

acter the strata are quite different from those of the typical Black River of the lower Ottawa. These beds extend along the stream to L'Eveille Rapids, a distance of about three miles, and the elevation of this point is 480 feet above sea. Interesting outliers also occur on some of the islands in Lake Nipissing, at an elevation of 642 feet. These are also of Black River age, but like those last mentioned the strata differ in aspect from those of the lower Ottawa, though the contained fossils are similar.

The formations recognized in all these Palaeozoic outliers, are for the most part, highly fossiliferous, with the exception of the Potsdam sandstone. In this, as developed in the lower Ottawa basin, the principal traces of organic remains are seen in the peculiar markings known as *Scolithus*, which, on weathered surfaces, present the form of nearly cylindrical holes from the twentieth to the eighth of one inch in diameter. Some of the strata are thickly studded with these markings which penetrate the rock to a depth of several inches, sometimes in a direct course but frequently curved, and often irregularly contorted. The origin of these is, as yet, doubtful. Other peculiar markings found on the surfaces of certain beds of the sandstone have apparently been caused by the passage of some crustacean across them, of which, however, no trace has yet been found in the rock itself. These have received the name of *Protichnites*. As we approach the transition beds between the sandstones and the calcareous members of the Calciferous, however, several well defined forms of brachiopods, gasteropods and cephalopods occur, among which species of *Lingula* and *Ophileta* are recognized. These are well seen on the southern margin of the main Ottawa basin at Beverly, in the township of Bastard, not far from the head of the chain of the Rideau lakes, and these fossils may be held to mark the lowest well defined forms of organic life yet found in the Cambro-Silurian system of the Ottawa basin and that of the St. Lawrence basin adjacent.

While the strata in all the areas described are for the most part nearly horizontal, indications of faults are clearly visible at a number of points and tend to render uncertain the calculations made to determine the thickness of the several geological divisions. Several of these can be well seen about the city of Ottawa and in the country to the west between that place and Arnprior. Along the lower Ottawa also, about Hawkesbury and L'Original, several breaks can be observed which affect the strata of the Chazy and Black River formations.

The presence of intrusive masses is also clearly seen at several points, among which may be mentioned the Potsdam area of Nepean, near the line of the township of March, where dykes cut the underlying Laurentian as well as the overlying Potsdam sandstone. These are particularly well seen in the cuttings of the Ottawa and Parry Sound railway; while further west near Portage du Fort the Calciferous beds are also similarly affected.