

of these beds, that they belong to the Quebec Group of Sir W. E. Logan. This is, however, now known to include, on the Lower St. Lawrence, beds ranging from the Calciferous to the Trenton, and the beds are so much plicated that it is often difficult to unravel their complexities of arrangement.¹ At Métis, the evidence of the pebbles in the conglomerates indicates that they are newer than the Middle Cambrian, and the few fossils found in the sandstones and shales would tend to place them at or near the base of the Lévis division, or approximately on the horizon of the Chazy, or equivalent to the English Arenig. Lapworth, in his paper on "Canadian Graptolites," suggests that the sandstones holding Retiolites are older than this; but hitherto we have not found at Métis the characteristic Graptolites of the older or Matane series, which occurs further east, and is probably of Calciferous or Tremadoc age.

In the past summer, Dr. Harrington, F.G.S., was so fortunate as to find a bed of black shale rich in remains of sponges, hitherto unknown in these rocks, and having made known the fact to the writer, we visited the place several times and made considerable collections of these interesting fossils, which are now in the Peter Redpath Museum.

The locality of this discovery is the beach at the foot of the cliff below the Wesleyan church, where a considerable thickness of black shales appears well exposed. The section at this place is as follows, in descending order:—

1. A thick bed of hard sandstone or quartzite and conglomerate, forming the cliff immediately in front of the church, and shewing in some of the beds radiating markings (*Astropolithon*).

2. Black and dark gray shales, with a few calcareous bands—thickness about 100 feet. The black shales of this band hold sponges and layers of sponge spicules, with fucoids (*Buthotrephis*, of a new species,) and valves of a small *Obolella*. All of these fossils are usually in a pyritised state.

¹ Logan, Geology of Canada, 1863; Selwyn, Report Geol. Survey, 1877-78; Ells, *Ibid.*, 1880-82; Lapworth, Canadian Graptolites, Trans. R. S. C., 1886.