

American Elm *Ulmus americana*

Ulmaceae—Elm family

by Tom Reaume © 2010 Nature Manitoba

A deciduous, long-lived, shade tree 10–35 m tall with a spreading crown 10–28 m wide from thick, graceful branches; solitary or in groups, often planted in cities and towns for shade and wildlife; along rivers and streams, fence rows and fields; on well drained soils.

● **FLOWERS** reddish green, blooming February–May before the leaves appear; **inflorescences** numerous, of small, 1–6 fascicles of flowers along the new twigs formed last year; **pedicels** green, unequal, 3–25 mm long by c. 0.3 mm thick with flower, round, glabrous, ascending, with a joint in the upper half; **bracteoles** one or two at base of pedicels, erect, light reddish brown, 2–5 mm long including the erect apical hairs; **fertile scales** of buds, several, reddish brown, C-shaped, 7–9 mm long, somewhat persistent, with 3–5 flowers beneath each; **flowers** perfect, 7–25 flowers per floral bud; **calyx cups** tubular, angled, 2–3 mm long by 2–4 mm wide, slightly wrinkled, green turning reddish brown, 5- to 9-lobed, the lobes c. 1 mm tall with a few curled white hairs along the flat to notched apices; **petals** absent; **stamens** 5–9 (often 6), one per calyx lobe, exerted; **filaments** pale green, erect, 3–4 mm long, glabrous; **anthers** dark purplish brown, about 1 mm long and wide, each side with a full length suture; **pollen** round, whitish green; **pistil** one, greenish, c. 2 mm long by 1.5 mm wide with whitish ascending marginal hairs; **ovary** one, flat, shiny; **stigmas** 2, ascending and arched outward, covered with short numerous whitish hairs, included in calyx cup but visible at its apex, elongating and exerted as fruit expands.

● **FRUIT** a **samara**, 1-seeded, thousands per tree, green when young, creamy-tan when ripe, some tinged with reddish purple, thin, winged, 9–16 mm long by 7–10 mm wide by 1–2 mm thick, flattened, heavily veined, the apical notch 3–4 mm deep, the twin, pointed apices curved inward, hairs c. 1 mm long, white, along the margins of wings; **seed** 3.5–4 mm long by 2.3–2.8 mm wide by c. 0.8 mm thick, dull, green ripening to tan, a narrow wing or ridge along one side, base flat, apex somewhat pointed.

● **LEAVES** alternate, simple, margins doubly toothed, dark green turning yellowish in fall; **blades** 3–15 cm long by 1.3–8 cm wide, pointed, base unequal, 3–11 per new green twig; **petioles** 2–10 mm long, green, glabrous to slightly hairy, **stipules** tan, hairy, deciduous, linear, 5–15 mm long by 2.5–6 mm wide, hyaline margins cottony hairy; **blades** eaten by cankerworms in Winnipeg.

● **TRUNK** erect, branched, round; **bark** medium gray, with long furrows 1–4 cm deep between the flattish 2–4 cm wide ridges on mature trees; **young twigs** greenish, turning brown, lightly hairy to glabrous, 3–15 cm long, grayish with age; **floral buds** large, alternate, 5–9 mm long by 3–4 mm wide by 2–3 mm thick, with several fertile scales, these often with white marginal hairs, some appressed hairs on the scale's body; **leaf buds** narrow, alternate, pointed, distal, expanding to c. 2 cm long before opening as the green fruit ripens; **lenticels** golden tan on twigs.

● **RANGE:** (CAN) 7 provinces; (USA) 40 states; an eastern soft hardwood tree; the state tree of North Dakota.



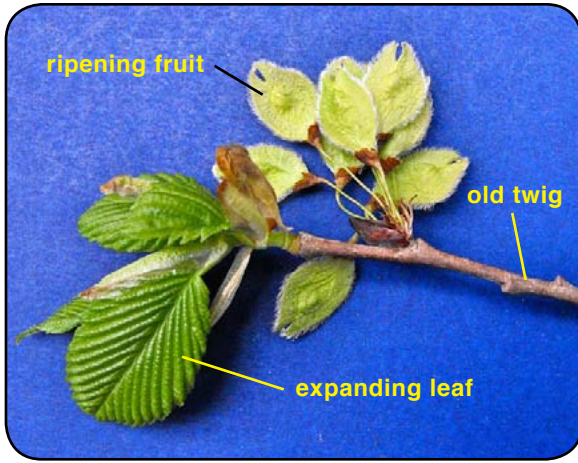
Mature American Elms line the streets in the Wolseley district of Winnipeg, Manitoba; late summer



