

pointed teeth are comparable to the Sewanee form of *W. undulata*. It is worthy of note in this connection that the collections from the Upper Lykens division at the Lincoln mines in the Southern Anthracite coal fields of Pennsylvania contain a *Whittleseyia* form¹ whose narrowest leaves are so similar in size and character to that described above from St. John as to suggest slight doubt as to the validity of a specific separation for the Pennsylvania type, although the other associated leaves of the same plant are proportionately very much broader and somewhat longer.

From the foregoing it will be seen that the *Whittleseyia* thus far discovered in the Riversdale and Lancaster formations pertain to the group with numerous more compact nerve fascicles and broader proportions, in general characteristic of the Upper Pottsville, rather than to the linear group,² with comparatively few bands and large teeth, which prevails in the lower portions of the Pottsville in the Appalachian province.

The genus *Whittleseyia* is regarded by most palaeobotanists as a gymnospermous type, although some difference of opinion exists as to its position among the gymnosperms. As originally published by Dr. Newberry,³ it was described as perhaps pinnate, and compared with various genera, not all gymnospermic, without suggestion of a definite relationship with any family. By Lesquerieux,⁴ and Sir William Dawson,⁵ it was referred to the *Næggerathiaceæ*, a family typified by *Næggerathia*. The latter genus, the original species of which resembles *Archæopteris*, is now generally considered as most closely allied to the Cycads, though some writers have classed it among the ferns. Schenck,⁶ in 1884, placed the *Whittleseyia* in the *Dolerophylleæ*, whose type genus *Dolerophyllum* was put by Dawson in the *Næggerathiaceæ*.

Almost simultaneously, in 1885, in two important palaeobotanical works published by Saporta,⁷ and Renault,⁸ *Whittleseyia*

¹ *Whittleseyia elegans* Newb., var. *minor* D. W., 20th Ann. Rept. U. S. Geol. Surv., Pt. II, 1900, pp. 788, 904.

² *Whittleseyia Campbelli* D. W., op. cit., p. 905, pl. CXL, figs. 9-11; and *Whittleseyia Lescuriana* D. W., op. cit., p. 867 (description not yet published.)

³ *Annals of Science*, vol. 1, Cleveland, 1853, p. 116.

⁴ *Coal Flora*, vol. II, 1880, p. 523. *Principles of Palæozoic Palæobotany*, 1883, p. 97.

⁵ *Can. Rec. Sci.*, vol. IV, No. 1, 1890, pp. 26, 27.

⁶ In Zittel's *Handb. d. Palæont.*, vol. II, p. 253.

⁷ *Évol. r.ég. vég.*, Phanérog., vol. I, p. 144.

⁸ *Cours Bot. Foss.*, vol. IV, p. 69.