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Palynologic Age Determination of the Catahoula Formation, Big Creek, Sicily Island, Louisiana

The age of the Catahoula Formation in eastern Louisiana has long been determined only by stratigraphic position due to the absence of marine fossils. Some authors interpret this formation as interfingering with the Vicksburg Group and consider it to be Oligocene in age. Others contend it unconformably overlies that group and is of Miocene age.
Lignitic shale samples of the Catahoula Formation exposed along Big Creek on Sicily Island have yielded rich palynomorph assemblages of pteridophyte spores, pollen, fungal debris, and rare dinoflagellate cysts and freshwater algae. The presence of helianthid-type and ambrosid pollen indicate the samples equate to the chronozone Paly 24 (8.68 Ma, early late Miocene) of the palynozonation of Shell Offshore Inc. and the worldwide chronozones N 16 (planktonic foraminifera) and NN 10 and CN 8B (calcareous nannofossil). This permits, for the first time, correlation of the eastern Louisiana Catahoula Formation outcrops with the intercontinental marine zonations.

The presence of freshwater floating fern spores (e. g., *Azolla* sp., *Magnastriatites howardi*), mangrove pollen (e. g., *Rhizophora* sp., *Pseudolaesopollis ventosus* var. *minutus* n. var.), and rare estuarine-to-lagoonal dinocysts (e. g., *Polysphaeridium zoharyii*, *Spiniferites* spp.) indicate deposition occurred in a tropical, quiet backwater in the upper reaches of an estuary.