

## Book Review

TAXONOMY of specimens of the Pennsylvanian age marattialean fern *Psaronius* from Ohio and Illinois—by James E. Mickle, Illinois State Museum Scientific Paper No. XIX, viii + 64 pages, 47 figures, 6 tables, 1984, 5 U. S. dollars.

*Psaronius* is one of the most dominant elements of the Late Pennsylvanian floras though its occurrences range from Late Namurian to as late as Bunter. It is an exclusive member of the Euramerican and Cathaysian floras. In Gondwanaland its only known occurrence is from Brazil.

Though the genus is known for 150 odd years, yet no acceptable system had been evolved so far for species delimitation in the genus. Early workers put great emphasis on the features of the vascular system. Later workers delimited the species on the basis of ground tissue characteristics. However, neither system was found to be completely satisfactory. James E. Mickle's doctoral dissertation contains results of investigation undertaken to understand the taxonomy and ontogenetic development of the species in this genus. For delimitation of the species the author has selected a number of independent parameters including those of Ground Tissue, Sclerenchyma Sheath, Vascular Anatomy and Morphology and Root Mantle. With this judicious

approach he identifies four species in his collection of over 130 specimens from the Late Pennsylvanian deposits of the Appalachian and Illinois basins. Each species is described and illustrated in detail and the features are discussed with regards to its taxonomic status and evolutionary or genetic relationships. Salient features of other North American species of the genus are tabulated in an appendix. The author has also discussed ecological implications of *Psaronius* occurrences and has drawn tentative conclusions regarding environment of deposition.

There does seem to be an anomaly or two as far as typification of the species is concerned. For example, *Psaronius paucivaculosus*, a new species from Blickle's unpublished doctoral dissertation, is effectively published in this paper. Unexplicably, the holotype has been chosen from a new collection whereas specimen no. B-256, one of the three specimens studied by Blickle, has been relegated as a paratype. Similarly of the two specimens assigned to *Psaronius chasei* by Morgan, one is retained as holotype, but the other is not designated as paratype. On the whole this paper is a valuable supplement to earlier works on the genus *Psaronius*.

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