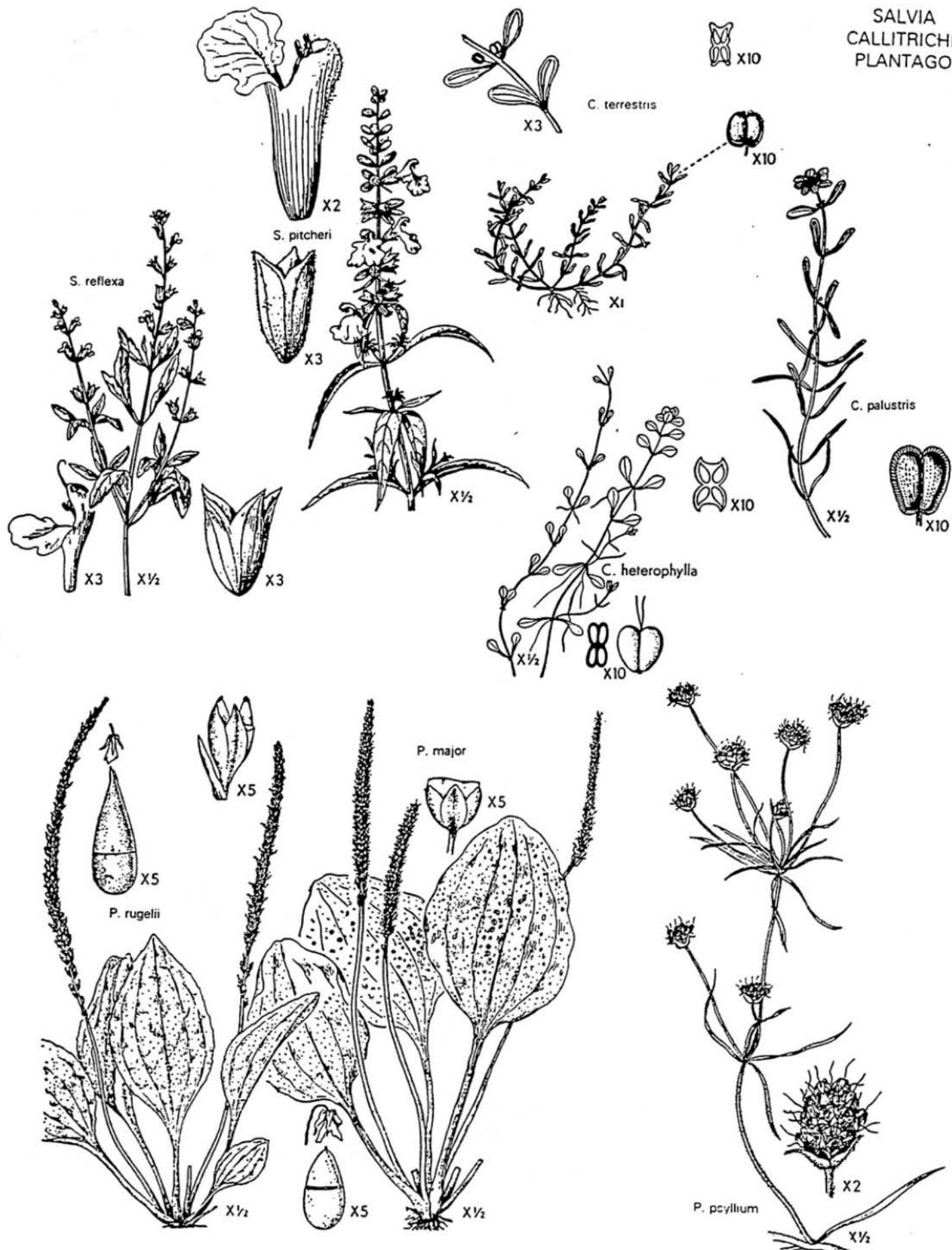


SALVIA  
CALLITRICHE  
PLANTAGO



### 1. CALLITRICHE L. Water Starwort

Small herbs growing in mud or submersed in water with floating rosettes of leaves at stem tips; leaves opposite; monoecious; flowers minute, in leaf axils, hypogynous, monosporangiate; the two kinds usually in different axils; perianth absent; flower subtended by 2 small bracts; stamen 1; carpels 2, united; styles 2, filiform; ovary 4-loculed by growth of false septum in each carpel; fruit separating into 4 one-seeded portions. Mature fruit is necessary for identification.

