

NYBG

Guide to the Milkweeds of New York City

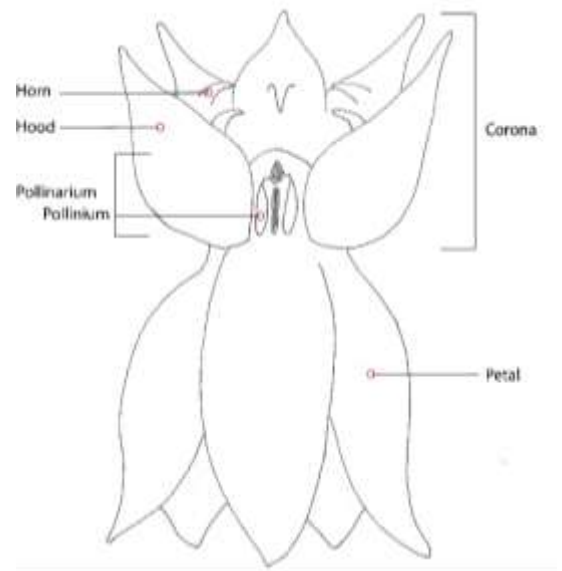
Asclepias – Milkweed

Description: Perennial herbs from thick roots or deep rhizomes, the whole plant usually producing a white, sticky sap. Leaves usually opposite, sometimes alternate or whorled. Flowers in rounded umbels. Fruits inflated pods with many plumed seeds.

Where Found: *Asclepias* is an American genus comprising approximately 100 species; most occur in grasslands and woodland openings caused by disturbances such as high winds or fire. In New York City, eleven wild species have been documented. Today, three species are common, four are extinct and the rest are rare or infrequent.

Natural History: Milkweed flowers are some of the most complex in the plant kingdom and like orchids, they evolved elaborate structures to ensure cross-fertilization. The sepals are small and usually hidden by the petals which may resemble sepals because they are the lowermost visible floral organs and are usually less brightly colored than the rest of the flower. Above the petals are structures called hoods, which are usually rigid, boat-shaped and brightly colored, often contrasting with the drooping petals below. It is the hoods that hold the nectar. Arising from the base of each hood is a horn that either projects above the hoods or not. Together the hoods and horns are termed the Corona. Normally the stamens of a flower are attached near the base of the petals, but in Milkweeds (and orchids), the stamens are highly elaborated into specialized structures called Pollinaria. These are attached to the stigma in the center of the flower. The ovary of the flower is hidden between the hoods and the petals (the flower is hypogynous).

When an insect lands on a flower in search of nectar, the horns passively guide the insects legs downward and into the slits between the lobes of the Pollinarium (pollinia). When the insects is ready to move on it must extract its leg, taking the Pollinarium with it to the next flower. Although, the umbel may have up to 200 flowers, very few flowers will mature into fruit, often only one or two per umbel. The fruits (termed follicles) contain many seeds which are affixed with silky threads that aid in wind dispersal. The plants are eaten by larvae of monarch butterflies (*Danaus plexippus*) and other insects which metabolize toxins from the milkweed plant, making them unpalatable to birds.



Asclepias syriaca - Common Milkweed
Holmgren et al., 1998. Illustrated companion to Gleason
and Cronquist's Manual, New York Botanical Garden Press.

References: Woodson, R. E. 1954. The North American species of *Asclepias* L. *Annals of the Missouri Botanical Garden* 41: 1–211; Holdrege, C. 2010. The story of an organism: Common Milkweed. *The Nature Institute*. 25pp. <http://natureinstitute.org/txt/ch/Milkweed.pdf>

Common Milkweed flower
Illustration by Daniel Atha, 2017

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Key to *Asclepias* species of New York City