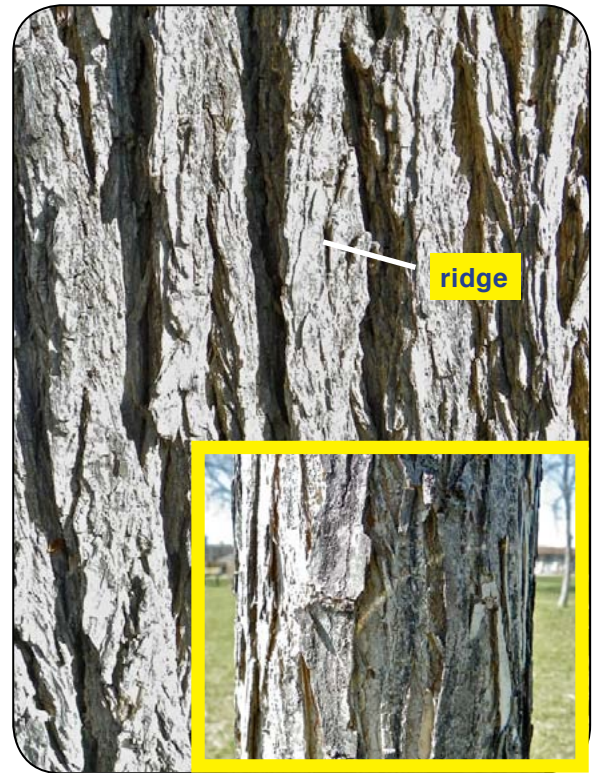
Mature American Elms on a frosty winter's morning



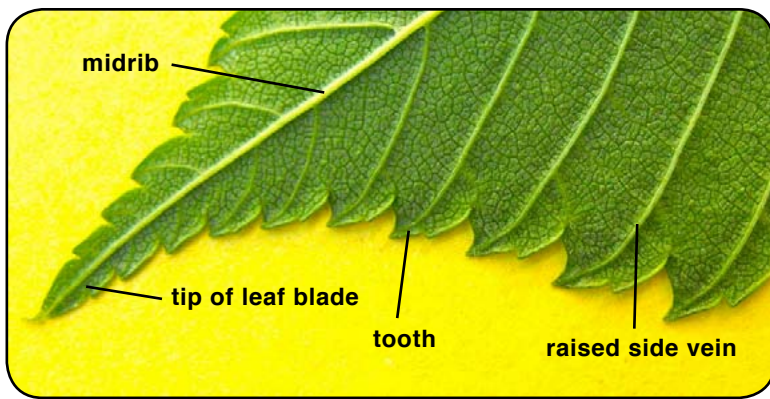
A mature, majestic American Elm in Assiniboine Park; trunk diameter 75 cm, canopy 26 m wide



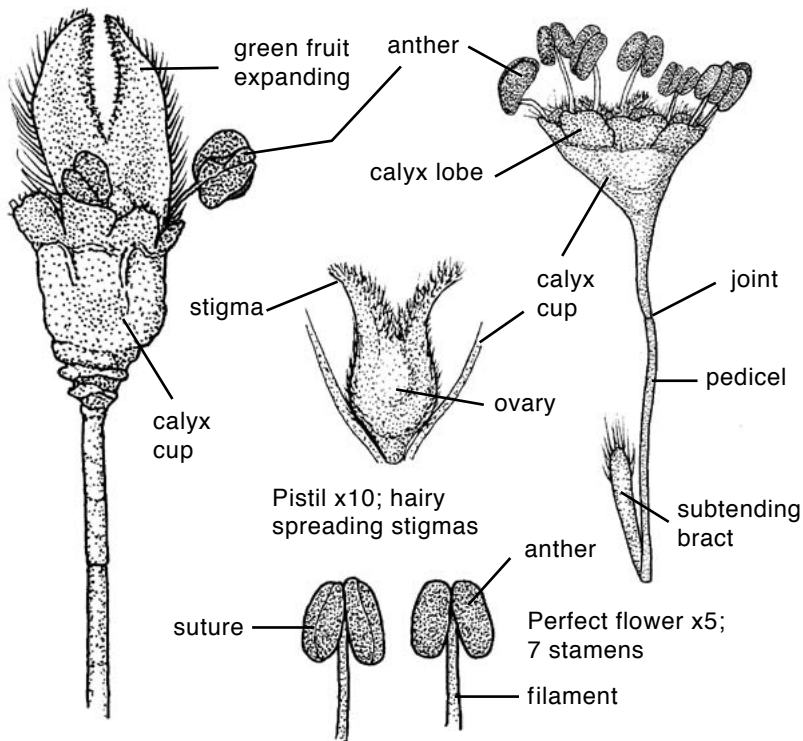
Leaves begin to appear as the winged fruit 8–10 mm wide is starting to ripen in Winnipeg, Manitoba