- a Fruit wider than long, somewhat stalked, the lobes separated by a deep groove, each with 2 sharp edges; styles shorter than fruit; terrestrial; leaves oblanceolate, 3-nerved, of uniform shape. 1. *C. terrestris*
- a' Fruit sessile; aquatic or terrestrial; submersed leaves linear, floating leaves obovate to spatulate with rounded summit; leaves and stems with minute scales.
  - b Fruit about as long as wide, obovoid to nearly circular, all margins rounded, both grooves shallow; styles as long as or longer than fruit. 2. *C. heterophylla*
  - b' Fruit longer than wide, obovoid or ellipsoid; carpels with sharp margins, separated by wide V-shaped groove on the broad side, by a shallow groove on the edge; styles shorter than fruit. 3. *C. palustris*

#### 1. †*Callitriche terrestris* Raf.

Terrestrial Water-Starwort

Plant terrestrial; fruit short peduncled, wider than long. Syn.: *C. deflexa* A. Br. var. *austini* (Engelm.) Hegelm. REFERENCES: Stuckey & Roberts 1977:35 (Franklin Co. record neither previous to 1900 nor since 1950; mudflat—exposed soil conditions that were formerly covered with water earlier in the growing season); McCance 1984:A-249 (plant with historical pre-1960 records only); Cooperrider 1995:55 (illus. p. 56).

HERBARIUM RECORDS: 31 May 1922—Jackson Twp., *J. H. Schaffner*, 27 May 1929—Cabin Cave, Franklin Co., *Gordon*.

#### 2. *Callitriche heterophylla* Pursh

Larger Water-Starwort

Plant aquatic; leaves floating to submersed; fruit sessile, about as long as wide; margins of mature carpels rounded, widest above the middle; styles longer than fruit.

REFERENCE: Cooperrider 1995:55 (illus. p. 56).

HERBARIUM RECORDS: 5 May 1929—Barnes Pond, abundant, Westerville, *Hicks*; 4 Jun 1931—Rd. SW of Westerville, *Hicks*; 4 Jun 1931—Pond SW of Westerville, *Hicks*; 5 Jun 1931—2 mi. SW of Westerville, *Hicks*.

#### 3. †*Callitriche palustris* L.

Vernal Water-Starwort

Syn.: *C. verna* L.

REFERENCES: Stuckey & Roberts 1977:35 (Franklin Co. record neither previous to 1900 nor since 1950; pond & stream—quiet, open water & flowing water); Roberts & Cooperrider 1982:58.

NOTE: No specimens seen from Franklin Co. Not mapped for Franklin Co. by Cooperrider 1995:55 (illus. p. 56). Probably the above references were based on M. Roberts's misidentification of a *Callitriche heterophylla* specimen collected by Lawrence E. Hicks at Westerville on 5 May 1929.

## PLANTAGINACEAE, Plantain Family

### 1. PLANTAGO L. Plantain

Herbs; leaves all basal or rarely cauline, usually entire, longitudinally ribbed; flowers bisporangiate or sometimes monosporangiate, hypogynous, sessile; corolla regular, tubular, 4- or rarely 3-lobed, dry-scarious, persistent on capsule; stamens 4 or rarely 2, on corolla; carpels 2, united; ovary 2-loculed; ovules 1-many in each locule; style and stigma 1; fruit a pyxis.

- a Leaves opposite or whorled on aerial stem; blades linear; flowers in axillary peduncled heads. 1. *P. psyllium*
- a' Leaves all in basal rosettes; flowers in spikes or heads on scapes.
  - b Blades linear; plants more or less villous throughout; bracts conspicuous, much longer than flowers. 7. *P. aristata*
  - b' Blades lanceolate or wider.
    - c Corolla lobes erect above fruit; scapes long-villous. 6. *P. virginica*
    - c' Corolla lobes spreading; scapes not or rarely villous.
      - d Blades lanceolate, strongly ribbed; bracts with wide hyaline tip and margin; the 2 sepals next to bract united; spike short-cylindric, conic when young. 5. *P. lanceolata*

- d' Blades wider, usually less than twice as long as wide.
- e Scape hollow; flowers not crowded; midvein of round-ovate bracts and sepals obscure or slender; often some blades cordate at base with veins branching from midvein; rare. 4. *P. cordata*
- e' Scape solid; flowers crowded, covering axis except at base; bracts and sepals keeled; all veins arising from top of petiole.
- f Capsule ovoid, circumscissile just below tips of sepals; bracts and sepals ovate, sepals rounded at tip. 2. *P. major*
- f' Capsule lance-ovoid, circumscissile near base; bracts lanceolate; sepals lanceolate, acute. 3. *P. rugelii*

1. \**Plantago psyllium* L.

