

there is no specially differentiated epithelium, and in this respect we meet with a feature which serves to sharply separate these structures from those of the Cycadaceae. On these grounds I should feel no hesitation in deciding as to whether a given plant were cycadaceous or filicoid in its affinities. From this point of view, then, it would seem that the Topeka specimen is more nearly allied to ferns, and the same would hold true of *Myeloxylon*, if we are to base an opinion upon the excellent figures of Mr. Seward.

SUB-CORTICAL SCLERENCHYMA.—The distribution of the sclerenchyma can hardly be taken as an argument one way or the other, since in both ferns and cycads there is such wide variation. I should consider this a specific rather than a generic character. In all of the myeloxylons so far studied, the sclerenchyma is distributed in separate strands. In the cycads studied by me this tissue forms a continuous band in all cases where strongly developed. In *Angiopteris* it forms a continuous zone of considerable thickness, with separate strands lying along the inner face.

A résumé of the results above detailed shows that in the Topeka specimen there are characters which directly connect it with *Rachiopteris Williamsoni*, and also with other European species of *Myeloxylon*, and the evidence would seem to indicate that few of these can be separated generically. Admitting the force of some of the objections raised by Mr. Seward respecting the filicoid character of *Myeloxylon*, there are, nevertheless, strong arguments in favor of this view, which seem to me to preponderate and thus to justify the retention of the name *Myelopteris* as a name expressive of this possible relationship; while the fact that these plants do not conform closely to any modern type would seem to raise a question as to the possible correctness of the view originally expressed by Goeppert that these plants in reality represent a generalized type occupying a position between the cycads and the ferns.

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