

ACERACEAE MAPLE FAMILY

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Shrubs or trees, usually monoecious or dioecious. LEAVES opposite, estipulate, simple, unlobed or palmately lobed, or palmately or pinnately compound. FLOWERS actinomorphic, often with disks; sepals 4 or 5, separate or fused; petals 4 or 5, distinct, or absent; stamens 4-10; pistil 1, the ovary superior, 2-locular. FRUIT a schizocarp, the mericarps winged, the wings lateral (*Acer*) or peripheral (*Dipteronia*). -2 genera, *Dipteronia* (2 Chinese spp.), and *Acer* with ca. 180 spp. in n temperate regions and the mountains of tropical Asia.

Acer L. Maple

Shrubs, or trees to ca. 12 m high (in ours), monoecious or dioecious. LEAVES palmately lobed or trifoliolate (in ours), membranous or submembranous. INFLORESCENCE corymbose, racemose, or umbelliform. FLOWERS (in ours) inconspicuous, greenish-yellow, wind-pollinated, (elsewhere, in some spp., conspicuous, insect-pollinated); ovary compressed, with two lateral lobes that develop into wings. FRUIT two-winged, at maturity separating into two, single-winged, samaras and a persistent carpophore. --Delendick, T. J. 1990. Mem. New York Bot. Gard. 45:1-129; Keller, A. C. 1942. Amer. Midl. Naturalist 27:491-500.

1. At least some leaves trifoliolate.
 2. Leaf blades glabrous; terminal leaflet usually sessile; pedicels less than 1 cm long *A. glabrum*
 - 2' Leaf blades pubescent; terminal leaflet stalked; pedicels 1-4 cm long..... *A. negundo*
- 1' All leaves simple.
 3. Leaf blades finely pubescent beneath; marginal teeth and lobes bluntly acute; outer bud scales brownish, imbricate *A. grandidentatum*
 - 3' Leaf blades glabrous beneath; marginal teeth and lobes usually sharply acute or acuminate; outer bud scales reddish, valvate *A. glabrum*

Acer glabrum Torrey (without hairs). Rocky Mountain maple. --In AZ a small tree to 10 m high, essentially glabrous except for tomentose inner surface of bud scales; young twigs dark purplish-red to reddish-brown, the epidermis of older twigs flaking off in thin whitish sheets; buds covered with two valvate pink to red scales. LEAVES deciduous, suborbicular in outline, 3-7 cm long, 3.5-9 cm wide, palmately 3-lobed (2 additional basal lobes sometimes present) or 3-foliolate, often a mixture of both types present, discolorous, the leaflets, when present, elliptic to subrhombic; apex of leaf and principal lobes or leaflets acute or obtuse; base cordate to obtusely cuneate, the base of leaflets cuneate to acuminate; petiole 1.5-9 cm long; margin coarsely serrate, the several teeth acute to acuminate. FLOWERS ca. 5 mm long, ca. 1.5 mm wide at base of perianth, the perianth greenish-yellow, with 10 sublinear segments ca. 4 mm long, the receptacle obconic; inflorescence corymbose, ca. 1.5 cm long, the pedicels 0.2-0.5 cm long. SAMARAS 2-2.3 cm long, the wing ca. 1 cm wide. [*A. diffusum* Greene; *A. neomexicanum* Greene]. --In conifer forests, especially along streams: Apache, Cochise, Coconino, Graham, and Pima cos.; 2100-2900 m (7000-9500 ft); May (retaining fruits until Aug and Sep); se AK, British Columbia to high elevations in NM and CA.

Keller (1942) has recognized seven varieties in this widespread and variable species, three of which he cites for AZ. There seem to be no clear lines of differentiation among these varieties in AZ, most

populations being transitional between var. *glabrum* with simple leaves and var. *neomexicanum* (Greene) Kearney & Peebles with trifoliolate leaves. Keller assigns plants from nw AZ with simple, small leaves (less than 3 cm wide) and whitish twigs, to var. *diffusum* (Greene) Smiley.

