

Plant Diversity Website

***Lonicera dioica* L.**

Common Names: limber honeysuckle, wild honeysuckle, red honeysuckle, smooth-leaved honeysuckle, mountain honeysuckle (1, 6, 9, 11)

Etymology: The name *Lonicera* pays tribute to the 16th century German botanist Adam Lonicer, while *dioica* means “two houses,” and comes from an initial mistake by Linnaeus, who thought the plant was dioecious. The term honeysuckle comes from the honey or nectar that can be easily sucked from the flower (3, 4, 5).

Botanical synonyms (1):

Lonicera glaucescens (Rydb.) Rydb. var. *dasygyna* Rehd.

Lonicera dioica L. var. *dasygyna* (Rehd.) Gleason

Lonicera dioica L. var. *glaucescens* (Rydb.) Butters

Lonicera dioica L. var. *orientalis* Gleason

Lonicera glaucescens (Rydb.) Rydb.

While some consider the latter three names synonyms, and no longer distinct from *L. dioica*(1), others refer to them as distinct (5, 6). For a discussion of the differences, see “Subspecies/varieties recognized” below.



FAMILY: Caprifoliaceae, the Honeysuckle family

Quick Notable Features (9, 11):

- perfoliate leaves whitened on the lower surface
- uppermost leaves united into a disk (see image to the right)
- tubular corolla tinged with purple or brick-red (see images to the right)

Plant Height: This species typically reaches 2.5m at maturity, however it can range from 1 to over 3m high (8, 14).

Subspecies/varieties recognized: In form *trifolia* the upper leaves are in whorls of 3 and the involucre disk is 3-lobed. This form passes freely into var. *glaucescens* (Rydb.) Butters, which has mostly larger leaves that are pubescent beneath and bears smaller flowers. In his more recent publication, Gleason (6) established a variety not mentioned by Fernald, var. *orientalis* Gleason. The leaves in this variety are sparsely to softly villous beneath and have a densely glandular hypanthium (6).



Most Likely Confused with: Most often misidentified as *L. hirsuta*; also confused with *L. reticulata* and sometimes other species of *Lonicera* and *Euonymus*.

Habitat Preference: Found in coniferous and deciduous woods and thickets, “particularly along borders, clearings, and banks; often in sandy or rocky ground, occasionally in swamps” (4).

Geographic Distribution in Michigan: Found in almost every county in Michigan except four in the Upper Peninsula and eight scattered in the Lower Peninsula (1).

Known Elevational Distribution: no information found

Complete Geographic Distribution: This species is found throughout Canada and the United States, except in the West and Southwest. It is believed that it can spread to many climatic zones, since it is very frost tolerant. However, it cannot tolerate extreme heat or drought conditions (6, 13).

Vegetative Plant Description: This estipulate, woody vine is essentially glabrous throughout. The oblong or elliptic foliage is often glaucous, especially beneath. Oppositely arranged, simple leaves arise from short petioles, or may be sessile. The 4-10cm long and 2-3cm wide leaves have entire margins and are green above and whitened (pale) beneath. The upper 1-4 pairs are connate into oblong or rhombic disks, while the lower are sessile and obtuse with a truncate or cordate base (4, 5, 14, 15).

Climbing Mechanism: Darwin noted that all members of the genus *Lonicera* climb with the apical stem, which moves dextrally (left to right) or, as Darwin referred to it, “with the sun” (10).

Flower Description: The species is not dioecious as the name would suggest; its flowers are perfect. The flowers are borne on short peduncles (usually 5-20mm). The 1.5-2.3cm long “corollas range from yellow to deep maroon, but are more often at the red end of the spectrum.” They are usually greenish-yellow with a tinge of purple. The corolla is bilabiate, and the tube is only 0.6-1cm long. Both structures (the corolla and tube) as well as the style and stamens may be hirsute, even though the rest of the plant and flower is glabrous. The flower is comprised of five fused sepals, five fused petals, and five epipetalous stamens, whose anthers open along the long axis. The inferior ovary is composed of 2-3 fused carpels, 1 capitate stigma, and one style. Some flowers are wholly comprised of stamens (4, 5, 6, 11).

Flowering Time: May to July in the northeastern and central United States and adjacent Canada (5, 6). Found blooming in 2012 on May 2 near Ann Arbor, Michigan.

Pollinator: The narrow-throated flowers are visited by many different species. The ruby-throated hummingbird *Archilochus colubris* is a frequent visitor that harvests the nectar, and may be a pollinator. The long-tongued bees, *Bombus impatiens*, *B. pensylvanica* and *Anthophora ursina* are also frequent visitors, the latter being known to collect pollen from the flower (16). While pollination by different species contributes to speciation, the overlap of pollinators in *Lonicera* may be why some authors urge unification of certain taxa. In Cooperrider's *The Dicotyledoneae of Ohio*, he mentions that *Lonicera prolifera* (or *L. reticulata*) is “closely related to and intergrades with *L. dioica* and may not be separable from it” (7).

Fruit Type and Description: The fruit is a small (8-12mm), glabrous, orange to red berry that grows in clusters, surrounded by the joined upper leaves (5, 15; see image to right).

