

REVISION OF EOCENE PALMS FROM SOUTHEASTERN
NORTH AMERICA BASED UPON CUTICULAR ANALYSIS

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Incomplete fragments of palm foliage have always presented a problem to paleobotanists. It is very difficult, if not impossible, to give a meaningful generic determination of such fragmentary fossil material. Only by a comparison of the arrangement of the venation of such fossil fragments with the venation of more completely preserved specimens have attempts been made to use such fragmentary material. However, since the parallel venation of the lamina of palms is often not unique to any particular genus, the determinations based upon venation of leaf fragments is generally not satisfactory. Several fragments of palm leaves and a few nearly complete leaves have been collected from Eocene deposits of western Tennessee. Most of this fossil material has good cuticle preservation and the leaf fragments can be easily related by cuticular analysis to the more complete leaves which have been found. On the basis of venation and gross morphology, the palm leaves and leaf fragments studied can be identified as either Chamaedorea danai or Sabalites grayanus which Berry (1916, 1930) recognized in these deposits. However an investigation of the cuticular material indicates that there are three types of fossil palms present. The similarities of these fossil leaves and their cuticular features to modern palms indicates that two of these fossil palm types have close affinities with the Sabiloid palms and one fossil palm type has affinities with the Chamaedoroid palms.

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