Acer grandidentatum Nutt. (large-toothed, for leaf margin) Big-tooth maple. --In AZ a tree to ca. 12 m high, mainly glabrous to subglabrous except for finely pubescent lower leaf surfaces and young growth; young twigs yellowish-brown, soon becoming chestnut-brown and essentially glabrous; buds at maturity with 3 or 4 series of dark brown, imbricate scales, these pubescent within, elongating when buds break. LEAVES suborbicular in outline, palmately 3-lobed (2 additional basal lobes sometimes present), 3-8.5 cm long, 4-12 cm wide, discolorous, the major lobes in turn with up to ca. 5 weak lobes or teeth; apex of leaf and lateral lobes bluntly acute; base cordate to subcordate; petiole glabrous or pubescent distally; margin sinuate to irregularly dentate or lobed. FLOWERS to ca. 10 mm long, 1.5-3 mm wide at base of perianth, the usually cup-like perianth greenish-yellow, ca. 5 mm long, sometimes splitting to base, the receptacle truncate to obconic, the perianth margin sinuate to shallowly lobed; inflorescence corymbose, the pedicel 1-5 cm long. SAMARAS 2.2-5 cm long, the wing 0.7-1.5 cm wide. --In conifer forests or in wet areas in oak forests: Cochise, Coconino, Gila, Graham, Greenlee, Mohave, Pima, and Yavapai cos.; 1350-2600 m (4500-8500 ft); Apr-May (retaining fruits until about Sep); mainly at scattered localities in ID and WY to Son., Chih., and Coah., Mex.

Acer negundo L. (native American name). Box-elder. --In AZ a small tree to 10 m high, sparsely to densely pubescent on young growth and lower leaf surfaces, usually dioecious; young twigs glabrous to densely pubescent, often more or less glaucous, the epidermis smooth, greenish or reddish, the older twigs more or less rough, gray; buds covered by two reddish, tan, or yellowish valvate scales, these sparsely to densely hairy, the pubescent inner scales greatly elongating as the bud opens. LEAVES mainly 3-foliolate, occasionally 3-lobed, 3.5-13.5 cm long, 3.5-18 cm wide, concolorous, the terminal leaflet up to 11 cm long by 8 cm wide, the lateral leaflets up to 9 cm long by 6 cm wide; apex of leaflets acute to acuminate; base of leaflets rounded to cuneate, sometimes oblique in lateral leaflets, sometimes acuminate in terminal leaflets; petiole 2-7.5 cm long, green or reddish; margin of leaflets coarsely toothed or lobed, the teeth acuminate to obtuse. FLOWERS ca. 5 mm long, less than 1 mm wide at base of perianth, the perianth greenish-yellow, with ca. 4 subelliptic segments ca. 0.2-2 mm long, the receptacle blending with filiform pedicel; pedicels 1-4 cm long; inflorescences many flowered, the staminate umbel-like, the pistillate racemose. SAMARAS 2.3-3.6 cm long, the wing 0.7-1.4 cm wide, the infructescences up to 15 cm long. [*A. negundo* var. *interius* (Britton) Sarg.; *A. negundo* var. *arizonicum* Sarg.]. --Riparian habitats and other wet wooded areas: Apache, Cochise, Coconino, Gila, Graham, Greenlee, Mohave, Navajo, Pima, Pinal, and Yavapai cos.; 900-2750 m (3000-9100 ft); Mar-Jun (retaining fruits until about Oct). Widespread in N. Amer. from s Canada to Guatemala. Arizona specimens are variable with respect to the amount of pubescence, especially on young twigs. The name *Acer negundo* var. *interius* (Britton) Sarg. has been applied to more pubescent northern forms.

