

# Plant Diversity Website

## *Fallopia scandens* (L.) Holub

**Common Names:** Climbing false buckwheat (1), false buckwheat (4)

**Etymology:** 'Fallopia' is named in honor of the 16<sup>th</sup> century Italian anatomist Gabriello Fallopio, 'Scandens' comes from the Latin *scansus*, "to climb". The broadly used generic name, *Polygonum*, is a combination of the Greek *Poly*, "many", and *gonon*, "knees (3,21)."

**Botanical synonyms:** This species and its relatives are often split, as we have here, from the genus *Polygonum*. This is not a universal usage, although we believe the indications by the molecular work of Frye and Kron are indicative of changes to come, and we have treated it here as *Fallopia*. Other synonyms: *Anredera spicata*, *Bilderdykia scandens* (L.) Greene, *Polygonum scandens* L. *Polygonum dumetorum* L. var. *scandens* (L.) A. Gray, *Reynoutria scandens* (L.) Shinnery, *Tiniaria scandens* (L.) Small [1,2,17]



**FAMILY:** Polygonaceae (the buckwheat family)

**Quick Notable Features:**

- angled, twining stems turning red under prolonged exposure to sunlight
- fruits with three papery wings
- apically twines from right to left (most apical twiners in our area twine from left to right)

**Plant Height:** Stems grow to 5m in length (4). H.D. Thoreau observed it growing at least 3.5m in the early 1900s (18).

**Subspecies/varieties recognized:** The following subspecies and varieties are often known by the older generic name of *Polygonum*: *Polygonum scandens* L. var. *crisatum* (Engelm. & A. Gray) Gleason, *Polygonum scandens* L. var. *dumetorum* (L.) Gleason, *Polygonum scandens* L. var. *scandens* (1,2)

**Most Likely Confused with:** *Dioscorea villosa*, climbing members of Convolvulaceae (in our area: *Calystegia hederacea*; *sepium*; *silvatica*; and *spithamaea*, *Convolvulus arvensis*, *Ipomoea hederacea*; *pandurata*; *purpurea*; and *Xmultifida*), *Smilax* spp., and other climbing species of *Fallopia* (*Polygonum*: in our area, *F. cilinodis*, *F. convolvulus*, and *F. dumetorum*)



**Habitat Preference:** Prefers moist woods,

slopes, and thickets, and is found frequently in alluvial soil (4,5,6). Associated species include *Acer negundo* and *Ulmus americana* (5).

**Geographic Distribution in Michigan:** *F. scandens* is found in 32 counties in the Lower Peninsula (1).

**Known Elevational Distribution:** 0-1800m (12).

**Complete Geographic Distribution:** Native to North America, *Fallopia scandens* is found within the U.S. from Maine south to Florida and east to Texas and Wyoming. In Canada, it is found from Nova Scotia east to Alberta (1, 21).



**Vegetative Plant Description:** A perennial, herbaceous climber or sprawler with fibrous roots. The slightly to sharply angled, sometimes scabrous stems are green, becoming reddish in prolonged sunlight. At each leaf node is an inconspicuous, pale green to brownish green ochrea that is up to 2mm long. The slightly scabrous petioles are 5cm long, bearing alternate, simple, ovate leaves with cordate bases, acuminate tips, and entire margins. The leaves are to 8cm long and 6cm wide, often with scabrous midveins (4,5,6,7,8,10,11,12).

**Climbing Mechanism:** Twines with the apex of its stem in a sinistral fashion (from right to left) (4,6), see image.

**Flower Description:** The flowers are borne in unbranched racemes of several whitish green or light pink flowers, 7-28cm long, axillary to the ochrea on short, scabrous peduncles. These racemes can be leafless or bear 1-2 small leaves at their base.

Each flower is borne on a pedicel 4-8mm long, with 3 + 2 sepals that are each 1.5-3mm long. The 8 stamens are adnate to the base of the perianth, white, up to 1mm. The triangular ovary is green (4,5,6,7,8,10,11,12).

After maturity, the three outer sepals expand, becoming papery and giving the fruit its characteristic wing (4,6).



**Flowering Time:** The species flowers from July (or August) to November throughout its range (10, 21).

**Pollinator:** "The nectar of the flowers primarily attracts short-tongued bees, wasps, and flies" (11).

**Fruit Type and Description:** The fruit is a shiny black achene ~3mm long, and 3-angled, surrounded by the persistent calyx. The fruit, including the pedicel and calyx wings, can be up to 15mm long (4,5,6,7,8).

**Seed Description:** none found, largely because the achene does not open.

**Dispersal Syndrome:** The species is bird-dispersed (19). Furthermore, the papery calyx wings could aid in wind dispersal.

**Distinguished by:** *Fallopia scandens* can be distinguished from *Dioscorea villosa* by its veins: *D. villosa* has arcuate-parallel venation, with 7-11 veins converging in the leaf apex. Furthermore, the leaf nodes of *D. villosa* lack an ochrea, and its fruit is a large, three-winged capsule. Both *D. villosa* and *F. scandens* twine in the same orientation with their stem apices.

Species of Convolvulaceae typically differ in twining orientation from *F. scandens*, but not always. As a general rule, Convolvulaceae members have latex in their stems and/or leaves, and *F. scandens* does not. Convolvulaceae fruits tend to be capsules and the stems lack an ochrea.

*Smilax* species climb with tendrils borne on the petioles, and also have no ochrea at their leaf nodes. Additionally, *Smilax* species typically have arcuate, rather than reticulate, venation.

*P. scandens* may be distinguished from other climbing *Fallopia* species by its smooth, glossy achene, which is hidden under its expanded perianth. Similar *Fallopia* species have less conspicuous calyx parts.

**Other members of the family in Michigan (number of species):** *Fagopyrum* (2), *Fallopia* (4) *Polygonella* (1), *Polygonum* (24), *Rheum* (1), *Rumex* (14) [1, 21]

**Ethnobotanical Uses:** We have found no reference to local human uses for this plant (5,12,13,14).

**Phylogenetic Information:** A study by Kim et al. (9) on flavanoid compounds in *F. scandens*, *F. cilinodus*, *F. convolvulus*, *F. dentatoalata*, and *F. dumetorum* found them to be closely related, but distinct species. However, *F. scandens* and *F. dumetorum* have since been united as a single species by many taxonomists (1,2,15). Kim noted that *F. cristatum* should be treated as *F. scandens*. Flora of North America (21) notes that *F. scandens*, in general, “has a complex nomenclatural history.”

*Fallopia* has been assigned to the Polygonoideae subfamily of the Polygonaceae, which is a member of the Caryophyllales, a member of the core eudicots within the angiosperms (15,16).

**Interesting Quotation or Other Interesting Factoid not inserted above:** Thoreau (18) referred to it as “a rampant climber.”

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- 1, 2) The image of the leaf and the image of the raceme, are courtesy Dr. John Hilty and Illinois Wildflowers.
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