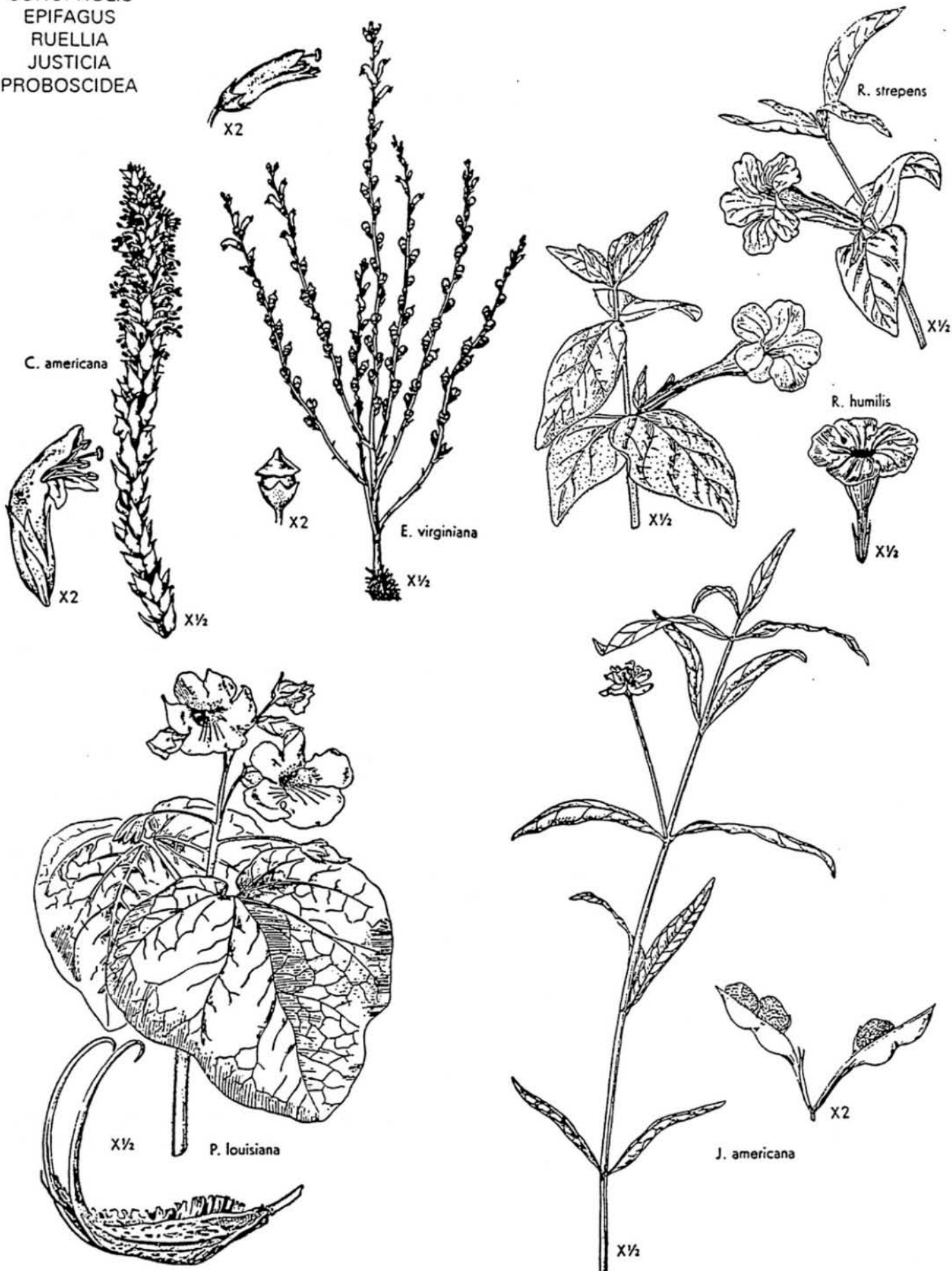


CONOPHOLIS  
EPIFAGUS  
RUELLIA  
JUSTICIA  
PROBOSCIDEA



1. *Castilleja coccinea* (L.) Spreng.

