

PTELEA  
TRIBULUS  
OXALIS



1. *\*Tribulus terrestris* L.

Caltrop, Puncture-weed

Naturalized (native of the Mediterranean region)

Prostrate; leaves pinnately compound, unequal at each node; petals 5, yellow; fruits splitting into 5 segments, each with 2 spines and a ridge of spiny tubercles.

REFERENCE: Cooperrider 1995:22 (illus. p. 21).

HERBARIUM RECORDS: 17 Sep 1956—OSU campus near Plumb Hall, *Kauffman*; 4 Jun 1960—OSU campus on dike paralleling Olentangy R. near Woodruff Ave. bridge, *Cusick*.

OXALIDACEAE, Wood Sorrel Family

1. OXALIS L. Wood-sorrel

Low herbs; leaves palmately compound, 3-foliolate, leaflets obcordate, entire; flowers hypogynous, bisporangiate, in cymes or umbels; sometimes cleistogamous flowers developing; perianth regular; sepals 5, separate; petals 5, separate or united at base; stamens 10, alternate ones shorter, usually united at base; carpels 5, united; styles, stigmas, and locules 5; fruit a somewhat elongate capsule.

a Without aerial leafy stems; leaves all basal; petals usually violet. 5. *O. violacea*

a' With aerial leafy stem; petals yellow.

b Petals more than 1 cm long; leaflets 2-5 cm wide, margins usually purple-brown; flowers in cymes; pedicels not deflexed. 4. *O. grandis*

b' Petals usually less than 1 cm long; leaflets 2 cm wide or less, margins not purple-brown.

c Stem prostrate, rooting, flowers in simple umbels; fruiting pedicels deflexed. 3. *O. corniculata*

c' Stem erect.

d Flowers in umbels; fruiting pedicels deflexed; hairs of fruit appressed. 2. *O. dillenii*

d' Flowers in cymes or branched umbels; fruiting pedicels not deflexed; hairs of fruit spreading.

1. *O. stricta*

1. *Oxalis stricta* L.

Yellow Wood-sorrel, Wood-sorrel, Common Yellow Wood-sorrel

Petals yellow, less than 1 cm long; stems erect, not rooting at nodes; leaflets usually less than 2 cm wide, margins not purple-brown; hairs on stems and petioles spreading with brown septae or constrictions; fruiting pedicels erect or ascending. Syn.: *O. corniculata* L. var. *stricta* Sav., *O. europaea* Jord.

REFERENCES: Riddell 1834:119; Sullivant 1840:16; Craig 1890:53, 72 (#80; common in the woods and in various places on the University farm; in dry soils it grows only a few inches high, but in rich moist soils along the river it attains a height of eight or nine inches, the flowers become larger and have a pink center; 14 May 1882, 26 Apr 1884, 26 May 1885, 25 May; University Farm Sep and Oct 1887, 5 Jun 1888; Selby & Craig 1890:8; Cooperrider 1995:13 (illus. p. 12).

HERBARIUM RECORDS: 27 Jun 1890—O. Ag. Ex. Station field, Cols.; 9 Jul 1890—Cols., *Hine*; 14 Jul 1892—Cols., *Bogue*; 3 Aug 1897—Cols., *W. Kellerman*; 2 Jul 1900—Georgesville, *Coherly*; 28 Aug 1909—Cols., *J. H. Schaffner*; 29 May 1922—Westerville, *Horlacher*; 24 Jun & 18 Sep 1982—scenic nature preserve, Highbanks Metro Park, floodplain, *G. Moore 215 & 216*; 16 Aug 1987—Highbanks Metro Park (Delaware Co.), open field, *Witsberger 958*; 10 Oct 1987—Highbanks Metro Park (Delaware Co.), floodplain, *Morawetz* (OS, OWU); 12 Sep 1991—Hoover Dam, W of Cabbage Rd., cemetery lot along Walnut St., Blendon Twp., *Lowden 4843*.

2. *Oxalis dillenii* Jacq.

Southern Yellow Wood-sorrel

Petals yellow, stem erect, not rooting at nodes; leaf base with stipules narrow at apex and wider at base; hairs on stems, petioles and fruits appressed, not septate; pedicels usually deflexed. Syn.: *O. stricta* L., misapplied

REFERENCE: Cooperrider 1995:13 (illus. p. 12).

HERBARIUM RECORDS: 21 May 1923—Westerville, *Lyons*; 19 May 1974—OSU Botany Garden, Cols., *D. Johnson*; 2 May 1977—along N wall of McPherson Laboratory, OSU Campus, *Watson 17*; 18 May 1986—Pearl Alley, between 12th & 13th Ave., Cols., *Hollander 040*; 21 May 1986—Park of Roses, Cols., *Blanco*; 26 May 1986—Riverview Park Dr., E of Rustic Bridge, *R. Burnes 45*; 1 Jun 1986—yard at 6887 Hayhurst, Worthington, *Benkowski 71*; 15 May 1988—corner of Indianola Ave. & E. Patterson Ave., Cols., *Kelly 13*; 18 May 1988—OSU, Howlett Hall, W side of greenhouse headhouse, *Chinery 47*; 26 May 1988—OSU campus, S of Howlett Hall, *Gerberick 45*; 17 May 1989—E side of Waldeck Ave., N of Woodruff, sidewalk, *C. Warren 89*; 23 May 1989—Overbrook Drive Ravine, E of N. High St., Clinton Twp., *Lowden 4078*; 14 Jun 1989—OSU campus behind B&Z Bldg., *Lowden 4171*.

3. *\*Oxalis corniculata* L.

Creeping Yellow Wood-sorrel

Naturalized (tropics & S U.S.)

