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

Plants mostlymonoecious or dioecious, occasionally with perfect flowers mixed with thepistillate ones, shrubs or more commonly small or large trees. Leaves opposite,petiolate, lacking stipules (these fused to the petiole bases and usually notapparent, except sometimes in A. saccharum), the leaf blades usuallypalmately lobed, less commonly pinnately compound. Inflorescences terminal orlateral toward the branch tips, sometimes axillary, ranging from small clustersto racemes or small panicles. Flowers actinomorphic, hypogynous, the staminateones often perigynous. Calyces of 4 or 5(6) sepals, these sometimes fused,often colored. Corollas absent or of 4 or 5(6) free petals. Stamens3–8, usually strongly exserted, the filaments sometimes attached to themargin 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 perflower or sometimes 1 and deeply 2-lobed, the stigmas 2. Ovules usually 2 perlocule. Fruits consisting of 2 samaras that are initially fused at the base butbreak apart at maturity and are dispersed independently, each with a singlebasal seed and a terminal wing. About 115 species, widespread in temperateportions of the Northern Hemisphere and in mountains in the tropics.

Emergingmorphological and molecular evidence suggests that the Aceraceae (andHippocastanaceae) might best be treated within an expanded circumscription ofthe Sapindaceae (Judd et al., 2002). The traditional classification is followedhere in anticipation of further studies to resolve the phylogeneticrelationships within this family complex.

Maples areimportant components of many deciduous forest communities. The wood of variousspecies is of commercial importance for lumber, for boards and slats, forveneers, as pulpwood for paper, and in the construction of furniture andmusical instruments. Species valued for timber production usually are dividedinto two groups: “hard maples” with harder wood that is better suited forstructural uses, which include the A. saccharum complex; and “softmaples” with more brittle wood, which include A. negundo, A. rubrum, andA. saccharinum. Although A. saccharum is the species best knownfor the use of its sap for a sugar and maple syrup, most other species alsoyield sap with similar properties (but inferior in quality) to that of sugarmaple.

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