Long vertical flat ridges and furrows (1–4 cm deep) define the bark on a 100-year-old American Elm with 80 cm wide trunk; inset 12 cm wide trunk

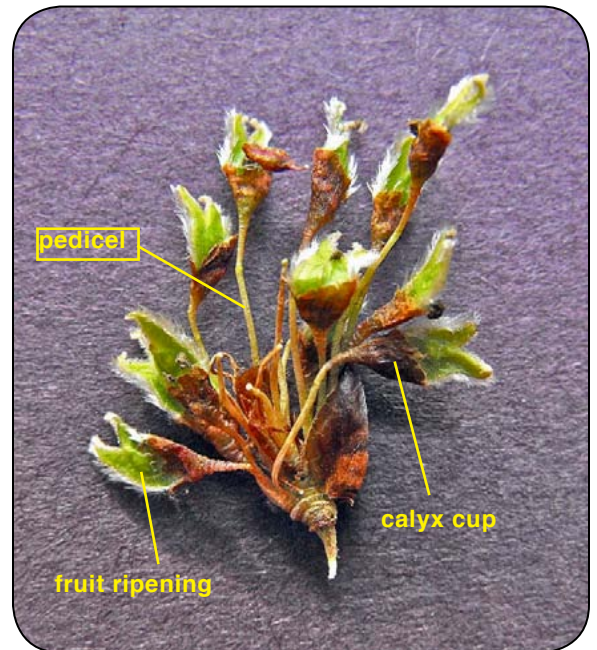


Tip and margin of dorsal (under) side of leaf. Large veins to the right are about 5 mm apart. Large teeth have a smaller or secondary tooth about half way (doubly toothed)

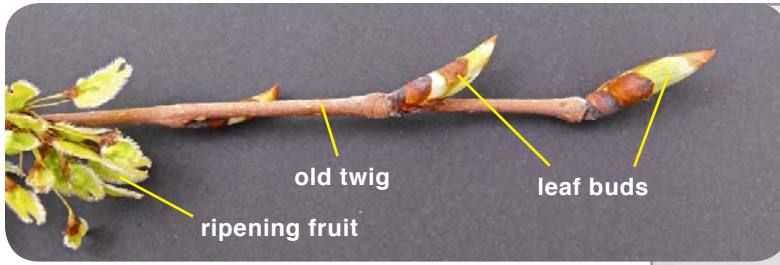


Young fruit x8, developing, exerted past calyx cup

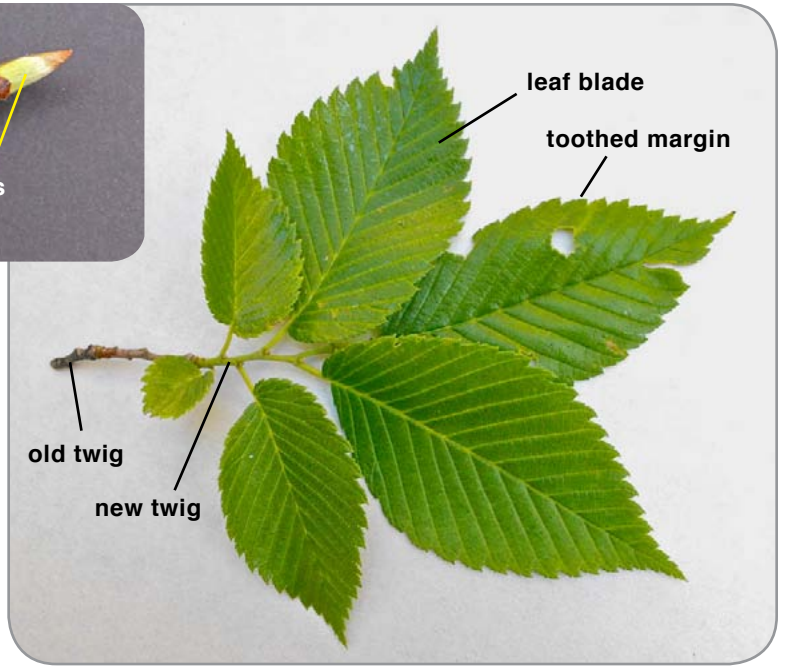
Stamen x10



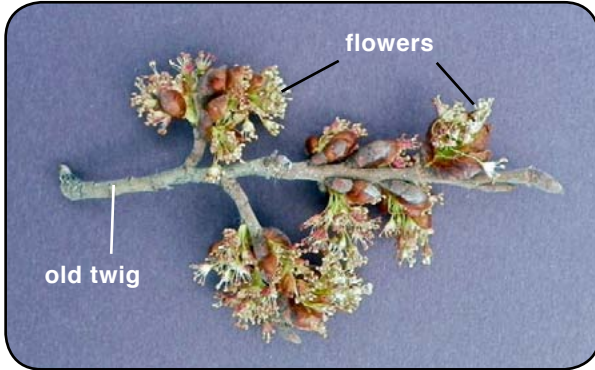
Enlarging green fruit, 5–7 mm long starting to protrude from the reddish brown calyx cups.



