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**Foliar Morphology of *Platanus***, JULIE VAN HORN and DAVID L. DILCHER, Department of Plant Sciences, Indiana University, Bloomington, Indiana 47401.—The monotypic family Platanaceae is an ancient angiosperm family which has a world-wide distribution. The foliar morphology of *Platanus* is under active investigation. Gross form, venation and epidermal features have been studied, using cleared leaf material and cuticular preparations for light microscopy and scanning electron microscopy. Both mature leaves and various developmental stages of leaves of several species were used. Developmental studies have been carried out on leaves of seedlings and growing shoots of mature trees. The gross leaf form, of the various species recognized, differs in number of lobes, depth of sinuses, and nature of the margin. The toothtype appears to be unique to this family and genus. The venation of mature leaves is predominately palmate except for one Asian species. In the

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seedling and growing shoots on mature trees, a developmental sequence from pinnate to palmate venation pattern was observed at successively older nodes. Five types of trichomes were recognized on mature and seedling leaves. The trichome types appear to be characteristic of maturation stages and individual species. The appearance of the stomatal apparatus (exterior leaf surface), as viewed in scanning electron microscopy, is diagnostic and consistent in the family. It is characterized by a raised striated ring of cuticle. The organization of the mature stomatal complex is unique. Each guard cell is slightly elevated in relation to the 2-4 lateral subsidiary cells which subtend it. The development of the stomatal apparatus has been investigated with the aid of Paragon stain. It is mesoperiginous.

1975 Van Horn, J. and D.L. Dilcher. Foliar morphology of *Platanus*, Proc. Indiana Academy of Sci., 84:69-70 (abst.).