

Tilia cordata Mill., *T. platyphyllos* Scop., *T. ×europaea* L.

Standardized Common Name: Linden

Other Common Names: Basswood, Lime Tree

Family: Tiliaceae

Parts in Commerce: Flowers. Fragments of leaflike bracts and developing fruits are usually present.

Identification: The flowers of all official species are virtually identical.

- Fragments of strap-shaped bracts membranous, pale green, glabrous, with netted veins; basal portions have thickened midrib where stalk of inflorescence is fused to bract
- Sepals 5, with short hairs especially inside and near apex of outside
- Petals creamy to yellowish
- Petals 5, no petaloid staminodes present
- Petals 6–7 mm long, oblong to lanceolate
- Stamens numerous
- Ovary densely pubescent with short hair; style hairless
- Odor weak, aromatic
- Taste slightly sweet and mucilaginous

Fruit features vary among official species, as follows:

	<i>T. cordata</i>	<i>T. ×europaea</i>	<i>T. platyphyllos</i>
Fruit size, shape	6(–8) mm, more or less round	(6–)8 mm, usually broadly ovate, often with prominent style base at apex	7–10 mm, pear-shaped or nearly round, with pointed apex
Pericarp	Membranous, sometimes with 5 faint ribs	Woody, with 5 faint ribs	Woody, with 5 strong ribs especially at apex
Epidermis of fruit	Immature ovaries fuzzy, mature fruit mostly hairless	Typically fuzzy at maturity	Covered with thick layer of fuzz

