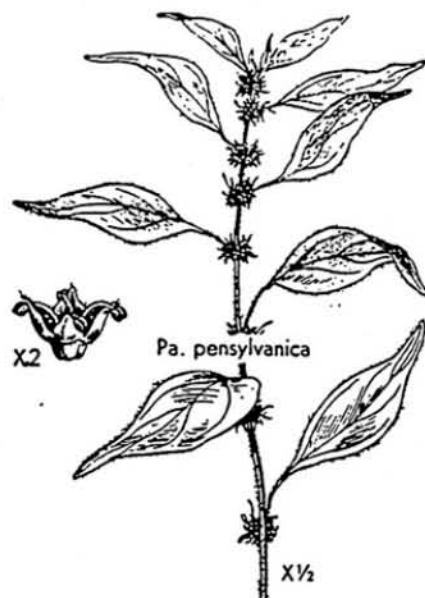


BOEHMERIA
PILEA
PARIETARIA
JUGLANS



HERBARIUM RECORDS: [ca. 1834]—Cols., *Lapham* (CINC); 1836—Cols., *J. Paddock Collection, Lapham* (ILL); 8 Aug 1890—Cols., *Werner* (CLM, OS); 12 Oct 1890—near E. Woodward Ave., Cols., *Selby*; 8 Jul 1892—Cols., *Bogue*; 22 Jul 1967—Beck St., sidewalks, Cols., *Cusick 5518* (KE); 22 May 1986—OSU, near B&Z bldg., Cols., *Blanco*; 28 May 1986—OSU Campus, E side of B&Z bldg., weedy, common, *R. Burnes 46*; 14 Jun 1989—OSU Campus, behind the B&Z bldg., Cols., *Lowden 4178*; 23 May 1991—S side of Hayden Run, slope below cliffs, just W of Scioto R., S side of Hayden Run Rd., Norwich Twp., NW Cols. Quad., *McCormac 3570*.

JUGLANDACEAE, Walnut Family

Trees; leaves alternate, pinnately compound; leaflets serrate, gland-dotted beneath; axillary buds superposed; monoecious; flowers monosporangiate; corolla absent; staminate flowers in pendulous aments from buds below leaves of current season, each subtended by an ament-bract; carpellate flowers solitary or few in a cluster terminal on leafy stem, epigynous, each subtended by an involucre of bracts; carpels 2, united, 1-loculed above, 2-4-loculed below; stigmas 2; fruit a nut, the hard shell (ovary wall) enclosed in, and fused with, at least until maturity, the husk (accrescent bracts and hypanthium); seed one, 2-lobed.

- a Staminate aments solitary; leaflets usually 11 or more; pith diaphragmed. 1. **JUGLANS**
a' Staminate aments in groups of 3; leaflets (except in one species) 9 or fewer; pith continuous, 5-pointed. 2. **CARYA**

1. JUGLANS L. Walnut

Leaves odd- or even-pinnate, elongate; perianth of staminate flower 3-6 lobed, of carpellate flower 4-lobed, minute; stamens several to many; husk fleshy; nut sculptured; seed edible.

- a Nut ellipsoid; a band of hairs at upper edge of leaf-scar; pith dark brown. 1. *J. cinerea*
a' Nut globose; no band of hairs at upper edge of leaf-scar; pith light brown. 2. *J. nigra*

1. †*Juglans cinerea* L.

Butternut

Pith dark brown; leaf-scar with an elongate downy pad on its upper margin; nut ellipsoid, green hull viscid-pubescent.

REFERENCES: Riddell 1834:119 (bottomland); Sullivant 1840:23 (White Walnut); Craig 1890:101 (several trees in the woods, and a few along the river N of the road, 14 May 1884, 24 May 1885, 15 May 1887, 19 May 1888); Selby & Craig 1890:15; Braun 1961:93 (illus. p. 92); ODNR-DNAP 1996.

HERBARIUM RECORDS: 20 May 1893—Scioto R., Cols., *W. Kellerman*; 1897—OSU Campus, *Ruppersburg*.

2. *Juglans nigra* L.