Painted-cup, Indian Paintbrush

Stems pubescent; leaves alternate or lobed into 3-5 linear segments, some leaves in a basal rosette; flowers in terminal spicate inflorescences, borne in axils of showy 3-5 lobed bracts, scarlet or orange at apex; corolla bilabiate, whitish or greenish-yellow.

REFERENCES: Sullivant 1840:38 (*Euchroma coccinea* Nutt.); Selby & Craig 1890:13; Cooperrider 1995:491 (illus. p. 493).

HERBARIUM RECORDS: 1840—Cols., Sullivant; 9 May 1891—Big Darby & Big Darby R., Selby (OS, WOOS); 6 Jun 1891—Harrisburg, Cols., Selby; 7 May 1892—Georgesville, Werner; 17 May 1892—Georgesville, near Cols., E. M. Wilcox; 15 Jul 1892—Georgesville, Bogue; 22 May 1899—Big Darby, Cols., Selby.

## OROBANCHACEAE, Broom-rape Family

Low, somewhat fleshy, nongreen herbs parasitic on roots; leaves alternate, scalelike; flowers hypogynous, perfect, in spikes or racemes or solitary; calyx with 2-5 lobes or teeth; corolla of 4 or 5 united petals, 2-lipped; stamens 4, on corolla tube; carpels 2, united; style 1, slender; ovary 1-loculed, with 2 or 4 parietal placentae; capsule many-seeded.

a Flowers solitary at ends of leafless stalks; corolla white or lavender. 1. OROBANCHE

a' Flowers in spikes or spikelike racemes; stems with scalelike leaves.

b Stems stout, usually unbranched; flowers crowded in inflorescence. 2. CONOPHOLIS

b' Stems slender, usually much branched; flowers not or scarcely crowded; scalelike leaves 2-4 mm long, not overlapping. 3. EPIFAGUS

### 1. OROBANCHE L. Broom-rape

White, brownish, or purple, glandular-pubescent, parasitic on many species of plants; calyx 5-lobed or 5-cleft; corolla 15-25 mm long, white, lavender, or purple, tube usually curved and longer than the 2-lipped limb.

#### 1. *Orobanche uniflora* L.

One-flowered Broom-rape, One-flowered Cancer-root

Plants glandular-pubescent, parasitic; stems underground; peduncles aerial, scape-like, each bearing a single flower; corolla whitish to lavender, lobes rounded.

REFERENCES: Selby 1891a:111a (*Aphyllon uniflorum* A.Gray); Cooperrider 1995:502 (illus. p. 501).

HERBARIUM RECORDS: 13 May 1891—Insane Asylum, Cols., Selby; 13 May 1891—near Cols., on roots of grasses, Selby; 26 May 1934—Indian Springs, Chapman; 28 May 1936—Sharon Twp., Wolf & S. Humphrey; 22 May 1937—Prairie Twp., Gordon.

### 2. CONOPHOLIS Wallr. Squawroot

Stout glabrous unbranched yellow or light-brown herb parasitic on roots of several woody species; scale leaves ovate, up to 2 cm long, many, overlapping; flowers sessile, bracted, in crowded spike; calyx irregularly toothed, split on lower side; corolla 10-15 mm long, 2-lipped; stamens exerted.

#### 1. *Conopholis americana* (L.) Wallr.

Squaw-root, Cancer Root

Plants glabrous; parasitic on roots of oak; stems aerial, brown, thick, many flowered; flowers and fruits crowded in a dense spicate inflorescence, brown scales overlapping; calyx toothed, deeply split on lower side; corolla pale yellow; stamens about as long as corolla.