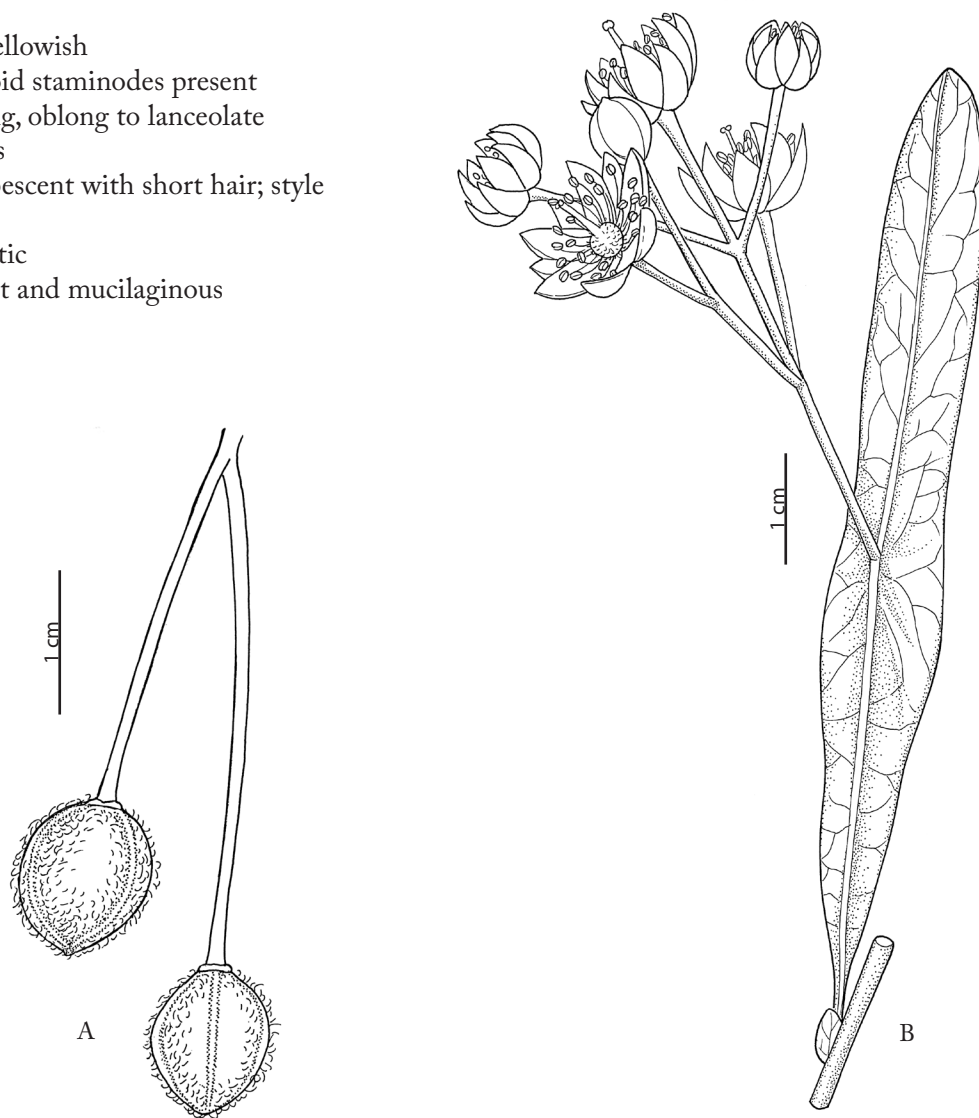


Figure 76: a–b, *Tilia platyphyllos* fruit and inflorescence.

Adulterants: Other species of *Tilia* are sometimes substituted for the three official species; these may include *T. americana* L., *T. chinensis* Maxim., *T. ×euchlora* C. Koch, *T. mandschurica* Rupr., and *T. tomentosa* Moench, depending upon origin of the material. The flowers and fruit of most species appear very similar to those of the official species. The following features indicate mistaken identity:

- Unpleasant odor or taste
- Bract fragments densely hairy or with pink midrib
- Flowers with petaloid staminodes
- Stamens not numerous
- Lower portion of style hairy
- Fruit surface warty
- Fruit >10 mm in diameter

Taxonomy: *Tilia* includes about 45 species of trees. Those used as Linden are among five, plus one common hybrid, that are native to Europe. The nomenclature of these species has been muddled. Synonymy of *T. cordata* includes a portion of *T. ×europaea* L. as it was previously (and too broadly) defined. *Tilia platyphyllos* is divided into three subspecies, and includes the former *T. cordifolia* Besser. The name *T. officinarum* Crantz, recently proposed for rejection by C. D. Pigott, referred to both of these species (among others). *T. ×europaea*, which (as properly circumscribed) represents a hybrid of *T. cordata* and *T. platyphyllos*, is frequently called *T. ×vulgaris* Hayne; another synonym is *T. intermedia* DC.

Description: Trees up to 30–40 m tall, with lower trunks branchless and crowns dome-shaped. Bark grayish, fissured or cracked. Leaves alternate, petiolate, stipulate with deciduous stipules, broadly ovate to suborbicular, (3–)6–9(–12) cm long; base cordate, often oblique; apex acuminate; margins more or less serrate. Inflorescence a few-flowered cyme, subtended by a bract; bract 6–9 cm long, narrowly oblong, membranous, somewhat leaflike; lower portion of peduncle fused to bract. Flowers regular, sepals 5, free except at base, broadly lanceolate with acute apices; petals 5, free, oblong to lanceolate, 6–7 mm long, whitish to yellowish; stamens numerous; ovary 5-loculed, stigma 5-lobed. Fruit a nut, 1-loculed, 6–8(–10) mm long, globose, ovoid or pear-shaped, 5-ribbed or smooth, grayish; seeds 1–3.

References:

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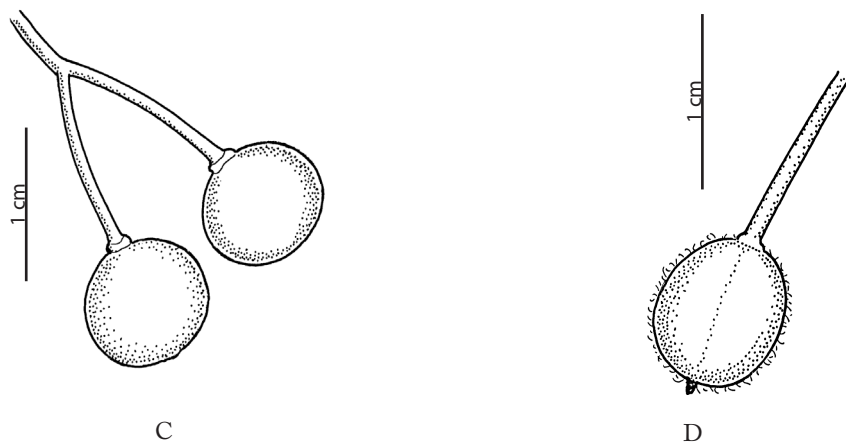


Figure 76: c, *T. cordata* fruit; d, *T. ×europaea* fruit.