Black Walnut

Pith light brown; no band of hairs at upper edge of leaf-scar; nut globose, green hull not viscid-pubescent.

REFERENCES: Riddell 1834:119; Sullivant 1840:23; Craig 1890:101 (sparingly in the woods and along the river, 29 May 1882, 25 May 1883, 14 May 1884, 15 May 1887); Selby & Craig 1890:15; Braun 1961:94 (illus. p. 92).

HERBARIUM RECORDS: 1897—OSU Campus, *Ruppersburg*; 30 Mar 1959—corner of Indianola Ave. & Cooke Rd., *Weishaupt*; [ca. 1982]—Blendon Woods, not common, day camp, *Owens*; 18 May 1988—between 5921-5945 N. High St., Worthington, 1 mi. S of Rt. 161 & Rt. 23 intersection, *M. Hoffman 67*; 22 May 1988—OSU, E of Fyffe Rd. & Dakan Hall, *Chinery 51 & 52*; 23 Jun 1991—E bank of Scioto R., James J. Thomas Park, ½ mi. N of Lane Ave., Perry Twp., *Lowden 4721*.

2. CARYA Nutt. Hickory

Leaves odd-pinnate; staminate calyx 2-3 lobed, carpellate 1-lobed; stamens 3-10; husk of nut woody; seed of most species edible.

- a Scales of terminal winter-bud valvate, yellow-hairy or yellow-scurfy; leaflets usually 7 or more, sometimes falcate.
b Staminate aments in sessile fascicle; stamens 3-6; leaflets usually 11-15; nut sweet; bud scales hairy.
1. *C. illinoensis*
b' Staminate aments in peduncled fascicle; stamens 4; leaflets usually 5-9; nut bitter; bud scales scurfy.
2. *C. cordiformis*
a' Scales of terminal winter-bud imbricate; leaflets 3-9, not or little falcate.
c Terminal winter-bud large, 1-3 cm long; branchlets usually stout; husk thick, 4-10 mm.

- d Bark of older trees shaggy; leaflets usually 5, rarely 7; a persistent tuft of hair on each side of each tooth of leaflets; branchlets, petioles, rachises, and lower leaf-surface hairy or glabrous. 5. *C. ovata*
- d' Leaflets usually more than 5, pubescent beneath and sometimes on margin but without the tufts of hair described above.
- e Bark of older trees shaggy; leaf-rachis glabrous or the hairs mostly straight; leaflets 7-9; petiole persisting after abscission of leaflets; nut compressed. 3. *C. laciniosa*
- e' Bark not shaggy, dark; rachis, petiole, and lower surface of leaflets with curly fascicled hairs; petiole not persisting after abscission of leaflets. 4. *C. tomentosa*
- c' Terminal winter-bud smaller, 0.5 to a little more than 1 cm long; bark not shaggy; branchlets glabrous; leaflets usually glabrous beneath but sometimes densely hairy; husk thin, 3 mm or less.
- f Carpellate flowers and bracts hoary-pubescent; staminate ament-bracts hairy; leaflets usually 5; husk splitting along 1 or 2 sutures and only tardily. 7. *C. glabra*
- f' Carpellate flowers and bracts yellow-scurfy; staminate ament-bracts minutely pubescent; leaflets usually 7; husk splitting along all sutures. 6. *C. ovalis*

1. *†*Carya illinoensis* (Wangenh.) K.Koch

Pecan

Perhaps planted

Tree; pith continuous; bud scales yellow-hairy; leaves odd-pinnate; leaflets 11.

HERBARIUM RECORD: 7 Jul 1964—in right-of-way of proposed East Freeway, Homer Schaaf Farm, 1½ mi. S of Livingston Ave., E of Alum Creek, Cols., *Stein & Forsyth*.

NOTE: Not reported for Franklin Co. by Braun 1961:95 (illus. p. 96).

2. *Carya cordiformis* (Wangenh.) K.Koch

Bitternut Hickory

Tree; pith continuous, bud scales yellow-scurfy; leaves odd-pinnate; leaflets mostly 7-9, falcate; staminate aments in groups of 3, group peduncled.