Fleawort, Sand Plantain

Adventive (native of the E Mediterranean region)

Leaves borne on aerial stems, opposite; blades linear; flowers in dense heads; peduncles pubescent, borne in upper leaf axils. Syn.: *P. arenaria* Waldst. & Kit., *P. indica* L.

REFERENCE: Cooperrider 1995:515 (illus. p. 513).

HERBARIUM RECORD: 9 Oct 1935—along RR, Cols., Harper.

2. \**Plantago major* L.

Common Plantain

Naturalized (native of Eurasia)

Leaves in basal rosettes, alternate; blades elliptic to ovate, uppermost pair of lateral veins diverging from midrib near base of blade; calyx lobes rounded at apex; capsules 2-3 mm long, circumscissile near the middle.

REFERENCES: Riddell 1834:154 (roadsides); Sullivant 1840:34 (naturalized plants); Craig 1890:97 (occurs sparingly near the dormitory, University Farm Sep 1887); Selby & Craig 1890:14; Cooperrider 1995:512 (illus. p. 511).

HERBARIUM RECORDS: 4 Oct 1894—Cols., W. Kellerman; 12 Aug 1897—Rocky Fork Creek, woods, W. Kellerman; Summer 1956—High St. & 12th Ave., Cols., E. Herrick.

3. *Plantago rugelii* Decne.

Rugel's Plantain

Leaves in basal rosettes, alternate; blades elliptic to ovate, uppermost pair of lateral veins diverging from midrib near base of blade; calyx lobes acute at apex; capsules more than 33 mm long, circumscissile at base.

REFERENCES: Craig 1890:97 (common in fields, roadsides, along fences; also in yards, e.g., around the dormitory; it is frequently mistaken for *Plantago major*, 8 Jul 1882, 17 Jun 1887, 5 Jul 1888); Selby & Craig 1890:14; Cooperrider 1995:512 (illus. p. 511).

HERBARIUM RECORDS: Jun 1888—Cols., Craig; 9 Sep 1890—O[hio] A[gri]. E[xperiment] S[tation] grounds, Cols., Hine; 11 Jul 1892—Cols., Bogue; Sep 1892—Cols., Werner; 20 Aug 1899—Scioto R., Selby; 10 Oct 1987—Highbanks Metro Park (Delaware Co.), mowed grass, Morawetz, (OS, OWU).

4. †*Plantago cordata* Lam.

Heart-leaved Plantain, Water Plantain

Leaves on basal rosettes, alternate; blades ovate to broadly ovate, uppermost pair of lateral veins diverging from midrib just below midpoint of leaf blade; peduncles 3-5 mm wide, glabrous.

REFERENCES: Riddell 1834:154 [standing pools]; Sullivant 1840:34; Selby & Craig 1890:14; J. Cols. Hort. Soc. (1891) 6:27 (beyond Sellsville); Selby 1891a:111a (#659 Re-collected); Stuckey & Roberts 1977:36; Roberts & Cooperrider 1982:66; McCance 1984:A-328; Cooperrider 1995:510 (illus. p. 511).

HERBARIUM RECORDS: Jun 1889—Sellsville, Cols., Craig; 25 Apr 1891—Sellsville, near Cols., Selby (OS, WOOS); May 1891—Cols., Werner (CLM, OS); 1 Jun 1895—Cols., W. Kellerman.

5. \**Plantago lanceolata* L.

