A GUIDE TO THE

Native Milkweeds of Idaho

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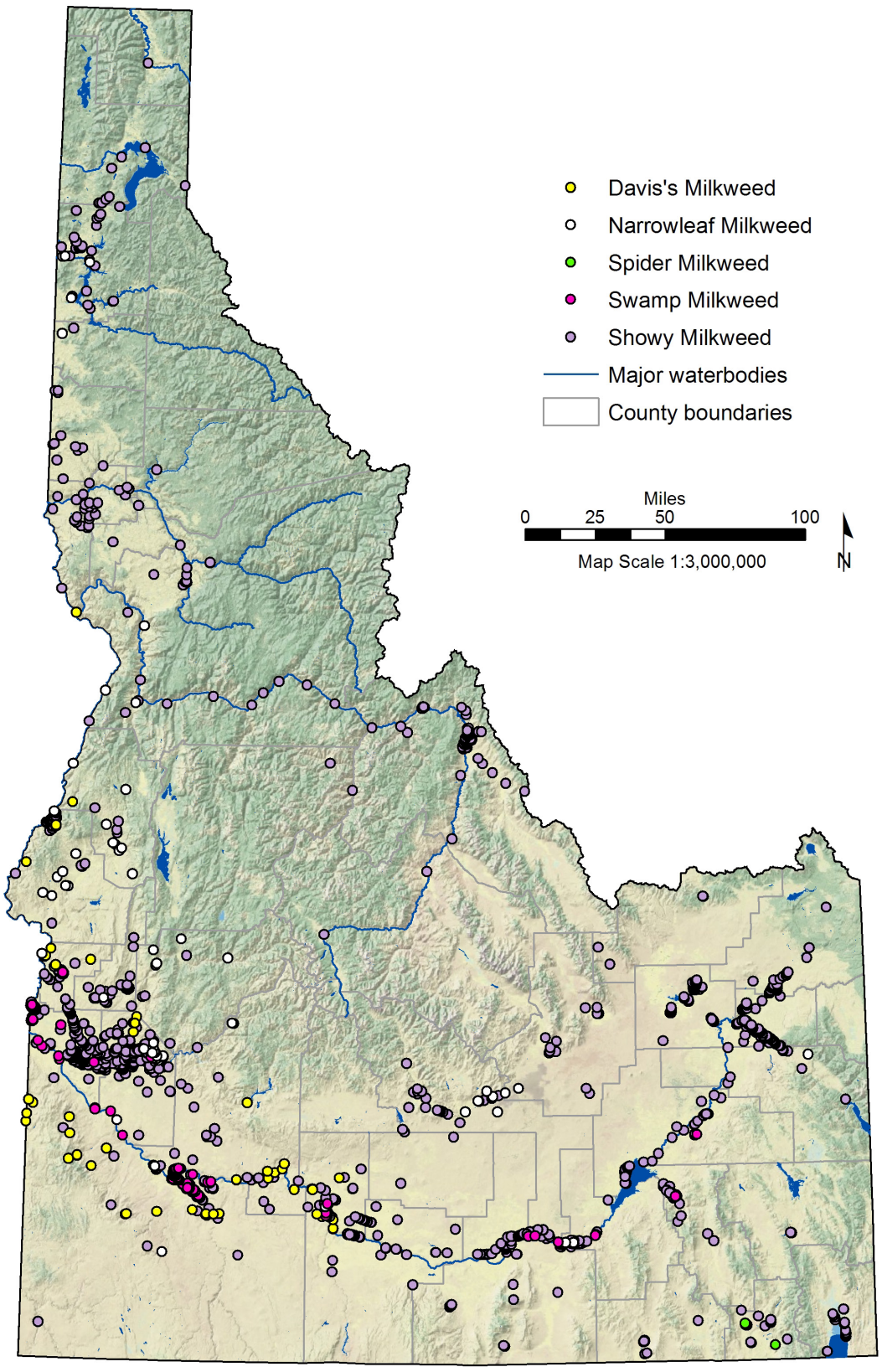
MILKWEED OCCURRENCES IN IDAHO, 1910-2019



Milkweed occurrences in Idaho, 1910-2019. Data: Idaho Fish and Wildlife Information System Species Diversity Database, includes targeted inventories, surveys, incidental observations, and herbarium specimens. Map created 22 May 2019 by Leona Svancara.

