

**Section III, EARTH SCIENCES
A-GEOLOGY
Saturday, April 29, 1989
Room 205 A, Education Center**

Burt Carter, presiding

9:00 FOSSIL VERTEBRATES FROM THE MARKS HEAD FORMATION (EARLY MIOCENE) OF SOUTHEASTERN GEORGIA, Ann E. Pratt, Department of Biology, Richard M. Petkewich, Department of Geology and Geography, Georgia Southern College, Statesboro, Ga. 30460, Gary Morgan, Natural Sciences, Florida Museum of Natural History Gainesville, Fl 32611. Preliminary excavation and screen-washing of sediments from the Marks Head Formation (Hawthorn Group) at Porters Landing, Effingham County, Georgia, has yielded a small but highly significant terrestrial vertebrate fauna. At this locality the Marks Head is approximately 8m thick and consists predominantly of interlayered sand, clay, and pebbly argillaceous sand. Over 500 kg of sediment have been collected and washed through a series of nested screens. Much of the concentrate has been picked for microvertebrates. The majority of vertebrates recovered thus far are marine and include crocodiles, sea turtles and dolphin. The diverse fish fauna consists of 8 species of sharks and rays, pinfish, barracuda, and drum. Terrestrial vertebrates are rare, but to date two species of heteromyid rodents, a cricetid, two species of insectivores, a moschid camel, and several reptiles have been recovered. This assemblage is consistent with a subtropical nearshore marine depositional environment and late early Miocene age for the Marks Head Formation, as suggested by Huddleston (1988).

9:15 A PRELIMINARY PALYNOLOGICAL INVESTIGATION OF THE MARKS FORMATION (MIOCENE), EFFINGHAM COUNTY, GEORGIA, James H. Darrell, II Department of Geology/Geography, Georgia Southern College, Statesboro, GA 30460-8149. A standard palynological maceration of sandy, argillaceous sediment from the Marks Head Formation (Hawthorne Group) from the southwest bank of the Savannah River at Porters Landing, Effingham County, Georgia yields a diverse predominately angiosperm palynofloral assemblage. Quercus (oak), Ulmus (elm), Chenopodiaceae, Graminae (grasses), Cyperaceae (sedges) miospores dominate the assemblage with lesser amounts of Carya (hickory), Liquidambar (sweet-gum), and Polypodiaceae (ferns) miospores. Gymnosperms are represented by a few Taxodium (cypress) miospores. As with other Early and Middle Cenozoic palynofloral assemblages from the Coastal Plain of Georgia, conifer miospores are absent. The palynofloral assemblage contains 10-15 percent small spinose cysts that have been tentatively assigned to the Dinophyceae (dinoflagellates). Based on lithology and foraminifera, Huddleston (1988) indicates a shallow, open circulation, normal salinity marine inner continental shelf depositional environment. In the samples studied in this report, the relative amounts of miospores attributed to land vegetation and Dinophyceae cysts as well as small pieces of woody/lignitic material dispersed through the sediment, a very nearshore marine environment is inferred.