Habit: Deciduous tree to 30 m (98 ft) in height.4

Reproduction: By seed and vegetatively via root suckering.8

Leaves: Pinnately compound to 1 m (3 ft) in length with 11-41 leaflets, each with a ‘thumb’ or lobe at the base; leaflet teeth have glands.8

Stems: Bark gray and smooth; younger twigs covered with a light brown to reddish brown pubescence; thick or chubby tips; may grow up to 2 m (6.5 ft) in one season.4

Flowers: Dioecious; hermaphrodites exist;8 bloom June to July; may flower as early as 6 weeks after germination;6 typically insect pollinated by a variety of pollinators, including bees.3

Fruits/Seeds: Two-winged samara (180°) with one central seed; sets late summer; over 300,000 seeds per tree documented;1 seeds may remain on the tree through winter;4,14 wind dispersed; cold stratification not required for germination;11 seed bank formation thought unlikely,16 though found as part of an urban forest seed bank.15

Habitat: Native to China; several introductions into the U.S. since 1784;7 found in poor and rich soil on steep and shallow slopes, urban areas, open fields and woodlands, and closed canopy forests; often associated with disturbed habitats;12,14 USDA hardiness zones 4-8.4
**TREE OF HEAVEN**

*Ailanthus altissima* (Mill.) Swingle

**Comments:** Extensive cloning;\(^{16}\) at least 5 cultivars;\(^{4}\) crushed leaves, stems, and roots smell of rancid peanut butter; allelopathic properties present,\(^{13}\) though negative effects may be less severe if previously exposed;\(^{17}\) tolerant of several air pollutants;\(^{10,18,20}\) seedlings are drought resistant;\(^{21}\) quassinoid compounds may deter some insect herbivory\(^{9}\) and frugivory,\(^{19}\) but seeds and tissue may be preyed upon by deer, mice, and voles,\(^{5,19,2}\) even preferentially in the case of some invertebrates.\(^{2}\)

**Similar Native Species:** Sumacs (*Rhus glabra*, *R. typhina*); walnuts (*Juglans nigra*, *J. cinerea*); none of the crushed leaves or broken stems of these have the same odor; fruits not samaras.\(^{8}\)