in color, which are now known to belong to different horizons of the Cretaceous series. If the term is to be retained at all, its use must be accompanied with some palæontological indication of the true position of the beds to which it is applied. According to the researches of Dr. C. Barrois, the English Upper Greensand, as originally defined by Berger, Inglefield, Webster, Fitton, and others, has no such distinct assemblage of fossils as might have been supposed from its lithological characters, but appears to be everywhere divisible into two groups: a lower containing *Ammonites rostratus* (*inflatus*), and an upper marked by *Pecten asper*. These strata are well developed in Devonshire and Somerset. There the "Blackdown beds" below, linked with the Gault (of which Godwin-Austen regarded them as a sandy littoral representative), contain a numerous fauna, including *Ammonites*, *Goodhalli*, *Hamites alternatus*, *Cytherea parva*, *Venus submersa*, *Arca glabra*, *Trigonia alæformis*, *Pecten laminosus*, *Janira quinquecostata*, *J. quadricostata*, *J. æquicostata*, *Exogyra conica*, *Vermicularia polygonalis*; while the "Warminster beds" above correspond to the "zone of *Holaster nodulosus*" of M. Hébert, and the "zone of *Pecten asper*" of Dr. Barrois, and contain *Ammonites* (*Schlönbachia*) *varians*, *A. Mantelli*, *A. Coupei*, *Belemnites ultimus*, *Pecten asper*, *Ostrea frons* (*carinata*), *Terebratella pectita*, *Terebratula biplicata*, *T. squamosa*, *Rhynchonella compressa*, *R. latissima*, *Pseudodiadema Michelini*, *Peltastes clathratus*,

¹³⁵ From Cœnomanum, the old Latin name of the town Mans in the department of Sarthe. The old lithological subdivisions of the English Upper Cretaceous groups have been found to be wanting in palæontological precision, and are gradually being supplanted by the terms proposed by D'Orbigny, which have long been in use in France. These terms are here employed, but their equivalents in the old nomenclature will be understood from the table on p. 1544. To M. Hébert geology is mainly indebted for the thorough detailed study and classification to which the Upper Cretaceous formations of the Anglo-Parisian basin have been subjected. In 1874 he published a short memoir, in which the Chalk in Kent was subdivided into zones equivalent to those in the Paris basin, *Bull. Soc. Geol. France*, 1874, p. 416. Subsequently the same task was taken up and extended over the rest of the English Cretaceous districts, by Dr. Charles Barrois ("Recherches sur le Terrain Cretace superieur de l'Angleterre et de l'Irlande," Lille, 1876). The first English geologist who appears to have attempted the palæontological subdivision of the Chalk was Mr. Caleb Evans, "Sections of Chalk," Lewes, 8vo, 1870; for the Geologists' Association. See also W. Whitaker, "Geology of the London Basin" and "Geology of London," in *Geol. Survey Memoirs*, and authors there cited. A tolerably full bibliography will be found in Dr. Barrois' volume.