throughout, according to certain authorities, while the latter are regarded by paleobotanists to show an unequivocally Cenomanian facies in the lower portion of the series, although they admit that the higher leaf-bearing horizons may be with propriety assigned to the Turonian. In this connection we find in the western Gulf that the Woodbine formation, which is the representative of the Dakota sandstone farther west and which contains, as already pointed out, a Black Creek-Magothy-Tuscaloosa flora, is succeeded by marine beds known as the Eagle Ford and Austin Chalk formations, which represent the Colorado Group farther west, and that these are again succeeded by deposits containing the Ripley fauna, the latter being regarded as the equivalent of the Montana group of the Rocky Mountain district. Since the Dakota has been generally regarded as containing a Cenomanian flora and the Montana a Senonian fauna and flora, the Colorado and its equivalents may perhaps be properly assigned to the Turonian. Since the Montana flora is regarded by paleobotanists as absolutely distinct from and much younger in its facies than the Dakota, it is difficult to see how, as some have supposed, the entire series of Upper Cretaceous sediments on the Atlantic and eastern Gulf coasts can be assigned to the Senonian, a view still further weakened by the fact that the Woodbine beds are probably stratigraphically continuous beneath the Mississippi embayment with the Tuscaloosa deposits farther east in which the same flora occurs. A much more exhaustive study of the stratigraphy of the Cretaceous deposits of the central and western Gulf regions is clearly demanded, however, before these questions can be finally settled.

It is apparent, therefore, unless the evidence of paleobotany is to be entirely ignored and the Senonian age of the invertebrates accepted without question—a conclusion which has not been proven for the entire series as yet—that we are still forced to consider the possibility of the Upper Cretaceous sediments of the Atlantic and eastern Gulf coasts representing horizons earlier than the Senonian. Since the Turonian has not been recognized by either a distinct fauna or flora in the series of conformable strata under consideration, it is quite possible that a Cenomanian flora once established continued its existence in America later than the close of the Cenomanian epoch in Europe. At the same time it is conceivable that the earlier elements of the invertebrate fauna are somewhat older than paleozoologists have recognized, and that a greater or less portion of the series under discussion must therefore be regarded as Turonian.[1] The evidence of the plants is

---

[1]Since the above was written, the studies of Stephenson, not yet published, show the close similarity of the Eutaw (Tombigbee) faunas with those of the Austin chalk of the western Gulf, which in turn is correlated with a part of the Colorado group of the western interior, thus establishing the pre-Montana age of the Eutaw and Tuscaloosa formations.