FIVE MILKWEED SPECIES

Native Milkweeds of Idaho

DAVIS'S MILKWEED
Asclepias cryptoceras ssp. *davisii*

NARROWLEAF MILKWEED
Asclepias fascicularis

SPIDER MILKWEED
Asclepias asperula ssp. *asperula*

SWAMP MILKWEED
Asclepias incarnata ssp. *incarnata*
Photo by Bill Ament

SHOWY MILKWEED
Asclepias speciosa
Photo by Bill Harryman

Milkweeds are Unique!

Monarch butterflies on a showy milkweed. Photo by Beth Waterbury.

Milkweeds are intriguing plants named for the thick, white latex that oozes from the broken leaves of most species. The famed Swedish botanist, Carl Linnaeus, gave the genus its scientific name — *Asclepias* — after Aesculapius, the Greek god of medicine (Borror 1988). Many members of the genus have traditional medicinal uses, as well as stem fibers that can be twisted into silky cordage (Grieve 1931, Moerman 2019).

In recent years, increasing attention has turned to milkweed as the number of monarch butterflies (*Danaus plexippus*) in the western United States has plummeted (Schultz et al. 2017). Milkweed leaves provide the sole sustenance for monarch larvae. As the larvae feed, they store toxic cardenolides — a type of steroid — from the leaves that make the larvae and adults poisonous to their predators (Petschenka and Agrawal 2015). Milkweed flowers provide nectar for adult monarchs and many other insects. Loss of milkweed is one of the key factors contributing to the decline of monarchs (Butler 2014, Jepsen et al. 2015).

Citizen scientists and others who want to aid conservation efforts for milkweed and monarchs will find this guide useful. It covers five species that I have documented in Idaho, and a sixth species that is falsely reported. It also covers dogbane (*Apocynum*), which may be confused with milkweed, and a few types of milkweed that are planted in Idaho gardens. No invasive milkweed species have been documented in Idaho.

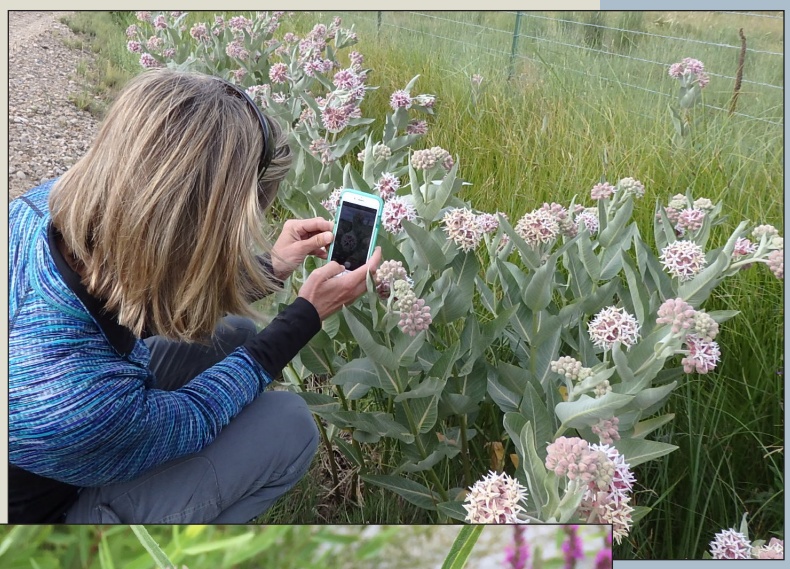
In determining which species are documented in Idaho, I conducted field surveys and consulted with members of the Idaho Native Plant Society, the Idaho Monarch and Milkweed Working Group, and several milkweed experts, as acknowledged in this guide. I examined the scientific literature, particularly Woodson (1952), Woodson (1954), Cronquist et al. (1984), Hitchcock and Cronquist (2018), and Fishbein (in review). I reviewed herbarium specimens, data, and photos in: Craters of the Moon National Monument Herbarium, Consortium of Pacific Northwest Herbaria, Biota of North America Program, USDA Plants Database, Intermountain Region Herbarium Network, TROPICOS at Missouri Botanical Garden, Starr Virtual Herbarium at New York Botanical Garden, iNaturalist, Western Monarch Milkweed Mapper, and the Idaho Natural Heritage Program Database at Idaho Department of Fish and Game.