REFERENCES: Sullivant 1840:38 (*Orobanche americana* L.); Selby & Craig 1890:13; Cooperrider 1995:500 (illus. p. 501).

HERBARIUM RECORDS: 13 Sep 1890—Cols., Werner (CLM, specimen mixed with *Epifagus virginiana*); 7 May 1892—Georgesville, Detmers; 7 May 1892—Franklin Co., W. Kellerman; 21 May 1970—Blendon Woods, on damp hillsides under oak trees, occasional in thick clumps, Boone 160; 25 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), infrequent in oak-hickory, G. Moore 213; 23 May 1986—Highbanks Metro Park (Delaware Co.), dry ridges, woods, Watts 313 (OS, OWU); 2 Jun 1991—Hoover Dam Park, in woods N of entrance off Cubbage Rd., Blendon Twp., Lowden 4651.

### 3. EPIFAGUS Nutt. Beech-drops

Slender glabrous branched yellow, brown, or purple herbs parasitic on roots of *Fagus*; leaves scalelike; flowers in paniced spikelike racemes, dimorphic, upper, with open corolla, mostly not seed-forming, lower cleistogamous and seed-forming; calyx 5-lobed; corolla of upper flowers about 1 cm long, cylindric, 4-lobed, of lower flowers caplike.

1. *Epifagus virginiana* (L.) Barton

Beech-drops

Plants glabrous, tan to brown-purple, parasitic on roots of beech; stems aerial, many-flowered, conspicuously branched; flowers and fruits openly spaced along branches, appearing racemose to paniculate; corolla tan with purple stripes.

REFERENCES: Riddell 1834:156 (dense and shady woods); Sullivant 1840:38; Craig 1890:54, 94 (rare, grows in moist shady places in the woods on or near the roots of beech trees, 9 Sep 1882, 2 Oct 1887, University Farm 4 Oct 1887); Selby & Craig 1890:13; Cooperrider 1995:500 (illus. p. 501).

HERBARIUM RECORDS: 188—Cols., Craig; Oct 1888—Cols., Weed & Craig; 4 Sep 1890—Big Walnut Creek, Selby; 13 Sep 1890—Cols., Werner (CLM); Aug 1890—near Cols., E. V. Wilcox; 7 Aug 1890—Worthington, Selby; 3 Sep 1892—Cols., Bogue; 19—Cols., J. H. Schaffner; 20 Oct 1934—beechwoods in Bexley, Gordon & J. H. Schaffner; 11 Apr 1970—along Flint Ravine near Camp Mary Orton, approx. 2 mi. N of Worthington along Rt. 23, common under beech, Sharon Twp., Haynes 3259; 10 May 1970—Camp Johnson, 8 mi. N of OSU on N. High, under beech trees, Boone 172; 25 Aug 1977—Highbanks Metro Park (Franklin Co.), under beech and maple trees, on N boundary of park, W. Carr 720; [ca. 1982]—Blendon Woods, Owens (OS, specimen mixed with *Fagus grandifolia*); 28 Sep 1982—Highbanks Metro Park (Franklin & Delaware Cos.), beech-maple, common, G. Moore 214.

## ACANTHACEAE, Acanthus Family

Herbs; leaves opposite, simple, entire, without stipules; flowers hypogynous, bisporangiate; sepals 5, narrow, almost separate; corolla almost regular to 2-lipped; hypogynous disk present; stamens 2 or 4, on corolla tube; 1 or 3 staminodes sometimes present; carpels 2, united; style 1; ovary 2-loculed; seeds on curved projections from the axile placentae; capsule splitting elastically.

a Corolla 3 cm long or more, funnellform; stamens 4. 1. **RUELLIA**

a' Corolla about 1.5 cm long, zygomorphic, 2-lipped; stamens 2. 2. **JUSTICIA**

### 1. RUELLIA L.

a  
a' Leaves ovate or lance-ovate; flowers large, solitary or in few-flowered clusters, axillary or terminal on branches; corolla lavender-blue, funnellform, limb not quite regular, 5-lobed; stamens 4, lower pair the longer; a staminode usually present; capsule ovoid, somewhat flattened.

