

PHYTOLACCACEAE, Pokeweed Family

1. PHYTOLACCA L. Pokeweed

Large erect glabrous herb; leaves alternate, blades ovate or oblong, entire; flowers usually bisporangiate, hypogynous, about 1 cm wide or less, in racemes; perianth regular, of 5 separate green, white, or pink sepals; petals none; stamens usually 10; carpels usually 10, united in a ring; styles, stigmas, and locules 10; fruit a 10-seeded dark-purple berry.

1. *Phytolacca americana* L.

Pokeweed, Poke-berry, Pigeonberry

Plants smooth, becoming tall; ovary green; berries maturing in long racemes, dark purple. Syn.: *P. decandra* L.
REFERENCES: Riddell 1834:120; Sullivant 1840:25; Craig 1890:54, 98 (a specimen near horticultural hall and a few about the island, 11 Jul 1882, 16 Jun 1887, 9 Jun 1888, 10 Jun 1889; University Farm Sep & Oct 1887); Selby & Craig 1890:14.
HERBARIUM RECORDS: 23 Aug 1882—Olentangy R., *W. Green*; 188—Cols., *Craig*; Jul 1888—Cols., *Craig*; 24 Jul 1890—Cols., *Hine*; 16 Aug 1891—Fishing Mills, W bank of Scioto R., *Detmers*; 3 Oct 1896—Clintonville, *McCall*; 10 Jun 1899—Worthington, *Helfrich*; 27 Jul 1982—Highbanks Metro Park (Franklin & Delaware Cos.), floodplain, *G. Moore 224*; 20 Aug 1982—Blendon Woods, *Owens*; 3 Nov 1984—Gahanna Woods State Nature Preserve, swampy area along woodland pond trail at boardwalk bridge IV, *Tyrell*; 24 Aug 1989—SE corner of Morse Rd. & Indianola Ave. intersection, Clinton Twp., *Lowden 4289*; 9 Sep 1991—Scioto Blvd. dead-end, N of Greenlawn Ave. bridge, W bank of Scioto R., Cols., Franklin Twp., *Lowden 4809*.

NYCTAGINACEAE, Four-o'clock Family

1. MIRABILIS L. Four-o'clock

Herbs; leaves opposite; blades entire; flowers hypogynous, perfect, each flower or each cluster subtended by a calyxlike involucre; calyx regular, corollalike, funnellform, 5-lobed, base constricted above ovary in such way that flower appears epigynous; stamens 3-5; carpel, locule, and ovule 1; style slender, stigma capitate; fruit indehiscent.

a Calyx about 1 cm long; involucre accrescent, veiny, subtending more than 1 flower. 1. *M. nyctaginea*

a' Calyx of various colors, 2-4 cm long; involucre less than 1 cm long, subtending individual flowers. 2. *M. jalapa*

1. **Mirabilis nyctaginea* (Michx.) MacMill.

Heart-leaved Umbrella-wort

Naturalized (W U.S.)

Stem becoming repeatedly forked, below inflorescence glabrous or nearly so; leaves broadly ovate, cordate or truncate base; main blades petioled; involucre more than 1-flowered, saucer-shaped; calyx pinkish-purple. Syn.: *Oxybaphus nyctagineus* (Michx.) Sweet

HERBARIUM RECORDS: 18 Jun 1920—Cols., *J. H. Schaffner*; 18 Jun 1973—S of Cols. on Harmon Rd., rocky embankment above old river bed, *Stroube*; 1 Jun 1980—in cinders along RR tracts on N side of McKinley Ave., about 2 blks. W of Souder St., NE ¼ SW Cols. Quad., *W. Carr 2857*; 9 Jun 1988—Franklinton Cemetery, weedy border, River St., SW Cols. Quad., *Cusick 27482*; 9 Sep 1991—Scioto Blvd. dead-end, N of Greenlawn Ave. bridge, W bank of Scioto R., growing along old pavement, Cols., Franklin Twp., *Lowden 4807*; 19 Sep 1991—W side of Olentangy River Rd., ¼ mi. N of entrance to Antrim Park, Sharon Twp., *Lowden 4851*.