1. Sap clear; leaves predominately alternate; flowers yellow-orange to orange *Asclepias tuberosa*.
1. Sap white; leaves predominately opposite or whorled; flowers white, green, pink, red or purple.
 2. Leaves principally whorled.
 3. Leaf blades linear, < 1 cm wide *Asclepias verticillata*.
 3. Leaf blades elliptic, > 1 cm wide *Asclepias quadrifolia*.
 2. Leaves mostly opposite (occasionally the lower or upper leaves alternate or whorled).
 4. Leaf blades ovate, elliptic or lanceolate, usually < 3 cm wide, the apices usually acute or acuminate, sometimes obtuse.
 5. Leaves lanceolate; flowers red or purple *Asclepias rubra*.
 5. Leaves ovate to lanceolate; flowers purple *Asclepias incarnata*.
 4. Leaf blades oblong or elliptic, usually > 3 cm wide, the apices usually rounded or obtuse, sometimes short-acuminate.
 6. Leaves sessile, the bases cordate *Asclepias amplexicaulis*.
 6. Leaves petiolate, the bases obtuse to rounded.
 7. Flowers green or white.
 8. Umbels sessile, the peduncles shorter than the petioles; flowers green *Asclepias viridiflora*.
 8. Umbels pedunculate, the peduncles longer than the petioles; flowers white
 9. Umbels dense globose, the pedicels < 1 cm long *Asclepias variegata*.
 9. Umbels lax, the pedicels > 1 cm long *Asclepias exaltata*.
 7. Flowers pale purple or purple.
 10. Plants usually with umbels in 3 or more axils; corolla lobes pubescent outside *Asclepias syriaca*.
 10. Plants usually with terminal umbels and sometimes 1 or 2 axillary umbels; corolla lobes glabrous outside *Asclepias purpurascens*.



Asclepias amplexicaulis Sm.

Clasp Milkweed, Blunt-leaved Milkweed

Description: leaves clasping the stem, oblong and usually over 5 cm wide, the margins wavy, the tips rounded; seed pods slender.

Where Found: Native to North America throughout the northeast, usually in dry fields and open woods in sandy soil. Historical in New York City; last seen in 1911 (but reported for Van Cortlandt Park by DeCandido, 2001. The species is threatened in New Hampshire and Vermont and of Special Concern in Rhode Island. The species is ranked 2 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: The larvae of Monarch Butterflies (*Danaus plexippus*) and Queen Butterflies feed on Clasp Milkweed. Bees, Aphids and several other insects visit the plant.

Cultural History: This species occurs in open, sandy soil which is also preferred for building sites, a factor contributing to the species' decline throughout its range.

Name Notes: The specific epithet, "amplexicaulis" refers to the clasping leaves (amplexus= encircling; caulis= stem).

Asclepias amplexicaulis

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Asclepias exaltata

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<https://www.inaturalist.org/observations/6694253>

Asclepias exaltata L.

Poke Milkweed, Forest Milkweed

Description: Leaves petiolate, elliptic, usually more than 3 cm wide, tapered at both ends; flower stalks > 1 cm long.

Where Found: Native to North America from Maine to Minnesota, south to Kentucky and Illinois and Iowa; in rich, moist woods and clearings. Infrequent in New York City; last seen in Brooklyn and Queens. The species is ranked 6 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: Monarch Butterflies, Painted Lady Moths (*Cynthia cardui*), Bumble Bees (*Bombus*) and other insects are associated with this species.

Name Notes: The specific epithet "exaltata" refers to the tall stature of the plants (exaltus= tall or upright). The common name Poke Milkweed is a reference to the upright habit and elliptic leaves which somewhat resemble the Pokeweed's leaves (*Phytolacca americana*). A taxonomic synonym is *Asclepias phytolaccoides* Pursh.

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Asclepias incarnata

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<https://www.inaturalist.org/photos/2254288>

Asclepias incarnata L.

Eastern Swamp Milkweed

Description: White sap sparse; stems leafy; leaf blades lanceolate, usually less than 3 cm wide, tapered at both ends; pedicels < 2 cm long.

Where Found: Native to North America from Nova Scotia to Idaho, south to Texas and Florida; swamps and wet meadows. Frequent in New York City, both wild and cultivated; found throughout the City in wet soil. It is one of the most common milkweed species in the City and occurs in every borough. It is ranked 4 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: Like the Mountain Mint (*Pycnanthemum muticum*), this species blooms for much of the summer and is usually covered with numerous insect species visiting the flowers. There is an extensive list of Butterflies, Bees, Wasps and many other insect associates.

Cultural History: This species is often planted in restoration plantings. It is esteemed for its hardiness, attractive flowers and wildlife value.

Species Notes: *Asclepias* var. *pulchra* is hypothesized to be largely un-branched and pubescent, while var. *intermedia* is hypothesized to be much-branched and glabrous. Plants from New York City are both glabrous and un-branched and branched and pubescent. The leaves are also quite variable.

