

# Plant Diversity Website

## *Hedera helix* L.

**Common Names:** English ivy (2).

**Etymology:** *Hedera helix* is Latin for coiling vine (1). An old source cites the Celtic *hedra*, or cord, as the root (8).

**Botanical synonyms:** *Hedera helix* L. subsp. *caucasigena* (Pojark.) Takht. & Ya. I. *Mulkidzhanyan*; *Hedera helix* L. [beta]. *colchica* K. Koch; *Hedera helix* L. subsp. *hibernica* (G. Kirchn.) D.C. McClint.; *Hedera helix* L. f. *poetarum* (Nyman) McAll. & A. Rutherford; *Hedera helix* L. subsp. *rhizomatifera* McAll. (13).

**FAMILY:** Araliaceae (the Ginseng family).

**Quick Notable Features:**

- Pale venation
- Dimorphic leaves
- Waxy appearance of leaves
- Evergreen, unlike most Michigan climbers
- Climbs using roots along the stem

**Plant Height:** Stems observed to be 30m long (10). Although some cultivated varieties are largely ground covers, *Hedera helix* may top trees (12).

**Subspecies/varieties recognized:**

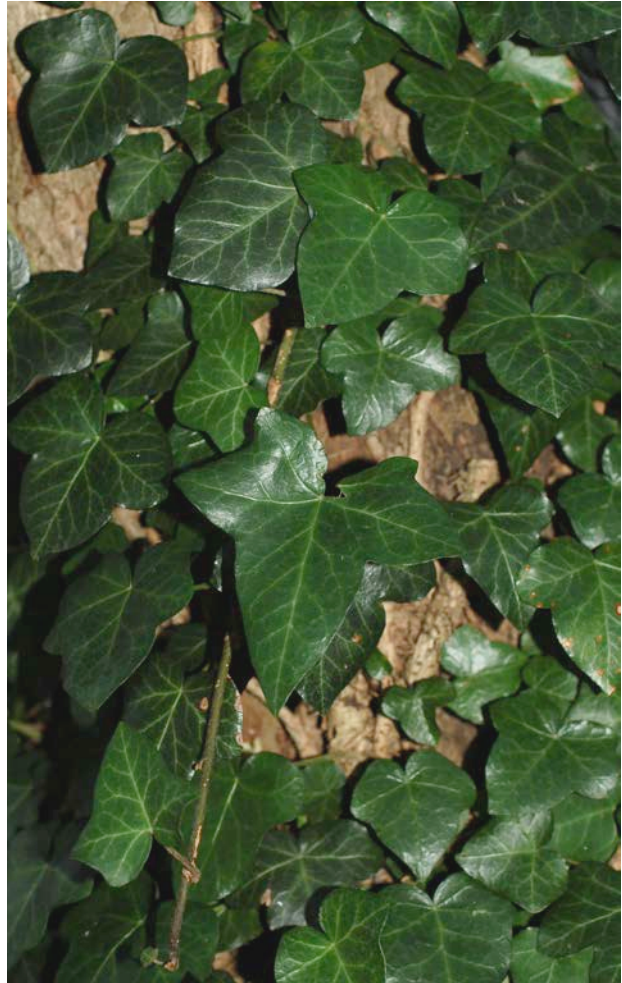
There are many cultivated forms of *Hedera helix*, including varieties of different habits and coloring (7).

**Most Likely Confused with:** *Parthenocissus tricuspidata*, *Ipomoea hederacea*, *Echinocystis lobata*, *Menispermum canadense*, *Vitis spp.*

**Habitat Preference:** *Hedera helix* may naturalize in open woods (2). It is found in cultivation or in developed areas around settlements and buildings (4).

**Geographic Distribution in Michigan:** There is no “natural distribution” for *Hedera helix* in Michigan, as it is an introduced species (5); it is able to grow in cultivation throughout much of the state (7) and is generally not thought to escape (9) but has been shown naturalizing in parts of Illinois and Ohio (14).

**Known Elevational Distribution:** None found.



**Complete Geographic Distribution:** *Hedera* is native to Europe (8) and widely spread across the U.S. as a cultivar (3). It grows from Idaho to Arizona and westward; from Michigan to Louisiana and eastward; also, Texas (14). It is not reported from New England states north of Massachusetts (14).