2. **Mirabilis jalapa* L.

Four-o'clock

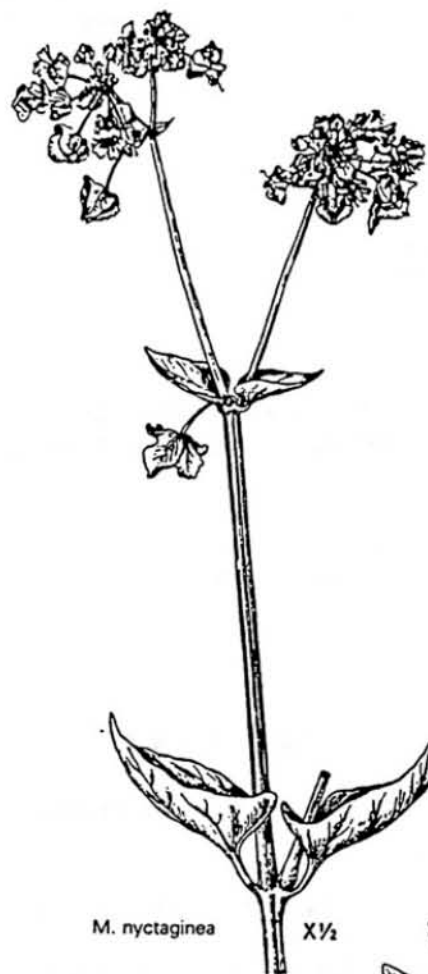
Adventive (native of tropical America)

Calyx red, purple or other colors, salverform, with long slender tube; involucre 1-flowered. Spread from cultivation to waste places, roadsides.

HERBARIUM RECORDS: 12 Jul 1911—OSU Bot. Garden, cult., Cols., *J. H. Schaffner*; 16 Aug 1977—105 W. 10th Ave., one plant growing in gravel at edge of driveway, *W. Carr 714*.

CHENOPODIACEAE, Goosefoot Family

MIRABILIS
CHENOPODIUM



M. nyctaginea $X\frac{1}{2}$

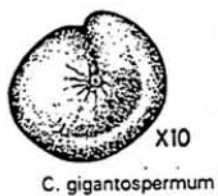


$X\frac{1}{2}$ *M. jalapa*



C. botrys

$X10$



$X10$
C. gigantospermum



$X\frac{1}{2}$ *C. ambrosioides*

$X10$



$X\frac{1}{2}$
C. vulvaria

$X\frac{1}{2}$



$X\frac{1}{2}$
C. glaucum



$X\frac{1}{2}$
C. glaucum

$X\frac{1}{2}$

$X1$

Herbs; leaves alternate or opposite; flowers small, usually green, hypogynous, bisporangiate or monosporangiate; sepals and stamens 1-5; petals none; carpels 2-3 (5); styles or stigmas as many; fruit 1-seeded; seed lens-shaped, vertical (its long axis parallel to floral axis) or horizontal.

- a Leaves filiform or awl-shaped, spine tipped. **4. SALSOLA**
- a' Leaves not spine-tipped, not scalelike.
 - b Fruit enclosed by 2 triangular bracts; carpellate flowers without perianth. **3. ATRIPLEX**
 - b' Fruit either enclosed by calyx or not longer than calyx, not enclosed by bracts; sepals 1 or more.
 - c Individual sepals horizontally winged in fruit; blades entire. **2. KOCHIA**
 - c' Individual sepals not horizontally winged in fruit. **1. CHENOPODIUM**

1. CHENOPODIUM L. Goosefoot

Usually white-mealy or glandular; blades narrow to ovate, entire, toothed, or lobed; flowers perfect, the small clusters in spikes or panicles; calyx usually 5-parted (2-5); stamens usually 5 (1-5); styles 2-3; pericarp adherent to seed or free from it and easily removable.