Name Notes: The specific epithet "incarnata" refers to the flesh colored flowers. The subspecific epithet "pulchra" means "the beautiful one".

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Asclepias purpurascens

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glauca) and Monarch (*Danaus plexippus*).

***Asclepias purpurascens* L.**

Purple Milkweed

Description: Stems usually simple; leaves few, the blades broadly elliptic, > 5 cm wide, the bases rounded to nearly acute, the tips usually acute to acuminate; umbels usually solitary and terminal; flowers rich purple, the corolla glabrous outside.

Where Found: Native to North America from Maine to Minnesota, south to Texas and Georgia; in dry to damp woods and clearings. Rare in New York City; last seen wild in the Bronx. The species is ranked 2 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program. It is threatened in New York State, Special Concern in Connecticut, Threatened in Massachusetts and Historical in Rhode Island.

Natural History: For a rare species, there are quite a number of Butterfly associates recorded, including Giant Swallowtail (*Papilio cresphontes*), Great Spangled Fritillary (*Speyeria cybele*), Eastern Tailed Blue (*Cupido comyntas*), Tiger Swallowtail (*Papilio*

Name Notes: The specific epithet "purpurascens" refers to the rich purple flowers.

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Asclepias quadrifolia

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<https://www.inaturalist.org/observations/6203865>

***Asclepias quadrifolia* Jacq.**

Four-Leaved Milkweed

Description: Stems slender, solitary; leaves with one or two whorls of four leaves each; flowers white.

Where Found: Native to North America from New Hampshire to Minnesota, south to Arkansas and northern Georgia; in dry woods. Probably Historical in New York City; last seen in the Bronx in 1987. The species is Threatened in New Hampshire and Rhode Island. It is ranked 7 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: The Orange-patched Smoky Moth (*Pyromorpha dimidiata*) is reported to feed on this species in Connecticut.

Name Notes: The specific epithet "quadrifolia" refers to the whorls of four leaves.

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Asclepias rubra L.

Red Milkweed

Description: Stems slender, solitary; leaves sessile (stalkless), < 3 cm wide, the tips sharply pointed; flowers pink.

Where Found: Native to North America from Long Island to Georgia and east Texas; in wet pinewoods, bogs and peatlands. Historical in New York City; last seen on Staten Island in 1900. The species is Historical in Pennsylvania and Endangered in Maryland. It is ranked 10 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: Larvae of the Monarch Butterfly feed on this plant.

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Asclepias rubra

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<https://www.inaturalist.org/observations/6727231>



Asclepias syriaca L.

Common Milkweed

Description: White sap copious; stems leafy; leaf blades leathery, oblong, > 5 cm wide, usually rounded at both ends, but the tips often with a short, abrupt point; umbels in the axils of the leaves, often drooping; fruits ovate, warty.

Where Found: Native to North America from New Brunswick to Saskatchewan south to Georgia, Alabama and northern Arkansas; in grasslands, oldfields and roadsides. Frequent throughout New York City. This is probably our most common Milkweed. On July 3, 1818, John Torrey recorded from "Bloomingdale Woods", which is today the Upper West Side and where the plant can still be found in wild patches of vegetation. It is ranked 0 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: The Common Milkweed is host to a long list of insect species including many Bees and Butterflies. Dense colonies of the Oleander Aphid (*Aphis nerii*), a bright yellow insect with short black legs are common on this species. Like Monarchs, the aphids metabolize toxic compounds from the plant-- their vivid color serving as a warning to predators. The aphids may be parasitized by tiny Wasps (*Lysiphlebus testaceipes*) who lay their eggs inside the aphid. The Wasp larvae hatch inside the aphid, consume the contents and cause the aphid to stiffen and turn black.

Asclepias syriaca

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<https://www.inaturalist.org/observations/7222669>

Cultural History: The flowers are very fragrant. The whole plant, especially the leaves, flowers and fruits are eaten after boiling in several changes of water—a practice not recommended due to the presence of numerous toxic compounds. This is our only Milkweed with warty fruits. Aphids, ants and other insects are common on Milkweed plants and while they may be alarming, they actually do little harm to the Milkweed plant. Applying pesticides or using mechanical means to control the insects may harm Monarch Butterflies and other beneficial insects.

Name Notes: The specific epithet "syriaca" is a misnomer applied by the Swedish botanist Carl Linnaeus who thought the plant had originated in the Old World.