**Vegetative Plant Description:** *Hedera helix* has alternate, leathery evergreen leaves with 3-5 shallow lobes, possibly with lighter veins and entire margins (3, 4). The leaves have stellate pubescence on the undersides (12) and grow on long petioles approximately the length of the leaves (4) in a plane along woody stems (12). Mature leaves are 5-10cm broad and long (5). Older plants will grow flowering shoots with unlobed, cordate to ovate leaves (7), which grow spirally around the stem (12).

**Climbing Mechanism:** *Hedera helix* climbs with adventitious rootlets produced on the stems.

**Flower Description:** *Hedera helix* has perfect, yellowish-green flowers that grow in terminal, racemose umbels (9) and are 5-7mm across (10). It has five each of short sepals, fleshy petals, and stamens with ovate anthers (5). The ovary has one style and three to five carpels (9). The peduncles are 2-8cm; the (pubescent) pedicels 5-10mm; sepals 2-4 mm, and petals about 3mm (9).



**Flowering Time:** *Hedera helix* flowers infrequently. In Ohio, it flowers between August and October (3).

**Pollinator:** No information found but image to the right would suggest bee pollination.

**Fruit Type and Description:** Nearly black spherical berries with 3-5 seeds (5), fleshy, 6-9mm (10), slightly toxic.

**Seed Description:** Seeds are ~ 6mm (9).

**Dispersal Syndrome:** A variety of birds (starlings, robins, house sparrows, jays, and cedar waxwings) are reported to disperse the fleshy berries, through which a scarified seed passes and is dispersed (10, 19, 20).

**Distinguished by:** *Parthenocissus tricuspidata* has serrate margins and climbs with "suction cups" borne on tendrils 180° from leaf insertion. *Ipomoea hederacea* has latex in its veins and petioles, thinner leaves, and stem pubescence. *Echinocystis lobata* has



subtly serrate leaf margins, and the leaves are soft, not leathery. It has tendrils 90° from leaf insertion at nodes and is mostly herbaceous. *Menispermum canadense* twines with apical branches, not aerial roots, and its leaves are slightly peltate and often unlobed. *Hedera* could be confused with one of Michigan's species within the genera *Vitis* (*Vitis aestivalis*, *Vitis labrusca*, *Vitis riparia*, *Vitis vulpina*). However, unlike *Vitis* species, which climb with tendrils found opposite each leaf, *Hedera helix* uses aerial rootlets.

**Other members of the family in Michigan:** Three genera in Michigan. *Oplopanax* (one species on islands in Lake Superior); *Panax* (ginseng, two species fairly well-distributed across state); *Aralia* (three species including sarsaparilla, fairly well-distributed) (11).

**Ethnobotanical Uses:** Although one source non-specifically states that *Hedera* has medicinal uses (4), this plant should not be ingested! The leaves and fruit contain a compound that can restrict breathing or induce a coma; the sap may cause dermatitis (12). The berries have been used for tanning leather and dyeing textiles (4). Early promising trials for anti-leishmanial activity were reported in 1991 (17).

**Phylogenetic Information:** The Araliaceae family is closely related to Apiaceae (6) and may be classified under Apiaceae by some (11). *Hedera* belongs to the same subfamily (Aralioideae) as the other genera found in Michigan (see above): *Aralia*, *Oplopanax*, and *Panax* (14). Aralioideae was considered to be its own family, as Hederaceae (Giseke.) or as Botryodendraceae (J. Agardh) and is largely a tropical group (15). Araliaceae (as well as Apiaceae) is a derived family within the order Apiales (15). Apiales are Euasterid II's within the asterids and are Core Eudicots of the angiosperms (15).

**Interesting Quotation or Other Interesting Factoid not inserted above:**

- While generally considered to be a vine, *Hedera helix* can also be classified as a climbing shrub (7).
- Hedera helix* grows better in shade during its juvenile phase, but once it has attained adult phase (reproductive) it is able to acclimate to very high light conditions (16).
- The genus *Hedera* refers to the true ivies (5), whereas many other plants are given the name "ivy" but do not belong to *Hedera*.
- The species is invasive in disturbed forests and has been resident in some southern U.S. forests for more than 30 years (18). Substantial success at eradication via hand-pulling has been documented, whereas the effects of herbicides depresses native biodiversity even though it eradicates the ivy (18).

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