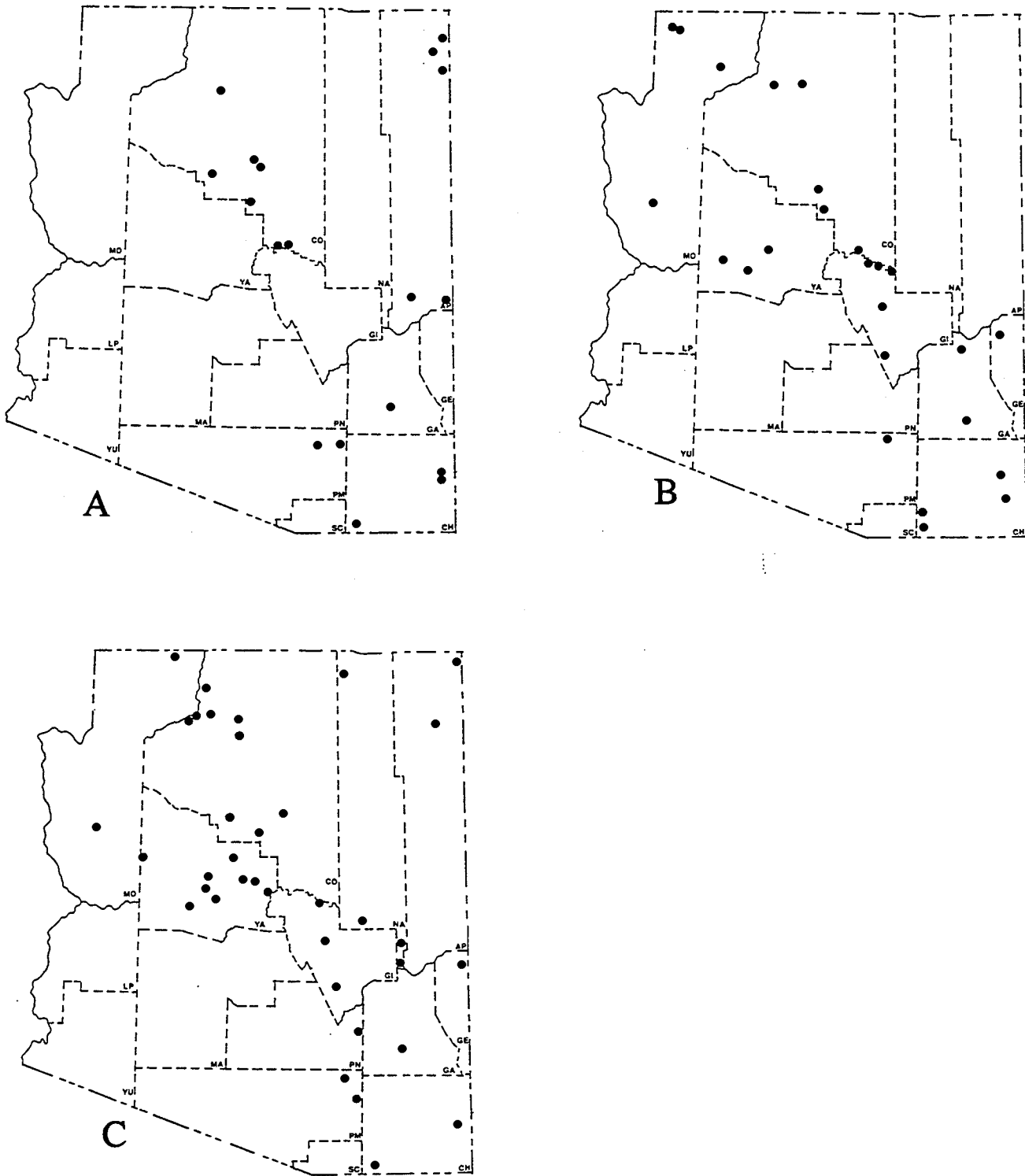


Figure 1. Distribution of: A, *Acer glabrum*; B, *A. grandidentatum*; and C, *A. negundo*.