a Calyx-lobes lanceolate, 2 mm wide or more, villous-ciliate, with flat tips, about as long as capsule. 1. *R. strepens*

a' Calyx-lobes linear to setaceous, usually 1 mm wide or less, with slender tips, longer than glabrous capsule; flower clusters sessile or subsessile; bracts lanceolate. 2. *R. humilis*

#### 1. *Ruellia strepens* L.

Smooth Ruellia

Stems and leaves pubescent; leaves opposite, lance-ovate, more than 3 cm wide and 8 cm long; flowers 1-3 on axillary peduncles from 1-3 median nodes, subtended by 2 ovate leafy bracts; calyx lobes lanceolate, 2-3 mm wide; corolla lavender blue, slightly zygomorphic, funnellform; stamens 4.

REFERENCES: Riddell 1834:157 (bottomland); Sullivant 1840:37; Craig 1890:94 (rare, in the E part of the woods and on the island N of turn in the road, 15 Aug 1882, 19 Jun 1887); Selby & Craig 1890:13 (#610 & 611); Cooperrider 1995:507 (illus. p. 508).

HERBARIUM RECORDS: Aug 1888—Cols., Craig; 2 Sep 1890—Cols., Werner (CLM); 13 Sep 1890—Cols., Werner; Jul 1891—Cols., Werner (CLM); 3 Sep 1892—Cols., Bogue; 22 Aug 1899—Cols., Selby; 1 Jun 1982—Cooper Rd., Blendon Twp., Owens; 26 Jun 1990—2 mi. S of Darbydale, about 1.5 mi. N of Gay Rd., along the Harrisburg Georgesville Rd., woody area W of Big Darby Creek, Pleasant Twp., Lowden 4420.

#### 2. †*Ruellia humilis* Nutt. var. *calvescens* Fernald

Wild Petunia

Leaves sessile or subsessile, acute to obtuse; calyx lobes narrowly linear, less than 1 mm wide, longer than glabrous capsule.

REFERENCES: Riddell 1834:157 (*Ruellia oblongifolia*, bottomland); Cooperrider 1995:507 (illus. p. 508).

HERBARIUM RECORD: 9 Aug 1977—E border of Darby Creek Metro Park, W of Koebel-Suydam Rd., scattered in fields & along paths, NE of Georgesville, Pleasant Twp., Cusick 17288 (KE).

NOTE: Perhaps *Ruellia oblongifolia* of Riddell belongs here.

## 2. JUSTICIA L. Water-willow

Growing in colonies in wet soil or in water; stem glabrous; blades lanceolate or narrower, tapering to base, sessile or subsessile, glabrous; flowers in crowded spikes or heads on long peduncles from upper axils; corolla white to pale violet, 2-lipped, lower lip spotted with dark purple; stamens 2, anthers with one pollen sac horizontal; capsule clavate.

### 1. *Justicia americana* (L.) M. Vahl

American Water-willow

Plants emergent, stoloniferous; stems and leaves glabrous; leaves opposite, linear to lanceolate; flowers in dense head-like spikes borne on axillary peduncles; corolla zygomorphic, 2-lipped, whitish with rose-purple markings; stamens

### 2. Syn.: *Dianthera americana* L.

REFERENCES: Riddell 1834:157 (*Justicia pedunculosa*, denuded river banks); Sullivant 1840:37 (*Justicia pedunculosa* Michx.); Craig 1890:95 (abundant in the water all along the river, 15 Jul 1882); Selby & Craig 1890:13; Cooperrider 1995:506 (illus. p. 508).