REFERENCES: Riddell 1834:119 (*Carya amara*); Sullivant 1840:20 (*Carya amara* Nutt.); Selby & Craig 1890:15 (*Carya amara* Nutt.); Kellerman & Werner 1893:226 (*Carya amara* Nutt.); Braun 1961:97 (illus. p. 96).

HERBARIUM RECORDS: 14 May 1892—Cols., *Werner*; 19 May 1896—W Cols., *M. Wright*; 1897—Marble Cliff, W of Cols., *Ruppersberg* 95; 20 Aug 1899—Scioto R., *Selby*; 3 Jun 1901—OSU Farm, *Mead*; 1 Jul 1986—Highbanks Metro Park (Delaware Co.), *Kasko*.

3. *Carya laciniosa* (F.Michx.) Loudon

Big Shellbark Hickory

Terminal bud large, approx. 1.5 cm long, scales imbricate; leaflets 7.

REFERENCES: Riddell 1834:119 (*Carya sulcata*); Sullivant 1840:23 (*Carya sulcata* Nutt., Thick Shell-back Hickory); Craig 1890:101 (*Carya sulcata* Nutt., Western Shagbark Hickory, occurs sparingly in the woods, 21 May 1884); Selby & Craig 1890:15 (*Carya sulcata* Nutt.).

HERBARIUM RECORD: 17 Sep 1898—Cols., *W. Kellerman*.

NOTE: See Braun 1961:97 (illus. p. 99).

4. *Carya tomentosa* (Poir.) Nutt.

Mockernut Hickory, White-heart Hickory

Rachis, petiole, and lower surface of leaflets with fascicled hairs.

REFERENCES: Riddell 1834:119; Sullivant 1840:23; Craig 1890:101 (several specimens in the woods); Selby & Craig 1890:15.

HERBARIUM RECORD: 7 Sep 1899—Worthington, *Selby*.

NOTE: Not mapped for Franklin Co. by Braun 1961:101 (illus. p. 100).

5. †*Carya ovata* (Mill.) K.Koch

Shagbark Hickory, Shellbark Hickory

Leaflets usually 5, rarely 7, margins ciliate with a tuft of hairs at least on one side of each tooth; husk thick, approx. 5 mm wide; nut 4-angled.

REFERENCES: Riddell 1834:119 (*Carya alba*); Sullivant 1840:23 (*Carya alba* Nutt., Shell-bark Hickory); Craig 1890:101 (*Carya alba* Nutt., Shagbark Hickory; the hickories are rather rare trees in our limits, but there are several specimens of this species in the woods, 26 May 1885, 12 May 1887); Selby & Craig 1890:15 (*Carya alba* Nutt.); Braun 1961:97 (illus. p. 98).

HERBARIUM RECORDS: 1892—Cols., *Werner*; 10 Aug 1958—Rt. 62 ½ mi. NE of Big Walnut Creek, Mifflin Twp., *E. Herrick*; [ca. 1982]—[Blendon Woods], common, *Owens*.

6. †*Carya ovalis* (Wangenh.) Sarg.