- a Plants with glandular hairs or with sessile glands; not white-mealy; strong-scented.
 - b Blades gland-dotted, calyx usually not; glandular hairs present or absent. **1. C. ambrosioides**
 - b' Calyx and other plant-parts with short gland-tipped hairs. **2. C. botrys**
- a' Plants without glandular hairs, without gland-dots, often white-mealy.
 - c Calyx-lobes sometimes fewer than 5; some or all seeds, vertical. **3. C. glaucum**
 - c' Calyx-lobes usually 5; seeds all horizontal.
 - d Plants ill-scented, low, wide-branching; blades 1-3 cm long and wide, obviously white-mealy. **4. C. vulvaria**
 - d' Plants erect, usually taller; blades longer than wide or larger than above.
 - e Blades large, ovate, base cordate or truncate, 1-5 large teeth on each side, rarely entire; sepals not keeled; seed adherent, 1.5-2.5 mm wide. **5. C. gigantospermum**
 - e' Blades not as above; sepals often keeled, at least at tip; seed smaller.
 - f Sepals strongly keeled, covering fruit; lines on seed, if present, radial; pericarp adherent; blades ovate to lanceolate, at least the lower usually toothed or lobed. **7. C. album**
 - f' Sepals not or weakly keeled or keeled only at tip, not covering fruit; blades lanceolate, acute, usually entire. **6. C. standleyanum**

1. **Chenopodium ambrosioides* L. Sweet Pig-weed, Mexican-tea, Wormseed Naturalized (native of tropical America)

Plants strong scented; leaves deeply sinuate-pinnatifid to merely serrate, the upper less toothed or entire, lower surface covered with small yellow glands; seeds usually horizontal, dark brown, shiny; pericarp gland-dotted.

REFERENCES: Riddell 1834:120 (*Chenopodium anthelminticum*, roadsides); Sullivant 1840:24; Selby & Craig 1890:14 (#676 & 677 *Chenopodium ambrosioides* L. var. *anthelminticum* (L.) A.Gray; introduced); Lazenby 1891:302; Selby 1891b:76.

HERBARIUM RECORDS: 28 Aug 1885—Cols., *W. Green* (BGSU, OS); Oct 1890—Cols., *Werner*; 25 Oct 1890—Cols., *Greene & Wilcox*; 26 Oct 1890—Sellsville, near Cols., *Selby* (OS, WOOS); 1891—Cols., coll.?.; 13 Sep 1895—Cols., *Osburn*; 23 Sep 1991—E bank of Scioto R., just N of I-270, a few plants, Hamilton Twp., *McCormac 4355*; 25 Jul 1992—OSU, 1315 Kinnear Rd., parking lot, Clinton Twp., *Lowden 5005*.

2. **Chenopodium botrys* L. Jerusalem Oak Naturalized (native of Europe)

Plants aromatic, viscid, and glandular villous; leaves sinuate-pinnatifid, with obtuse angled lobes; calyx with gland-tipped hairs.

REFERENCES: Riddell 1834:120 (roadsides); Sullivant 1840:24; Selby & Craig 1890:14 (introduced).

HERBARIUM RECORDS: Jul 1892—Alum Creek Station, *Bogue*; 17 Aug 1905—Cols., *Fischer*.