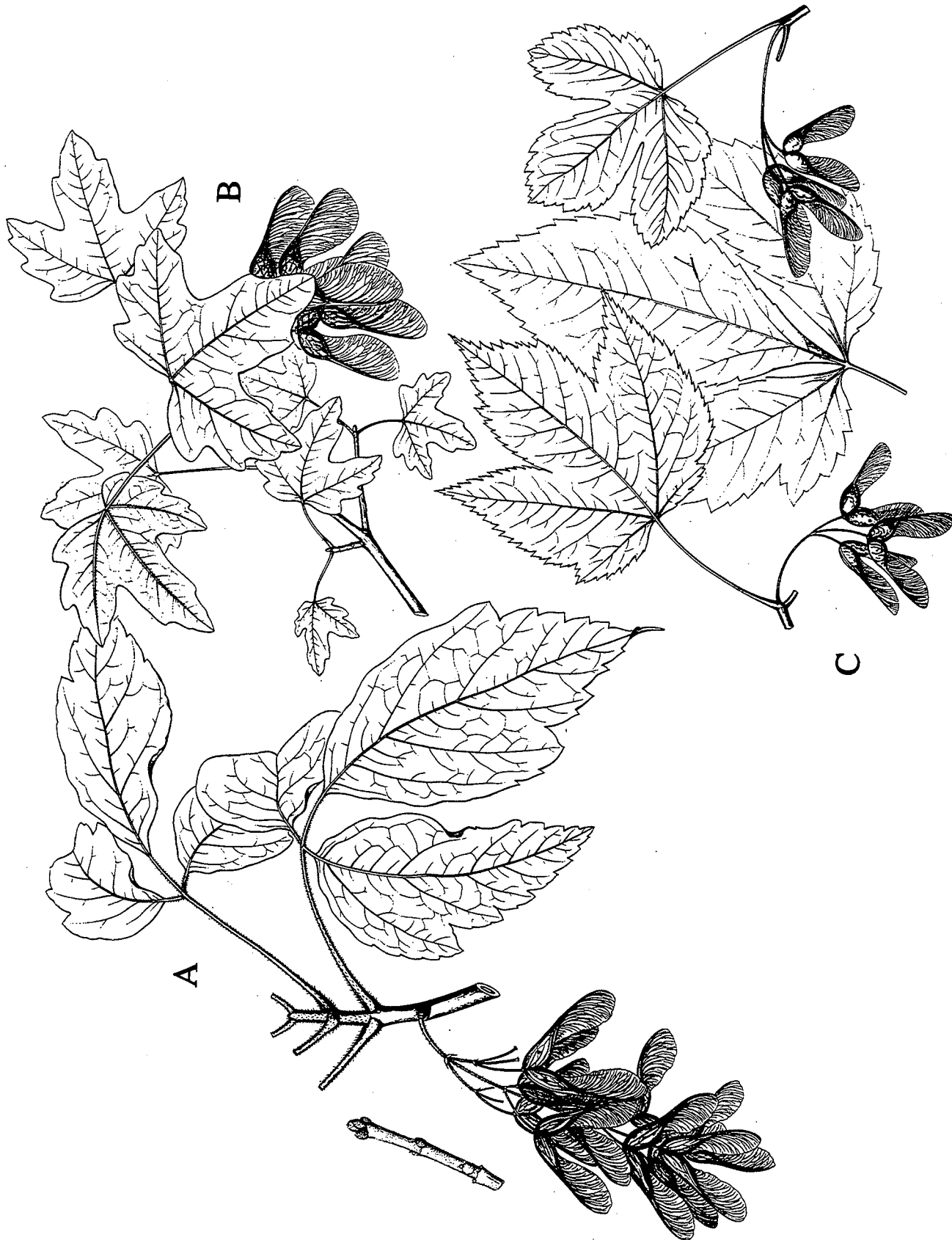


Figure 2. A, *Acer negundo*; B, *A. grandidentatum*; C, *A. glabrum*. All reproduced from Sargent (1890-1902), *Silva of North America*.