Sweet Pignut

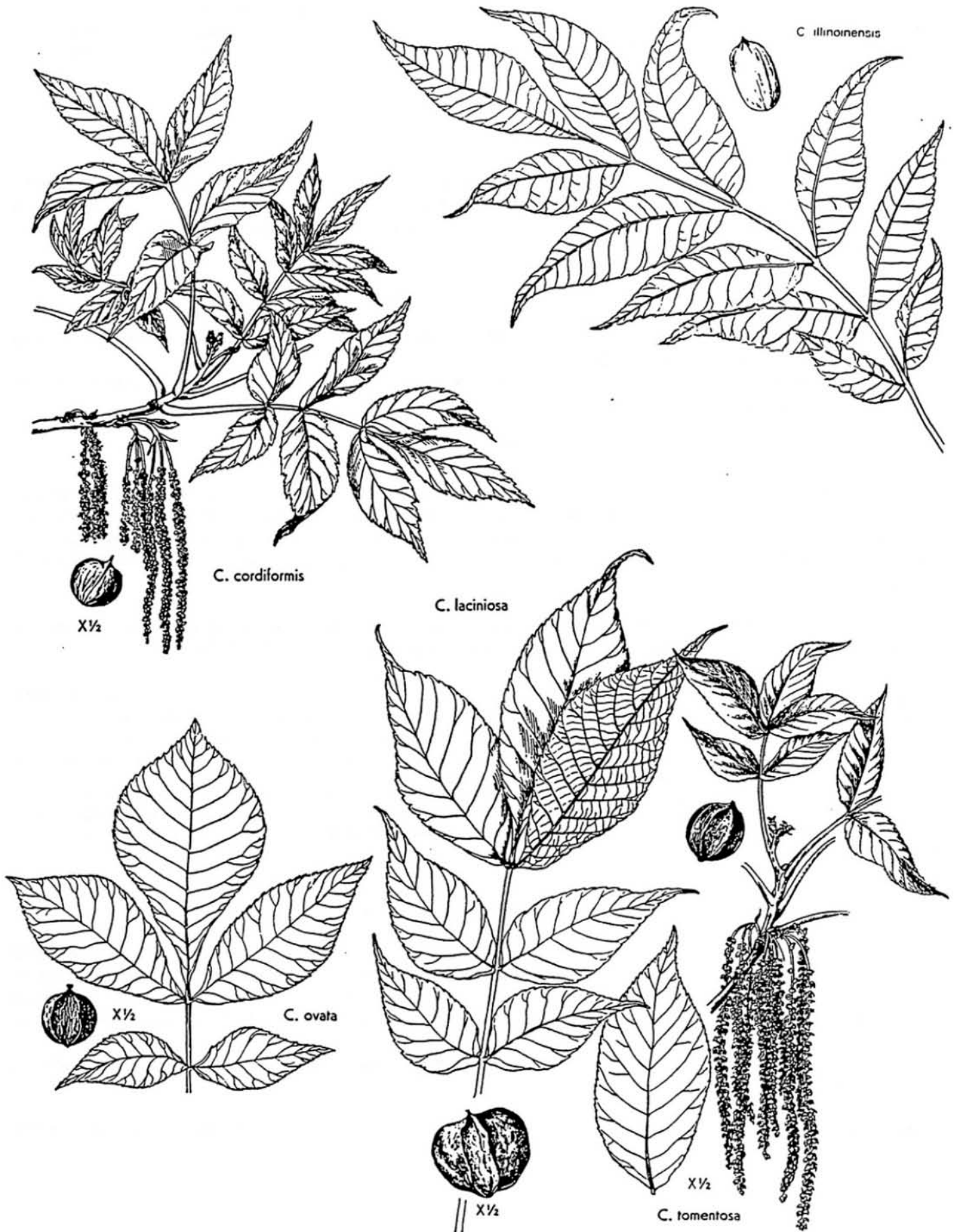
Upper internode of twig dotted with small yellow scales; leaflets 5-7, margins not ciliate, petiole and rachis glabrous; husk thin, approx. 2 mm wide, minutely warty, splitting to base.

REFERENCE: Braun 1961:101 (illus. p. 100).

HERBARIUM RECORD: 189—Cols., *Werner*.

NOTE: Braun (1961) reported *Carya ovalis* var. *obcordata* (Muhl. & Willd.) Sarg. from Franklin Co.

CARYA



7. *Carya glabra* (Mill.) Sweet

Pignut

REFERENCES: Sullivant 1840:23 (*Carya porcina* Nutt.); Craig 1890:101 (*Carya porcina*, there is a specimen along 15th Ave.); Selby & Craig 1890:15 (*Carya porcina* Nutt.); Kellerman & Werner 1893:226 (*Carya porcina* Nutt., the tree referred to is *Carya amara* Nutt.).

HERBARIUM RECORDS: 17 Jun 1986—Highbanks Metro Park (Delaware Co.), dry woods, *Kosko*; 1 Jul 1986—Highbanks Metro Park (Delaware Co.), dry woods, *Kosko 19* (OWU); Jul 1988—Highbanks Metro Park (Delaware Co.), dry ridges to wet lowlands, *Kosko 80* (OS, OWU).

