produced by an animal of the type of *Baphetes*. On the other hand that there were large swimming roptiles, seems established by the recent discovery of the vertebræ of *Eosaurus Acadianus*, at the Joggins, by Mr. Marsh.\* The locomotion of *Baphetes* must have been vigorous and rapid, but it may have been effected both on land and in water, and either by feet or tail, or both.

With the nature of its habitat we are better acquainted. The area of the Albion Mines coal field was somewhat exceptional in its character. It seems to have been a bay or indentation in the Silurian land, separated from the remainder of the coal-field by a high shingle beach, now a bed of conglomerate. Owing to this circumstance, while in the other portions of the Nova Scotia coal field, the beds of coal are thin, and alternate with sandstones and shales, at the Albion Mines a vast thickness of almost unmixed vegetable matter has been deposited, constituting the 'main seam' of thirty-eight feet thick, and the 'deep seam' twenty-four feet thick, as well as still thicker beds of highly carbonaceous shale. But. though the area of the Albion coal measures was thus separated, and preserved from marine incursions, it must have been often submerged, and probably had connection with the sea, through rivers or channels cutting the enclosing beach. Hence beds of earthy matter occur in it, containing remains of large fishes. One of the most important of these is that known as the "Holing stone," a band of black highly carbonaceous shale, coaly matter, and clay ironstone, occurring in the main seam, about five feet below its roof, and varying in thickness from two inches to nearly two feet. It was from this band, that the rubbish-heap, in which I found the skull of Baphetes planiceps, was derived. It is a laminated bed, sometimes hard and containing much ironstone, in other places soft and shaly : but always black and carbonaceous, and often with layers of coarse coal, though with few fossil plants retaining their forms. It contains large round flat scales and flattened curved teeth, which I attribute to a fish of the genus Rhizodus, resembling, if not identical with, R. lancifer, Newberry. With these are double pointed shark-like teeth, and long cylindrical spines of a species of Diplodus, which I have named D. acinaces, There are also shells of the minute Spirorbis, so common in the coal measures of other parts of Nova Scotia, and abundance of frag-

<sup>\*</sup> Silliman's Journal, 1859.

<sup>†</sup> Supplement to Acadian Geology, pp. 43 and 50.