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Asclepias tuberosa L.

Butterfly-Weed

Description: Stems pubescent, very leafy, the sap clear, usually branching at the summit; leaves alternate, lanceolate and usually < 3 cm wide; flowers orange or yellow in more or less flat-topped corymbs; seed pods slender, pubescent.

Where Found: Native to North America from southern Maine to Minnesota, south to Texas and Florida, with outposts in the plains and mountains of the Southwest; in grasslands, woodland edges and oldfields, usually in drier sites. Frequent in New York City. The species is ranked 2 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program.

Natural History: The species is associated with Pipevine Swallowtail (*Battus philenor*), Monarch (*Danaus plexippus*), Queen (*Danaus gilippus*) Butterflies and many other insects.

Cultural History: The species occurs in open, sandy soil which is also utilized for roads and building sites. The tuberous roots were used to treat lung inflammation (pleurisy), a use not recommended as the plant contains toxic compounds.

Asclepias tuberosa

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<https://www.inaturalist.org/observations/6765848>

to the medicinal use.

Name Notes: The specific epithet, "tuberosa" refers to the large tuberous roots found on older plants. Another common name no longer in use is Pleurisy-Root, in reference

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Asclepias variegata L.

White Milkweed

Description: Stems simple from deep taproots; leaves 4–6 pairs, the blades elliptic or oblong, usually wider than 5 cm, obtuse at both ends; flowers white, in globose umbels, fragrant.

Where Found: Native to North America from Connecticut, southern New York, Ohio, Indiana and Missouri to East Texas and the Florida Panhandle; in Pine, Oak and Hickory woodlands in light shade. Historical in New York City; last seen on Staten Island in 1909. The species is ranked 10 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program. The species is endangered in Connecticut, New York and Pennsylvania.

Natural History: The species may benefit from fire and other natural disturbances that reduce competition from woody vegetation. The Monarch Butterfly (*Danaus plexippus*) is known to feed on this plant.

Cultural History: The Pine, Oak and Hickory woodlands are often the first to be converted to agriculture and later developed. The loss of habitat and fire suppression contribute to the plant's rarity.

Asclepias variegata

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<https://www.inaturalist.org/observations/1562120>

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Name Notes: The specific epithet, "variegata" probably refers to the two-toned purple and white flowers. An alternate common name, Redring Milkweed, refers to the purple or reddish ring at the base of the reproductive organs of the flower.

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***Asclepias verticillata* L.**

Whorled Milkweed

Description: Stems slender, usually simple from deep taproots; leaves whorled, the blades linear and very narrow; flowers white.

Where Found: Native to North America from Maine to Saskatchewan, south to New Mexico, Texas and Florida; in grasslands and open woodlands in dry, sterile soil. Probably Historical in New York City; last seen in Queens and Staten Island. The species is ranked 9 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program. The species is Threatened in Massachusetts, Special Concern in Rhode Island and Rare in New York.

Natural History: The species may benefit from fire and other natural disturbances that reduce competition from woody vegetation. The species is associated with numerous Bees, Wasps, Butterflies and other insects.

Name Notes: The specific epithet, "verticillata" refers to the whorled leaves.

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Asclepias verticillata

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<https://www.inaturalist.org/observations/7020672>



***Asclepias viridiflora* Raf.**

Green Comet Milkweed

Description: Stems simple; leaves very thick, oblong, ovate or elliptic, usually wider than 3 cm (but narrow leaved forms are common), obtuse at both ends; flowers green, in several axillary and sessile umbels.

Where Found: Native to North America from western Connecticut across most of North America and into Mexico; open woodlands, grasslands and sandhills in full sun. Very rare in New York City; extirpated from Kings and Queens counties by 1898 and today known from only a few sites on Staten Island. The species is ranked 10 out of 10 in habitat specificity (0 being least specific) by the New York Natural Heritage Program. The species is of Special Concern in Connecticut and Threatened in New York.

Natural History: The species may benefit from fire and other natural disturbances that reduce competition from woody vegetation. The Monarch Butterfly (*Danaus plexippus*) is known to feed on this plant.

Cultural History: Habitat loss and fire suppression contribute to the plant's rarity. The species is used on the logo of the Serpentine Art and Nature Commons of Staten Island.

Name Notes: The specific epithet, "viridiflora" refers to the green flowers.

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