

Plant Diversity Website

Calystegia pubescens Lindl.

Common Names: Japanese false bindweed, Japanese bindweed, California-rose (referring to the "double" cultivar), Hairy False Bindweed (1, 4).

Etymology: *Calystegia* is Greek for "a covering cup," derived from *kalux*, "cup" and *stegos*, "a covering." *Pubescens* refers to the soft pubescence which may or may not be present (3, 5, 13).

Botanical synonyms (1, 15):

Calystegia abyssinica Engler
C. acetosifolia (Turczaninow) Turczaninow
C. hederacea Wall.
C. pellita (Ledeb.) G. Don.
Convolvulus acetosifolius Turczaninow
C. calystegioides Choisy
C. pellitus Ledeb.
C. wallichianus Sprengel
C. japonicus auct. non Thunb. [misapplied]
Volvulus hederaceus (Wallich) Kuntze.

FAMILY: Convolvulaceae, the bindweed or morning glory family

Quick Notable Features:

- twining vine with large sepaloid bract on flowers
- flowers white or pink or both
- triangular leaves with basal lobes

Plant Height: Usually grows to 5.0m high

Subspecies/varieties recognized: none

Most Likely Confused with: *Calystegia sepium* or *Polygonum convolvulus*

Habitat Preference: This species is usually only found in cultivation in the Eastern U.S., but when it does escape it is found along roadsides and railroads. It can survive in most soil types, but cannot survive in the shade, and prefers moist soil (2, 4, 12).

Geographic Distribution in Michigan: This species is only found in Kalamazoo, Newaygo, Oakland, and Wayne counties (1).

Known Elevational Distribution: Introduced individuals in Italy were found at 1340m elevation (18).

Complete Geographic Distribution: This eastern Asian (most likely Chinese) native is found mostly in the northeastern United States (WI, IL and east; TN, NC and north except WV, MD and RI), as well as MO, LA, KS, and ID (1, 4, 6).



Vegetative Plant Description: The plant is a perennial herb. The climbing and trailing stem bears simple, alternately arranged, entirely margined, pinnately veined leaves. The firm leaves are 4-8cm long and usually 1/3 as broad, with an oblong terminal lobe and a sagittate to hastate base. Their form is nearly triangular (only slightly hastate), but can have two-lobed basal lobes with the rounded lobes pointing away from the apex of the leaf. The petioles are 1/4 to 1/3 as long as the leaf blade. The stems, leaves and bracts are usually glabrous, but may be softly pubescent. The roots are perennial and spreading and the young stems are erect, more so than the older stems, which are prostrate. Large sepeloid bracts are borne below the calyx (1, 2, 6, 7, 11, 14).

Climbing Mechanism: Climbs with the apex of the plant twining in a dextral direction (image from reference 17 and M.M., pers. obs.).



two seeds (10,11)

Flower Description: The inflorescence has complete, regular flowers with parts in fives. The five sepals are usually smaller than the sepeloid bracts below the calyx (the epicalyx). The funnel-shaped, pink or pale purplish corolla is 2-4 cm long and twisted in bud. The ovary is unilocular and superior with an oblong, cylindrical stigma. The flowers are mostly double (absent stamens and pistils) in our region, while single flowers are usually cultivated. When the five stamens are present, they are 1.1-1.6cm (rarely up to 1.9cm) long with 3-4mm anthers. Once produced, the flowers are short-lived; some may last for only a single day (2, 6, 11, 12).

Flowering Time: Flowers August - October in the northeastern United States (12).

Pollinator: In the rare flowers that are not of the double form, bees and members of Lepidoptera are the most likely pollinator (12).

Fruit Type and Description: capsule, bearing

Seed Description: When doubled, the plants will not produce seeds due to the “doubled” nature of the flowers. The plant most likely reproduces vegetatively by spreading its roots and prostrate stems (14). The term “double” refers to the flowers having more petals than normal, usually in place of the androecium and/or gynoecium.

Dispersal Syndrome: Rarely producing fruits, more often reproducing by its rhizomatous roots (16). It has been reported as gravity dispersed (10).

Distinguished by: The easiest way to distinguish this species from *C. sepium* is by the flowers and the bracts surrounding them. The flowers and bracts of *C. pubescens* are smaller (2-4cm) than those of *C. sepium* (4-7cm). In Ohio, *C. pubescens* emerges later and grows more slowly

than *C. sepium* (14). It can also be confused with Polygonaceae climbers such as *Polygonum convolvulus* but that species flowers are small, green, apetalous, and hardly noticeable (16, pers. obs.).

Other members of the family in Michigan (number species): *Calystegia* (3), *Convolvulus* (1), and *Ipomoea* (5).

Ethnobotanical Uses: The washed and steamed root is very nutritious, rich in starch and sugar, but it should not be eaten regularly due to its purgative properties. Medicinally, the seed (when produced) can be simmered in water and used as a diuretic to stimulate kidney secretions (12).

Phylogenetic Information: Here we follow the direction of the Michigan Flora online, which synonymizes *C. hederacea* with this species. Within the family Convolvulaceae, the genus *Calystegia* is placed in the tribe Convolvuleae, according to recent molecular studies. Also included in this tribe are the widespread species of *Convolvulus*, in which *Calystegia* previously was included, and the genus *Polymeria*, endemic to Australia. Within the family, this tribe is closest to the tribe Jacquemontieae (consisting of the genus *Jacquemontia*), and both tribes are close to the tribe Aniseieae (including *Aniseia*, *Iseia*, *Odonellia*, and *Tetralocularia*). The family Convolvulaceae is part of the Solanales, which is one of the four clades of the Euasterids I, which is in turn part of the Core Asterids which are Tricolpate Angiosperms (8, 9).

Interesting Quotation or Other Interesting Factoid not inserted above: This species was introduced in England as a cultivated curiosity from China because of its double flower (7).

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