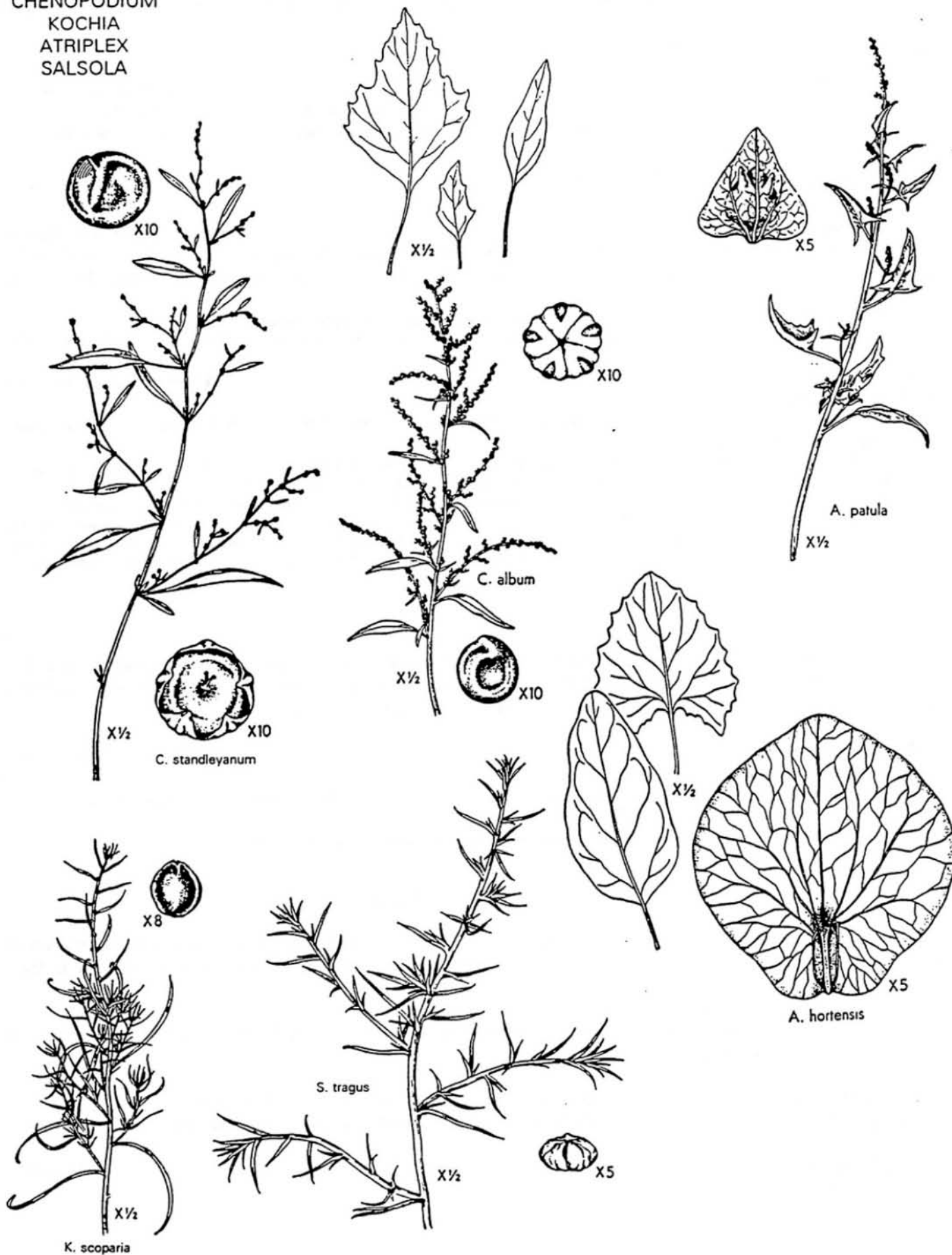
3. **Chenopodium glaucum* L. Oak-leaved Goosefoot Naturalized (native of Europe)

Leaf blades sinuate-toothed, white-mealy beneath; calyx lobes sometimes fewer than 5.

HERBARIUM RECORD: 27 Sep 1992—Olentangy River Rd., N of Union Cemetery, between nursery & Olentangy R., uncommon, weedy ground, NW Cols. Quad., *Cusick 30604*.

4. **Chenopodium vulvaria* L. Stinking Goosefoot

CHENOPODIUM
KOCHIA
ATRIPLEX
SALSOLA



Adventive (native of Eurasia)

Plants strongly white-mealy, ill-scented, low-branching; leaves rhombic to ovate, entire, petiolate; pericarp adherent to seed.

HERBARIUM RECORD: Summer 1942—Cols., *Cavanaugh*.

5. *Chenopodium gigantospermum* Aellen

Maple-leaved Goosefoot

Plants somewhat white-mealy; leaves long-petioled, ovate, acuminate, with a few triangular lobes on each side; seeds horizontal, shiny-black, striated from the center, 1.5-2.5 mm wide; pericarp separable. Syn.: *C. hybridum* L. var. *gigantospermum* (Aellen) Rouleau

REFERENCES: Sullivant 1840:24; Selby & Craig 1890:14.

