

basin to river basin across southern Virginia into North Carolina, where it has been found extending, as already described, over a wide area north of the Hatteras axis and where in the absence of the St. Marys formation it rests directly on the Eocene and Cretaceous formations. The materials of the Yorktown formation consist mainly of sands and shell marls, with a slight admixture of clay, the shell marl being generally distinguished from the marl beds of the St. Marys formation by the presence of large quantities of shell fragments. The character of the deposits, and particularly of the fragmental shell beds, indicates that the formation was in all probability laid down in shallow water within the area of wave action. The beds present many points of similarity to the Duplin deposits to the south of the Hatteras axis.

The fossils of the deposits are numerous and characteristic. Dr. Gardner has given the fauna much consideration and has prepared the following statement. She says:

"The preëminence of the beds at Yorktown, Virginia, as a standard of reference for the formation is due, not alone to their superiority as a collecting ground, but in equal measure to the fact that both phases of deposition are typically developed at this point—the yellow marl composed almost entirely of shells and shell fragments and containing a rich and diversified fauna, and the blue clay, also fossiliferous, but with a fauna much more restricted both in species and individuals. The former phase finds its best expression in North Carolina at Colerain Landing on the Chowan River and at Rock Landing on the Neuse, the latter at Mount Gould Landing and in the vicinity of Edenhouse Point on the Chowan. The fossiliferous deposits along the Chowan River are much less satisfactory than those along the York. At a few localities, especially in the vicinity of Tar Ferry and Colerain Landing, the material is well preserved, but farther down the river where the clay is best developed it is friable and the shells can with difficulty be separated from the matrix. The collection made at Rock Landing on the Neuse River is small, but is yielding a surprising number of species, many of which are still undetermined. The majority of the forms are minute, but there is among them a very fine species of *Macrocallista* 137 mm. in longitude. The profuseness of the yellow marl fauna is probably due in part to the fact that it includes not only the shallow-water forms, but also those that live between tides, while the fauna of the blue clay is characterized only by shallow-water species. The fauna as a whole is much richer than the underlying St. Marys, particularly in the gastropods and in the minute mollusca.

"Although there are very few forms that are confined strictly within the limits of the Yorktown, the general facies shows a distinct advance over the St. Marys and may be readily differentiated from it. The Pectens maintain their prominence, in some portions of the York River beds constituting almost the entire fauna. At these localities, *Pecten jeffersonius*, especially the variety *edgecombensis*, is the more abundant, but in many of the North Carolina deposits this species is superseded by *Pecten eboreus*. Among the Ostreas, *Ostrea sculpturata* is the most representative species, while *Ostrea compressi-*