Ripple-grass, Narrow-leaved Plantain, Narrow-leaved Ribwort, English Plantain

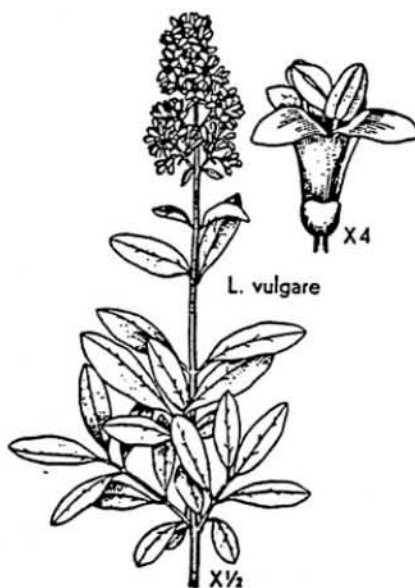
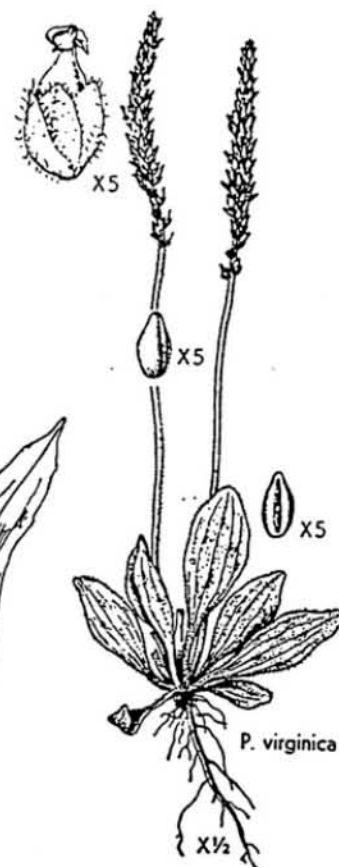
Naturalized (native of Eurasia)

Leaves in basal rosettes, alternate; blades narrowly lanceolate to oblanceolate, 4 or more times longer than wide, strongly ribbed; peduncles very long, with few or many appressed hairs; flowers in dense spikes.

REFERENCES: Sullivant 1840:34 (naturalized plants); Craig 1890:97 (common on the campus and in fields, 8 Jun 1882, 8 May 1887, 30 May 1888, University Farm Sep 1887); Selby & Craig 1890:14 (introduced); Cooperrider 1995:512 (illus. p. 513).

HERBARIUM RECORDS: [date?]-Cols., Brugger; Jun 1888—Cols., Craig; 1890—near Cols., Selby; 11 Jul 1892—Cols., Bogue; 27 May 1896—Clintonville, M. Wright; 8 Jun 1911—Westerville, unkept lawn, Hanawalt; 10 Jun 1921—Westerville, field, B. Wood; 15 Jun 1937—Griggs Dam, J. H. Schaffner; 16 May 1970—Thurber Village, Boone 152; 21 May 1977—30 yards E of Olentangy River Rd., 3 mi. S of Rt. 161, Swanson 12; 13 May 1986—OSU campus, along E facing levy near the Olentangy R., Cols., Taylor-Lehman 49; 15 May 1986—OSU campus, levee near Olentangy R., across from Parks Hall, Hollander 034; 18 May 1986—Antrim Park, N side of lake, Cols., R. Burnes 31; 18 May 1986—110 W. Patterson Ave, on the corner of Neil Ave., Cols., Cooperband 70; 1 Jun 1986—along Greenglade, ¼ blk. from the Caren intersection, Worthington, Benkowski 69; 14 Jun 1986—Highbanks Metro Park (Delaware Co.), farm area, Morawetz 18 (OWU); 21 May 1987—Tuttle Park, SW grass-land, Jen 33; 17 May 1988—OSU, SW side of Drake Union Bridge, unkept lawn, Chinery 44; 18 May 1988—between 5921-5945 N. High St., Worthington, 1 mi. S of Rt. 161 & Rt. 23 intersection, M. Hoffman 70; 15 May 1989—Highland Dr. RR tracks, S of Henderson Rd., & W of Olentangy River

PLANTAGO  
SYRINGA  
LIGUSTRUM



Rd., Clinton Twp., Cols., *Lowden 4050*; 4 Jun 1989—between Olentangy River Rd., & Rt. 315, S of Henderson Rd., Clinton Twp., Cols., *Lowden 4093*.

**6. *Plantago virginica* L.**

Dwarf Plantain, Hoary Plantain

Leaves in basal rosettes, pubescent; blades elliptic to oblanceolate; peduncles with soft spreading hairs; corolla lobes erect above fruits.

