

1. **Acer L.** (maple) (Murray, 1975)

Plants mostly monoecious or dioecious, occasionally with perfect flowers mixed with the pistillate ones, shrubs or more commonly small or large trees. Leaves opposite, petiolate, lacking stipules (these fused to the petiole bases and usually not apparent, except sometimes in A. saccharum), the leaf blades usually palmately lobed, less commonly pinnately compound. Inflorescences terminal or lateral toward the branch tips, sometimes axillary, ranging from small clusters to racemes or small panicles. Flowers actinomorphic, hypogynous, the staminate ones often perigynous. Calyxes of 4 or 5(6) sepals, these sometimes fused, often colored. Corollas absent or of 4 or 5(6) free petals. Stamens 3–8, usually strongly exserted, the filaments sometimes attached to the margin of a nectar disk. Pistil 1 per flower, superior, of 2 fused carpels, usually with 2 locules, flattened at right angles to the septum. Styles 2 per flower or sometimes 1 and deeply 2-lobed, the stigmas 2. Ovules usually 2 per locule. Fruits consisting of 2 samaras that are initially fused at the base but break apart at maturity and are dispersed independently, each with a single basal seed and a terminal wing. About 115 species, widespread in temperate portions of the Northern Hemisphere and in mountains in the tropics.

Emerging morphological and molecular evidence suggests that the Aceraceae (and Hippocastanaceae) might best be treated within an expanded circumscription of the Sapindaceae (Judd et al., 2002). The traditional classification is followed here in anticipation of further studies to resolve the phylogenetic relationships within this family complex.

Maples are important components of many deciduous forest communities. The wood of various species is of commercial importance for lumber, for boards and slats, for veneers, as pulpwood for paper, and in the construction of furniture and musical instruments. Species valued for timber production usually are divided into two groups: “hard maples” with harder wood that is better suited for structural uses, which include the A. saccharum complex; and “soft maples” with more brittle wood, which include A. negundo, A. rubrum, and A. saccharinum. Although A. saccharum is the species best known for the use of its sap for a sugar and maple syrup, most other species also yield sap with similar properties (but inferior in quality) to that of sugar maple.

Numerous species also are cultivated as ornamentals because of their interesting leaf shapes and colors, especially their bright coloration during the autumn. A large number of cultivars exist for some of the taxa. In addition to the species treated below, several additional maples are cultivated commonly in Missouri but have not been documented as escapes. These include A. palmatum Thunb. (Japanese maple), a shrub or small tree with leaves having strongly tapered tips on the lobes and relatively small, widely spreading samaras; and A. pseudoplatanus L. (sycamore maple), which has relatively showy flowers in small panicles that are not produced until the trees are mostly leafed out. Settergren and McDermott (1962) suggested that A. platanoides L. (Norway maple), a shade tree distinguished by its milky sap and widely spreading samaras, probably had become naturalized somewhere in Missouri, but although this species is commonly cultivated as a shade tree in the state it has not yet been found established outside cultivation.