Petals yellow; stems aerial, leafy and prostrate; fruiting pedicels deflexed. Syn.: *O. repens* Thunb.

REFERENCES: Riddell 1834:119; Cooperrider 1995:11 (illus. p. 12).

HERBARIUM RECORDS: 20 May 1897—spontaneous in greenhouses, Cols., *W. Kellerman*; 28 Aug 1909—Cols., *J. H. Schaffner*; 11 Sep 1911—Westerville, old meadows & lawns, *Hanawalt*; 28 May 1923—Westerville, *Walker*; 16 May 1980—cinderly soil along RR tracks, S of Goodale Ave. at end of Northwest Blvd., NE ¼ SW Cols. Quad., *W. Carr* 2754; 1 Jun 1980—old RR bed N of McKinley Ave., 5 blks. W of Souder St., Cols., NE ¼ SW Cols. Quad., *W. Carr* 2853 (KE); 9 Aug 1985—weed in flowerbeds, Fountain Square, S of Morse Rd., NE Cols. Quad., *Cusick* 24657; 21 May 1988—between 5921-5945 N. High St., Worthington, 1 mi. S of Rt. 161 & Rt. 23 intersection, *M. Hoffman* 76.

#### 4. *Oxalis grandis* Small

Big Yellow Wood-sorrel

Petals yellow, more than 1 cm long; leaflets of principal leaves more than 25 mm wide, margins purple-brown; pedicels ascending.

REFERENCES: Riddell 1834:119 (*Oxalis recurva*); Selby 1891a:111a (*Oxalis recurva* Ell.); Cooperrider 1995:14 (illus. p. 10).

HERBARIUM RECORDS: 8 Jun 1882—Cols., *W. Green*; Jun 1888—Scioto R. near Wyandotte Grove, Cols., *Selby*; 2 Jun 1888—banks of Scioto R., *Selby*; May 1890—Cols., *Selby*; 4 & 5 Jul 1891—Cols., *Werner* (CLM); 1892—Cols., *E. M. Wilcox*; 30 May 1895—N Cols., *Osburn*; 22 May 1899—Big Darby, Cols., *Selby*; 10 Jun 1901—Cols., *J. H. Schaffner*; 26 May 1922—Devil's Half Acre, creek bottom, very common, *Callahan*; 5 Aug 1982—Blendon Woods, *Owens*; 23 May 1986—Highbanks Metro Park (Delaware Co.), woods, *Watts* 306 (OWU).

NOTE: *Oxalis recurva* was most likely misapplied and refers to *Oxalis grandis* based on Werner's and Selby's specimen labels.

#### 5. *Oxalis violacea* L. forma *violacea*

Violet Oxalis, Violet Wood-sorrel

Aerial stems lacking; leaves basal, arising from bulb-like base; umbels few-flowered; petals violet-purple, base cream colored; sepals callous-tipped.

REFERENCES: Riddell 1834:119; Sullivan 1840:16; Selby & Craig 1890:8; Cooperrider 1995:11 (illus. p. 10).

HERBARIUM RECORDS: 14 May 1882—Cols., *Devo*; 20 Apr 1899—State Hospital Grounds, Cols., *Helfrich*; 21 May 1924—Westerville, woods, *Wetherill*; 14 May 1992—jct. Graessle Rd. & Rt. 665, bluff area, Battelle Darby Metro Park, Pleasant Twp., *Lowden* 4943; 14 May 1992—N of Harrisburg-Georgesville Rd. deadend, Battelle Darby Metro Park, Pleasant Twp., *Lowden* 4953.

### GERANIACEAE, Geranium Family

Herbs; leaves opposite or alternate; flowers hypogynous, bisporangiate, in cymose or umbellate clusters or rarely solitary; perianth regular or slightly zygomorphic; sepals 5, separate; petals 5, separate, alternating with glands; stamens 10 or 5; carpels 5, united, in fruit with long erect slender beak; locules 5; stigmas 5; ovules 1 or 2 per carpel; fruit a 5-seeded capsule.

a Stamens with anthers 10 (5, in 1 species with palmately divided leaves). 1. GERANIUM

a' Stamens with anthers 5; leaves pinnately compound. 2. ERODIUM

#### 1. GERANIUM L. Crane's-bill, Wild Geranium

Leaves palmately lobed or divided or rarely compound; carpels dehiscent by coiling outward from base upward, remaining attached at tip.

*Geranium sanguineum* L. (Blood-red Crane's-bill, Eurasian; not mapped for Franklin Co. by Cooperrider 1995:16, illus. p. 17), with erect or decumbent stems, several to many cauline leaves, and crimson-purple petals, is a garden ornamental (15 May 1986—private garden, E. Northwood Ave., Cols., *Blanco*).

a Leaves compound, the 3-5 leaflets pinnately divided; petals rose-purple; carpel-bodies, at maturity, separating from styles. 2. *G. robertianum*

a' Leaves palmately deeply divided; carpel-bodies not separating.

b Only 1 pair of cauline leaves usually present; flowers 2-3 cm wide; petals pink-purple. 1. *G. maculatum*

b' More than 2 cauline leaves present; flowers usually smaller.

c Sepals awn-tipped. 3. *G. carolinianum*

c' Sepals not awn-tipped.

d Stamens 10; carpel-bodies glabrous, wrinkled. 4. *G. molle*

d' Stamens 5; carpel-bodies pubescent. 5. *G. pusillum*

#### 1. *Geranium maculatum* L.

Wild Crane's-bill, Wild Geranium, Spotted Geranium

Flowers pink-purple, 2-3 cm wide; leaves deeply palmately divided, in addition to basal leaves 1 pair of well-developed cauline leaves present.