NOTE: No specimens seen from Franklin Co. Not mapped for Franklin Co. by Braun 1961:101 (illus. p. 100). Werner (1893) considered these references to pignut erroneous and the plants referred to are really *Carya cordiformis*.

FAGACEAE, Beech Family

Trees and shrubs with alternate simple pinnately-veined leaves with early-deciduous stipules; monoecious; flowers monosporangiate, without petals; staminate flowers in aments or in capitate clusters; carpellate flowers epigynous, each flower or each small cluster of flowers surrounded by an involucre of bracts; carpels united, locules, styles, and stigmas as many; fruit a nut.

- a Staminate flowers in peduncled spherical clusters; pith not 5-angled; bark smooth. **1. FAGUS**
- a' Staminate flowers in slender aments; pith 5-angled.
 - b Carpellate flowers several in a globose long-prickly involucre that in fruit becomes a bur; staminate aments erect, flowers white. **2. CASTANEA**
 - b' Each carpellate flower in a cup of many bracts that in fruit becomes the acorn cup; staminate aments pendulous, flowers greenish. **3. QUERCUS**

1. FAGUS L. Beech

Trees; blades ovate, margins dentate, lateral veins straight and parallel, each ending in a tooth, as many teeth as veins; winter buds fusiform, long-pointed; flower-clusters in axils of leaves of the season; staminate flowers in small heads, perianth with several lobes, stamens several to many; carpellate flowers usually in 2's on a short peduncle, calyx 6-lobed, locules 3, 2 ovules in each locule, the 2 flowers and later the fruits enclosed in a 4-valved involucre; nut 3-angled.

Among the cultivated plants found on the OSU Campus are the European Beech (*Fagus sylvatica* L.) and the Fernleaf European Beech (*F. sylvatica* var. *asplenifolia* Sweet; OSU Campus Trees, Chadwick Arbor.).

1. *Fagus grandifolia* Ehrh.

Beech, American Beech

Tree, large; bark gray, smooth; winter-buds lustrous, long slender; leaves ovate, margins dentate, lateral veins straight and parallel, each ending in a tooth; fruit involucre 4-valved, soft-prickly; nuts 3-angled, edible.

REFERENCES: Riddell 1834:119 (*Fagus ferruginea*); Craig 1890:102 (*Fagus ferruginea* Aiton; very abundant in the woods, 8 May 1882, 6 May 1888); Selby & Craig 1890:15 (*Fagus ferruginea* Aiton); Braun 1961:113 (illus. p. 114).

HERBARIUM RECORDS: 8 May 1882—Cols., *W. Green*; 1897—OSU woods, *Ruppersberg 42*; 1898—Cols., *J. H. Schaffner*, October 1898—Cols., *J. H. Schaffner*, 7 May 1901—Cols., *Mead*; 11 Oct 1901—OSU woods, Cols., *Hartford*; 12 May 1941—Worthington, *C. Jones*; [ca. 1982]—Blendon Woods, common, *Owens*; 1 Jul 1986—Highbanks Metro Park (Delaware Co.), woodlands, *Kosko*; 1 Jun 1993—Camp Mary Orton, W of Rt. 23, N of Worthington, Sharon Twp., *Lowden 5065*.

2. CASTANEA Mill. Chestnut

Trees or shrubs; leaf margins toothed, lateral veins straight and parallel, each ending in a tooth, as many teeth as veins; calyx 6-lobed or -parted; flowers appearing after leaves, the staminate in elongate erect or spreading aments in the upper axils, stamens several to many; carpellate flowers usually in clusters of 3, each cluster in a 2- to 4-valved long-prickly involucre at base of some staminate aments or axillary, locules usually 6; 1-3 fruits within the involucre.

Planted on the OSU Campus are the European Chestnut (*Castanea sativa* L.) and the Chinese Chestnut (*C. mollissima* Blume).

1. †*Castanea dentata* (Marshall) Borkh.

Chestnut, American Chestnut

CARYA
CASTANEA
FAGUS
QUERCUS