HERBARIUM RECORD: 20 Aug 1901—Cols., *Tyler*.

6. *Chenopodium standleyanum* Aellen

Woodland-Goosefoot, Pigweed

Plants erect, somewhat white-mealy; leaves triangular-oblong to lanceolate, margins sinuate-dentate or all entire; sepals not covering fruits, rounded, keeled at tips; seeds horizontal, black, shiny; pericarp easily separable. Syn.: *C. boscianum* Moq.

REFERENCES: Selby & Craig 1890:14; Kellerman & Werner 1893:229 (back of Electrical Bldg., Aug 1890).

HERBARIUM RECORDS: 7 Sep 1890—Lake Park, Cols., *Selby*; 13 Aug 1898—Cols., *W. Kellerman*; 20 Aug 1899—Scioto R., *Selby* (OS, WOOS).

7. **Chenopodium album* L.

Pig-weed, Lamb's Quarters

Naturalized (European)

Plants more or less white-mealy, erect; leaves rhombic-ovate to lanceolate, the lower toothed or lobed; sepals keeled, covering fruit; seeds horizontal.

REFERENCES: Riddell 1834:120 (cultivated fields); Sullivant 1840:24 (naturalized plants); Craig 1890:54, 98 (occurs sparingly near the garden and elsewhere, 28 Aug 1887; University Farm Sep 1887); Selby & Craig 1890:14 (#674 & 675, introduced).

HERBARIUM RECORDS: 6 Aug 1889—Maple St., Cols., *W. Kellerman*; 12 Aug 1890—Cols., *Hine*; 25 Aug 1890—OAES garden, Cols., *Hine*; 22 Aug 1899—S Cols., *Duvel*; Oct 1906—OSU farm, *Livingston*; Nov 1908—Cols., *Detmers*; 20 Aug 1911—Westerville, *Hanawalt*; 14 Oct 1934—Indian Springs, Cols., *J. H. Schaffner*; 28 Sep 1986—Highbanks Metro Park (Delaware Co.), fields, Big Meadow Picnic area, E of Olentangy R. & S of Powell Rd., *Morawetz 36*; 1 Oct 1992—OSU Chadwick Arboretum, N of Lane Ave. & E of Rt. 315, near water tower, *Oberliesen*.

2. KOCHIA Roth

Annual; stem erect, much branched; leaves linear to lanceolate, entire, sessile, sometimes becoming red at maturity; flowers perfect or carpellate, in small clusters in axils of leaves, the clusters in axillary or terminal spikes; calyx 5-lobed, in fruit horizontally winged; stamens 5; styles 2-3; seed horizontal.

1. **Kochia scoparia* (L.) Schrad.

Summer-cypress

Adventive (native of Europe)

Plants bushy-branched, erect; leaves linear, attenuate, ciliate; sepals with a dorsal wing or appendage, enclosing the fruit.

HERBARIUM RECORD: 25 Sep 1925—Franklin Co., spontaneous after cultivation in field, *J. H. Schaffner*.

3. ATRIPLEX L. Orache

Leaves alternate or opposite or both on same plant, entire, toothed or lobed; monoecious; staminate flowers of 3-5 united sepals and 3-5 stamens; carpellate flowers without perianth, enclosed by 2 bracts which enlarge in fruit; carpels 2; seeds vertical.

The Garden Orach (*Atriplex hortensis* L.) was cited by Selby 1891a:111a (introduced). I have seen no specimens of this species from the county.

a Principal leaves linear to lanceolate or oblong, entire or with a few low teeth. 1. *A. patula*

a' Principal leaves triangular, hastate or rhomboidal, with sharp angles or lobes. 2. *A. hastata*

1. **Atriplex patula* L. var. *patula*

Spearscale

Adventive (Eurasian)

Leaves linear to lanceolate or oblong, entire or with a few low teeth; fruiting bracteoles tending to be rhomboidal, acute at base. Incl. *Atriplex patula* L. var. *littoralis* (L.) A.Gray
HERBARIUM RECORDS: 18 Aug 1979—Summit St. near 12th Ave., weed in shaded lawn, Cols., *W. Carr*; 17 Sep 1985—Northland Mall, flowerbeds, SE jct. of Karl Rd. & Morse Rd., NE Cols. Quad., *Cusick 24816*.