REFERENCE: Cooperrider 1995:514 (illus. p. 513).

HERBARIUM RECORD: 7 Jun 1980—common on weedy slope on N side of Swan Ave. exit, just E of N. 4th St. bridge over railyard at N edge of downtown Cols., NW ¼ SE Cols. Quad., *W. Carr 2895* (KE, OS).

**7. \**Plantago aristata* Michx.**

Bracted Plantain, Bearded Plantain

Naturalized (native of W U.S.)

Leaves in basal rosettes, alternate; blades linear; peduncles with appressed and spreading hairs; flowers in a dense spike, with bracts much longer than the flowers.

REFERENCES: Craig 1890:97 (*Plantago patagonica* Jacq. var. *aristata* A.Gray, rare, there is quite a patch NW of the college near the seed barn; it was recently introduced from the W in impure grass seed and is now spreading rapidly; two years ago there was another patch E of the walk from the college to the spring, but this was dug up on account of its aggressive habits, 9 Jul 1882, 5 Jul 1887); Selby & Craig 1890:14 (*Plantago patagonica* Jacq. var. *aristata* A.Gray, introduced); Selby 1891b:75; Cooperrider 1995:514 (illus. p. 513).

HERBARIUM RECORDS: [date?]-Cols., coll.?; 11 Jul 1882—University campus, Cols., coll.?; 188—Cols., *Craig*; 1888—Cols., *Craig*; Jul 1891—Cols., *Werner* (CLM); 6 Jul 1891—Sellsville, near Cols., *Selby* (OS, WOOS); 26 Aug 1891—Sellsville, Cols., *Selby*; 14 Jul 1892—Cols., *Bogue*.

## OLEACEAE, Olive Family

Trees and shrubs; leaves opposite; flowers hypogynous, bisporangiate or monosporangiate; calyx small or none; corolla regular, when present; petals 4, more or less united, or none; stamens 2; carpels 2, united; locules 2; style 1; fruit a drupe, capsule, or samara.

a Trees; petals none; calyx minute or absent; leaves compound. **5. FRAXINUS**

a' Shrubs and small trees; petals 4.

b Corolla yellow, lobes longer than tube; flowers in small lateral clusters, appearing before leaves.

**3. FORSYTHIA**

b' Corolla not yellow; flowers in panicles.

c Petals nearly separate, narrowly linear, white. **4. CHIONANTHUS**

c' Corolla tube about as long as lobes or longer.

d Corolla lilac or white; anthers included in corolla-tube. **1. SYRINGA**

d' Corolla white; anthers not included in corolla-tube. **2. LIGUSTRUM**

### 1. SYRINGA L. Lilac

Shrub; blades ovate, base truncate to cordate; flowers lilac or white, about 1 cm wide, fragrant, in panicles; fruit a capsule.

**1. \**Syringa vulgaris* L.**

Lilac

Planted & persisting from Cultivation (native of SE Europe)

Shrub; leaves simple, ovate, subcordate to subtruncate at base, apex acute to acuminate, margins entire; flowers white, lilac or purple (blue or pink), fragrant; fruit a capsule.

HERBARIUM RECORDS: May 1888—OSU grounds, Cols., *Craig*; 20 May 1911—Westerville, *Hanawalt*; 19 May 1974—OSU Botany Garden, Cols., *D. Johnson*; 5 May 1984—OSU campus, Oxley Hall, Cols., *Valdebenito* 2; 22 Apr 1986—OSU campus, S of Horticulture Greenhouses, Howlett Hall, Fyffe Ct., Cols., *Di Sabato-Aust* 26; 10 May 1986—6887 Hayhurst, Worthington, *Benkowski* 18; 14 May 1989—Pegg Ave. of Highland Dr., W of Olentangy River Rd., Clinton Twp., *Lowden 4047*.

NOTE: Not mapped for Franklin Co. by Braun 1961:312 or Cooperrider 1995:290 (illus. p. 291). Among the cultivated species on the OSU campus is *Syringa reticulata* (Blume) Hara (*Syringa amurensis* Rupr. var. *japonica* (Maxim.) Franch. & Sav.), Japanese Tree-lilac.

### 2. LIGUSTRUM L. Privet