

THE CANADIAN SPECIES OF THE GENUS WHITTLESEYA AND THEIR SYSTEMATIC RELATIONS.

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SOURCES AND SUPPOSED AGE OF THE MATERIALS.

The discovery of the genus *Whittleseya* in the Upper Palæozoic of Nova Scotia was announced by Dr. H. M. Ami, of the Geological Survey of Canada, in the August number of this journal for 1900. This well marked Palæozoic plant type has been found only within a very limited vertical range, and it has hitherto been regarded as characteristic of a stage in the Meso-carboniferous of North America. The occurrence, therefore, of the genus in the shales of the Riversdale formation, concerning the age of which there is at present great difference of opinion, is a matter of palæontological importance and interest. Through the courtesy of Dr. Ami and of Dr. G. M. Dawson, the late Director of the Survey, a series of the specimens forming the basis of the former's notes has been placed in the writer's hands for study and comparison with the types from the Allegheny region.

The material from Nova Scotia includes a number of specimens collected by Dr. Ami in 1896, from the banks of the Harrington river near the boundary between Cumberland and Colchester counties, and at West Bay shore, Parrsboro', Cumberland county. The fossils are said to have been gathered from the Riversdale formation, a sequence reported to be several thousands of feet in thickness of sandstones and shales which, on account of their stratigraphic position and relation to the metamorphism in the region, are regarded by the stratigraphical geologists¹ who have investigated the structure and extent of the Palæozoic formations of this region as of undoubtedly Middle Devonian age.

On the other hand, palæontologists, though differing somewhat as to the stage of the fossils, are entirely agreed that the rocks are Carboniferous. According to the evidence of the Batrachia, Crustacea and Lamellibranchiata examined by Sir William Dawson, Professors T. R. Jones and Henry Woodward,

¹ Hugh Fletcher, Ann. Rept. Geol. Surv. Canada, 1886, vol. II, p. 64P; also Trans. Nova Scotia Inst. Sci., vol. X, 1900, p. 242; also R. W. Ells, Ann. Rept. Geol. Surv. Canada, vol. I, 1885, p. 51E.