2. **Atriplex hastata* L.
Adventive (Eurasian)

Spearscale

Leaves triangular, hastate, or rhomboidal, with sharp basal angles or lobes; fruiting bracteoles triangular, truncate at base. Syn.: *A. patula* L. var. *hastata* (L.) A.Gray
REFERENCE: Selby & Craig 1890:14 (introduced).
HERBARIUM RECORDS: 1890—Franklin Ave., Cols., *Selby*; 9 Sep 1890—N. Cols., *E. V. Wilcox*; Aug 1892—Cols., *Werner* (CLM); 22 Oct 1895—Cols., *W. Kellerman*.

4. SALSOLA L.

Erect or ascending, much-branched; leaves stiff, narrow, spine-tipped; flowers perfect, solitary or in clusters of a few in upper axils; calyx deeply 5-lobed, horizontally keeled in fruit; seed horizontal.

1. **Salsola tragus* L.
Naturalized (native of Eurasia)

Russian Thistle

Plants bushy, erect; leaves stiff, spine-tipped; calyx 5-lobed, horizontally keeled in fruit; seed horizontal, enclosed by sepals. Syn.: *S. kali* L. var. *tenuifolia* Tausch
HERBARIUM RECORDS: Jul 1923—Franklin Co., rather frequent in waste places, *J. H. Schaffner*; 29 Sep 1973—abandoned RR yards along the Scioto R. at Grandview Ave. exit, common along tracks, *Roberts 4290*.

AMARANTHACEAE, Amaranth Family

Rather coarse herbs; leaves simple, opposite or alternate; flowers hypogynous, bisporangiate or monosporangiate, small, bracted, in spikes, panicles, or small axillary clusters; sepals 5 or fewer, separate or united, or none; petals none; stamens 5 or fewer, separate or united; styles and stigmas usually 2-3 or stigmas sessile; ovary 1-loculed; fruit a dehiscent or indehiscent utricle.

Two common garden ornamentals are Cockscomb (*Celosia argentea* L. var. *cristata* (L.) Kuntze) having spikes cristate, fan-shaped, or distorted, in a variety of colors (12 Jul 1911—OSU Bot. Garden, Cols., cult., *J. H. Schaffner*; 24 Aug 1935—Cols., *Alter*), and Globe Amaranth (*Gomphrena globosa* L.; 12 Jul 1911—OSU Bot. Garden, Cols., cult., *J. H. Schaffner*).

1. AMARANTHUS L. Amaranth

Dioecious or monoecious; plants not woolly; stems erect to prostrate, usually much branched; leaves alternate, blades usually entire; flowers green or reddish, monosporangiate, in axillary clusters or in simple or branched spikes; sepals 1-5 or none, separate, sometimes unequal; stamens 1-5; stigmas usually 2-3. (*Acnida* L.)

a Species monoecious.

b Flowers in small axillary clusters; stems usually much branched; stamens 2 or 3.

c Stems prostrate or decumbent; bracts acuminate, about equaling longest sepal and fruit; seed 1.5 mm wide; sepals 4-5. 1. *A. blitoides*

c' Stems ascending to erect; bracts stiff, subulate, longer than sepals and fruit; seeds 1 mm wide; sepals of carpellate flowers usually 3. 2. *A. albus*

b' Flowers mostly in simple or paniced spikes; stamens 5.

d Leaf bases with a pair of spines; fruit indehiscent or irregularly dehiscent. 3. *A. spinosus*

d' Leaf bases without spines; fruit dehiscent, top coming off as a lid.

e Terminal spike 1.5 cm thick, branches short, erect; calyx of carpellate flowers 3 mm long, tips rounded, truncate, or emarginate, mucronate, about half as long as the bracts. 4. *A. retroflexus*