PLANT TAXONOMY

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JEANETTE C. OLIVER, Ball State University, was elected Chairman for 1970

ABSTRACTS

Eocene Euphorbiaceous Fruits. NEAL E. LAMBERT and DAVID L. DILCHER, Indiana University.—A recent study of a population of 20 well-preserved fossil fruits has shown that these fruits have probable affinities with the Euphorbiaceae. These fruits were collected from Eocene clay deposits in Henry County, Tennessee. In 1922, E. W. Berry described similar fruits collected from Eocene deposits in western Tennessee and assigned these to the genus *Monocarpellites*. He tentatively referred the genus to the Malvaceae but expressed uncertainty concerning its botanical affinities. M. E. J. Chandler described similar fruits from Lower Tertiary deposits of Egypt, Isle of Wight, Sussex of England. Chandler referred her material to two genera, *Wetherellia* and *Palaeowetherellia*, and placed the genera in the Euphorbiaceae. The fruits from western Tennessee most resemble the genus *Palaeowetherellia;* however, there are some consistent differences. Both the external features and internal anatomical structure of the fossil material indicate an affinity with some of the large capsules found in extant woody genera of the Euphorbiaceae. The fossil fruits are septicidal capsules, 24-39 mm in diameter with 7-10 locules which dehisce radially exposing the seeds. Sections showing internal cellular detail have been prepared and will be discussed in addition to the overall aspects of the fruits.

Morphology and Taxonomy of Fossil Fungal Spores. M. V. SHEFFY and D. L. DILCHER, Indiana University.—The Eocene clay deposits of western Tennessee and Kentucky contain large numbers of preserved dispersed fungal spores. Extensive research has been done on the fossil leaves associated with these clays and one study by Dilcher (1965) reports numerous epiphyllous fungi found on these fossil leaves. A large assemblage of dispersed fungal spores was isolated from the sediments by zinc bromide flotation and mounted in glycerine jelly. Camera lucida line drawings and photographs were made of each spore type to accompany the spore descriptions. Distinct morphological characters such as shape, size, sculpture, and number of cells and pores were used to delimit 14 genera and 81 species. They were classified according to an artificial system of nomenclature followed by von der Hammen, Rouse, Clarke and Elsik. This preliminary taxonomic work is necessary for any further work with fungal spores as part of a complete organic assemblage or as marker fossils in stratigraphic correlations. Many of the spores found are similar to dispersed spores recorded from Cretaceous-Recent sediments of North America, Europe and Africa. Although some spores have been tentatively assigned to modern taxa by

Bradley, Dilcher, Wolf and Graham, this continues to be a difficult task until extensive modern reference collections are required.

The Cultivated Solanaceae of Ecuador. CHARLES B. HEISER, JR., Indiana University.—The family Solanaceae is well represented among the plants cultivated in Ecuador. Several members of the family are important food plants, including such well known ones as the potato (*Solanum tuberosum*) and peppers (*Capsicum spp.*), as well as a number of lesser known ones, including the *naranjilla* (*S. quitoense*), the pepino (*S. muricatum*) and the tree tomato (*Cyphomandra crassifolia*). Most of the ornamentals of the family grown in the temperate zone are also cultivated there, and in addition a number of shrubs are grown for their ornamental value (*Solanum spp., Iochroma fuchsioides, Streptosolen jamesonii,* and *Datura spp.*). Various species of the genus *Datura* are also employed for use as narcotics. Chromosome counts were obtained for the following: *Datura arborea,* n=12; *D. aurea* n=12; *D. candida,* n=12; *Iochroma fuchsioides,* n=ca.24; and *Streptosolen jamesonii,* n=11.