Seed Description: There are three to eight 3-3.5mm long and 1.5-2.5mm broad, ovoid, yellow seeds in each fruit (5).

Dispersal Syndrome: The small, “attractive red, orange or black” fruits of species of the genus *Lonicera* are consumed by birds and the few to many seeds of each fruit are dispersed as the bird travels. They are also eaten by small mammals (8, 9).

Distinguished by: *L. dioica*'s connate leaves beneath the inflorescence are distinctly longer than broad and only slightly if at all glaucous, while those of *L. reticulata* are more or less orbicular and very glaucous above. If the leaf margins are densely ciliate, then you are observing *L. hirsuta*, a closely related species. The margins of *L. dioica* are without cilia. Some may also confuse members of *Lonicera* with members of the genus *Euonymus*. *Lonicera* spp. almost always have entire margined leaves, while leaf margins of *Euonymus* are finely serrate.



Other members of the family in Michigan (number species): *Lonicera* – 18, *Diervilla* – 1, *Kolkwitzia* – 1, *Linnaea* – 1, *Sambucus* – 1, *Symphoricarpos* – 3, *Triosteum* – 2, *Viburnum* – 11 (1).

Ethnobotanical Uses: *Lonicera dioica* was used by Native Americans to treat fever, tuberculosis, menstrual difficulties, kidney stones, dysuria, venereal disease, and worms. It was also used as a cathartic, diuretic, and as an emetic “to throw off effects of love medicine.” The berries may cause mild to moderate nausea, vomiting, and diarrhea (11, 12).

Phylogenetic Information: The Caprifoliaceae consists of 36 genera. Subclades include Linnaeae (*Dipelta*, *Abelia*, *Kolkwitzia*, *Valeriana* and *Dipascus*), Diervilleae (*Diervilla* and *Weigela*) and an unnamed clade consisting of *Lonicera*, *Symphoricarpos*, and their relatives. Currently, Caprifoliaceae is the only member of the Dipsacales clade, but this organization is somewhat in doubt (2). As it stands, the Dipsacales are part of the Euasterids II, which also contains the Aquifoliales, Apiales, Dipsacales, and Asterales. These are members of the Core Asterids of the Asterid clade, which, along with the Rosids, make up the Core Tricolpates (2).

Interesting Quotation or Other Interesting Factoid not inserted above:

The plant was first cultivated in 1636 (8). It has been observed that the seeds of *Lonicera* species remain viable after storage for 15 years in sealed containers, at low temperatures (8). *L. dioica* and *L. canadensis* seem to be the only species of *Lonicera* whose seeds do not experience some sort of dormancy before germination (8). The species was once used to throw off the effects of “love medicine” (12).

Literature and websites used:

1) USDA Plants Profile: *Lonicera dioica*, <<http://plants.usda.gov/java/profile?symbol=LODI2>>

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- 5) Fernald, M.L. 1970. *Gray's Manual of Botany*, 8th edition. D. Van Nostrand Company, New York.
- 6) Gleason, H.A. 1968. *The New Britton and Brown Illustrated Flora of the Northeastern United States and Adjacent Canada*, vol. 3. Hafner Publishing Co., Inc, New York.
- 7) Cooperrider, T.S. 1995. *The Dicotyledoneae of Ohio: Part 2 Linaceae through Campanulaceae*. Columbus: Ohio State University Press.
- 8) Young, J.A. & C.G. Young 1992. *Seeds of Woody Plants in North America*. Portland, Oregon: Dioscorides Press.
- 9) Iverson, L.R., D. Ketzner, and J. Karnes 1999. *Illinois Plant Information Network. Database* at <http://www.fs.fed.us/ne/delaware/ilpin/ilpin.html> Illinois Natural History Survey and USDA Forest Service.
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- 11) Glenn, S.D. 2006. *New York Metropolitan Flora: Lonicera: Honeysuckle*. <<http://nymf.bbg.org/genus/99>> New York: Brooklyn Botanic Garden.
- 12) Moerman, D.E. 1998. *Native American Ethnobotany*. Portland: Timber Press.
- 13) Hill, S.R. 2003 *Conservation Assessment for Red Honeysuckle (Lonicera dioica L. var. glaucescens) (Rydb.) Butter*. Illinois Natural History Survey. Champaign, Illinois: U.S. Forestry Service.
- 14) Humphrey, L.E. 1914. The Honeysuckle Family in Ohio. *The Ohio Naturalist* 14(6):299-308.
- 15) Runesson, U. 2002. *Canada's Boreal Forest*. Faculty of Forestry and the Forest Environment. Thunder Bay, ON: Lakehead University. <<http://www.borealforest.org/>>
- 16) Hilty, J. 2002-2006. Flower-Visiting Insects. Last Modified: 10-23-06 <http://www.shout.net/~jhilty/>

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- 1) The first image (red flower and bracts) was taken by U of M undergraduate, Jenna Dorey, who graciously provided the image.
- 2) The second image (yellow-orange flowers) was taken by Robyn J. Burnham
- 3) The third image (fruits) was retrieved from <http://www.ct-botanical-society.org>, and was taken by Janet Novak (fruit).

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