HERBARIUM RECORDS: Jul 1888—Cols., Craig; 1889—Alum Creek, Cols., Selby (OS, WOOS); 11 Jul 1898—Olentangy R., Cols., J. H. Schaffner; 3 Jul 1930—University Farm pond, Cols., Hicks; 11 Sep 1971—W of OSU campus, along Olentangy R. near Tower Dorms & Battelle, abundant in shallow water, Cols., Roberts 2050; 19 Jul 1977—Big Darby Creek, N of Pickaway Co. line, NW of Orient, Pleasant Twp., Cusick 17028 (KE); 4 Jul 1980—mouth of Hayden Run at entrance to Scioto R., S of Hayden Run Rd., 0.2 mi. E of jct. with Dublin Rd., NE corner of Norwich Twp., NW Cols. Quad., Shelly 53 (MU); 23 Jul 1982—OSU campus, E bank of the Olentangy R., just S of the Woody Hayes Dr. bridge, Cols., T. Lammers 4787 (KE, OS); 10 Jul 1986—OSU campus, banks of the Olentangy R., E. King 6; 21 Jul 1986—Highbanks Metro Park (Delaware Co.), shallow water, Watts 339 (OS, OWU); Summer 1988—OSU campus, along the Olentangy R., Cols., DeLong; Summer 1988—along Big Darby Creek between I-70 & Little Darby Creek, Galloway Quad., DeLong; 11 Aug 1989—just S of Fishing Rd. bridge, along E bank of Scioto R., Trabue-Murphy Landing, Perry Twp., Lowden 4280; 23 Sep 1991—Scioto R., edges of gravel bars, just N of I-270, Hamilton Twp., SW Cols. Quad., McCormac 4340.

## PEDALIACEAE, Sesame Family

### 1. PROBOSCIDEA Schmidel, Unicorn-plant

Coarse glandular-pubescent strong-scented herb; leaves opposite or upper alternate, long-petioled, cordate, entire or nearly so; flowers perfect, hypogynous, in terminal racemes; calyx 5-lobed, split to base on lower side; corolla 3-6 cm long, somewhat 2-lipped, 5-lobed; fertile stamens 4, on the corolla; carpels 2, united, style 1; ovary 1-loculed, placentae 2, parietal, winged; proboscislike style-base of fruit splitting into 2 horns.

### 1. \*†*Proboscidea louisianica* (Mill.) Thell.

Unicorn Plant, Proboscis-flower

Cultivated escape (native of SE U.S.)

Plants glandular-hairy; leaves simple, palmately nerved, shallowly lobed, subopposite; corolla white, tinged with pink, 5-lobed, zygomorphic; fruit firm, beaked.

REFERENCES: Riddell 1834:157 (*Martynia proboscidea*, naturalized); Sullivant 1840:37, 59 (*Martynia proboscidea* L., introduced a few years since, by Col. A. J. McDowell, into our gardens; from whence it has spread, and will doubtless soon be one of our naturalized plants; cultivated for its immature fruit, which is pickled and used as a condiment, much esteemed by many); Selby & Craig 1890:13 (*Martynia proboscidea* Gloxin); Cooperrider 1995:499 (illus. p. 498).

HERBARIUM RECORD: 15 Jul 1941—Cols., escaped from gardens, Gardiner.

## BIGNONIACEAE, Trumpet-creeper Family

Trees, shrubs, and vines; leaves opposite or whorled; flowers large, hypogynous, bisporangiate, clustered; calyx of united sepals; corolla showy, campanulate or funnelform, 5-lobed, sometimes 2-lipped; fertile stamens 4 or 2, on the corolla; 1-3 staminodes sometimes present; carpels 2, united; style 1, stigma 2-lobed; ovary 2-loculed; placentae central; fruit an elongate capsule; seeds flat, winged.

a Leaves simple; trees. 1. CATALPA

a' Leaves pinnately compound, leaflets 5 or more, toothed; vines. 2. CAMPSIS

### 1. CATALPA Scop. Catalpa, Indian-bean