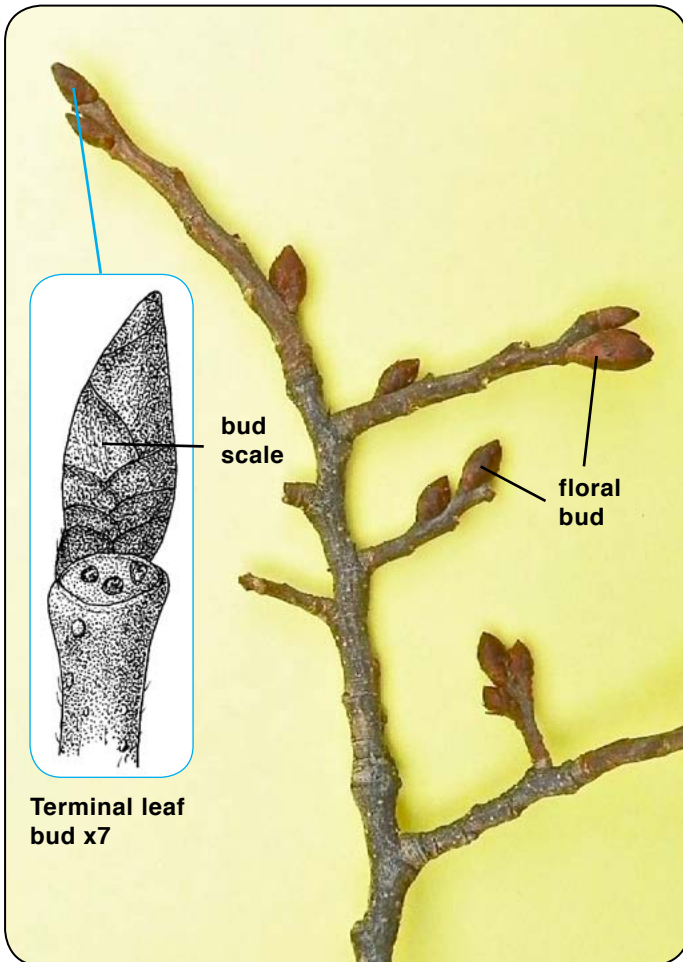
New vegetative leaf buds expanding; terminal bud 2 cm long in April; each green fruit 8–10 mm long



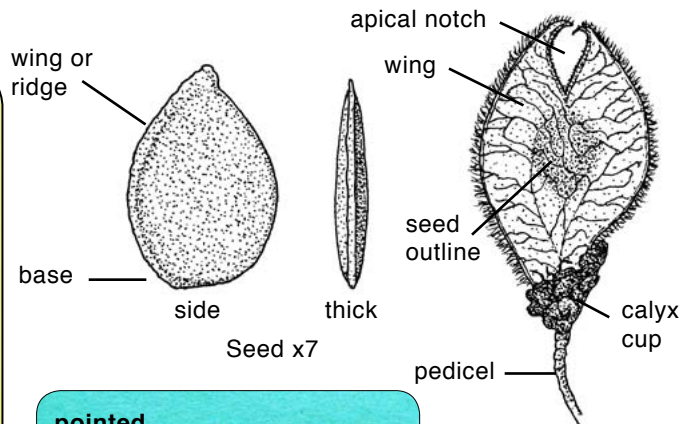
New leafy green shoot; total length 17 cm, with 6 alternate leaves which developed from a distal leaf bud after the floral buds opened



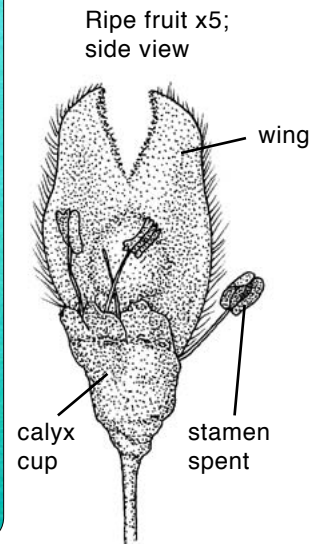
American Elm clusters of flowers in bloom; width of twig with flowers 5 cm



Alternate winter buds (floral and leaf) 5–10 mm long along hairy twig from last year; Winnipeg, Manitoba



Ventral side of an American Elm leaf 8 cm wide in the fall.



Growing fruit x5; stamens spent; side view