

JAPANESE BARBERRY

[*Berberis thunbergii* DC.]

BETH



UGA0580076

Habit: Spiny, deciduous shrub, to 2.5 m (8 ft) tall and wide.^{7,2,10}

Reproduction: By seed;⁷ cut stumps and stems;^{2,16} may self or cross.²

Leaves: Alternate, simple, entire, spatulate, 1.3-2 cm ($\frac{1}{2}$ - $\frac{3}{4}$ in) long; bright green above, lighter below;^{2,7,6} in clusters at each node;^{2,10} fall color red to purple depending on the cultivar.²

Stems: Numerous, reddish-brown, angled or grooved, glabrous, usually with stiff, short, single spines 1.3 cm ($\frac{1}{2}$ in) long at the nodes;^{2,17} older stems gray; inner bark yellow;^{17,10} may be replaced every few years.^{16,4}

Flowers: Small, perfect, 6 yellow petals, stalked; 1-4 in umbel-like clusters at the nodes; April–May;^{7,2,10} nectaries located on both sides of the 6 stamens, which have a tripping mechanism; the first visit removes over 50% of the sticky pollen;¹¹ pollinated by bees.¹²

Fruits/Seeds: Early to late summer; bright red, dry, oblong to rounded berry 1-1.3 cm ($\frac{3}{8}$ - $\frac{1}{2}$ in); 1 seeded;^{6,10,7} may remain on the shrubs through winter;² production highest in high-intermediate light levels;¹⁶ cold stratification and alternating temperatures improve germination;^{1,14,16} over 90% of fruit falls within 1 m (3 ft) of each shrub but has been mapped as far as 80 m (262 ft); dispersed by birds (not a preferred food¹⁶), deer, turkey, and grouse;³ fruit removal may be highest in low light.¹⁶

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Habitat: Introduced into the U.S. between 1864-1879^{2,16} from Japan; full sun to full shade; most soil types and habitats; dry ridgetops to wetlands and roadsides to closed canopy forests.^{13,4}

Comments: Growth minimal in low light; survival of seedlings drops from 90% in intermediate-high light to 40% in low light, but survivors persist; leafs out before canopy and retains leaves after canopy leaf fall;¹⁶ deer herbivory minimal,³ but severe winter damage from rabbits;¹⁸ mortality of stems or shrubs not related to population density;^{4,16} at least 47 cultivars;² may alter soil conditions to its benefit by increasing pH, nitrification, and nitrate;⁵ association with non-native earthworms possibly due to increased litter decomposition or an agricultural connection.^{8,9}

Similar Native Species: American barberry (*B. canadensis*); toothed leaves and usually 3-pronged spines.¹⁵