This research was supported by U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office Section 6 Funds, and the Idaho Department of Fish and Game's Idaho Nongame Wildlife Conservation Fund.

You Can Help!

Across Idaho, we are just beginning to get a picture of the distribution of our milkweed species, as well as the monarch butterflies that rely on them. Many areas have never been surveyed. You can help by photographing and reporting milkweed and monarchs. Your data will contribute to answering questions like:

- Which milkweed species are used for nectar by adult monarchs?
- Where are monarch larvae produced?
- What are the threats to milkweed, monarchs, and their habitats?
- When does milkweed bloom in your area?



You can easily report your observations through either of two online databases: the Idaho Fish and Wildlife Information System (IDFG 2019, https://idfg.idaho.gov/species/observations), or Western Monarch Milkweed Mapper (WMMM 2018, www.monarchmilkweedmapper.org). A free companion app to WMMM, Monarch SOS, has been developed by Naturedigger and Monarch Joint Venture (2017) and allows reporting via iPhone or iPad.

When reporting milkweed locations, your close-up photos of the flowers and/or fruits can be used to verify the species and document phenology. Photos of the leaves are also helpful. If possible, include a ruler in photos for scale and document the height of mature plants. Photos of monarch butterflies and their eggs or larvae are extremely important for documenting life-stages. For any type of observation, be sure to record the date, location, and habitat (e.g., grassland, wetland, roadside). If you can count or estimate the number of plants, butterflies, or larvae, without disturbing or damaging them, that is also valuable.

Top photo: Idaho Master Naturalist Sue Birnbaum photographs showy milkweed. Bottom photo: Monarch larvae on swamp milkweed. Photo by Vance McFarland.

Tips for Identification

The milky latex that oozes from broken leaves and stems is a clue — but not a definitive trait — for identification of the milkweed genus. Latex also occurs in about 100 other Idaho species, including hemp dogbane (*Apocynum cannabinum*), which resembles milkweed and is a close relative. Latex is found in all five Idaho milkweed species and most members of the genus; it is lacking in butterfly milkweed (*Asclepias tuberosa*), which is planted in Idaho gardens and is native to the eastern, central, and southwestern US. When checking for latex, avoid getting it on your skin, or in your eyes or mouth, because it can be irritating.

To separate milkweeds from other species with milky latex, look for the unique flower shape described on the next page.

To differentiate among Idaho's five milkweed species, the most reliable traits are flower shape, size, and arrangement. Details are given in the species accounts, based largely on Cronquist et al. (1984). All Idaho milkweeds are perennial forbs with thick, woody taproots. They grow in full or part sun.

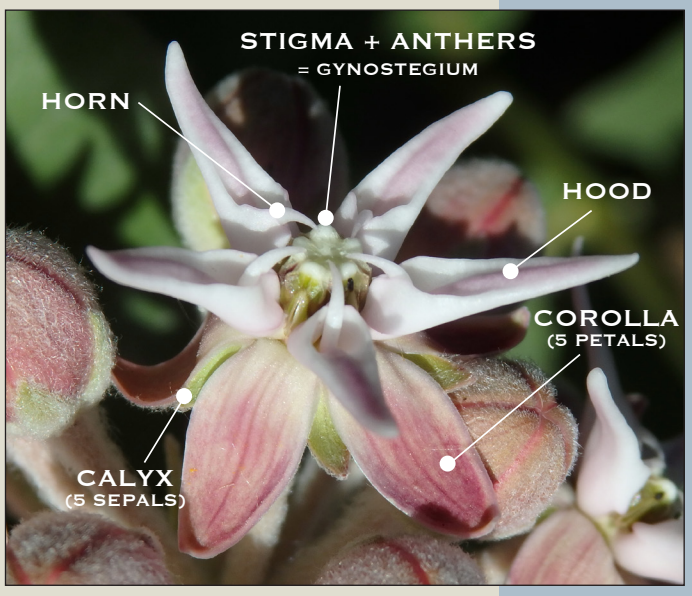
Upper two photos: Milkweed latex that is found in all five Idaho milkweed species. Bottom photo: Butterfly milkweed, a commonly planted non-native species, does not contain latex.

Flowers

Milkweed flowers have an upper part that looks like a crown and is called a *corona* (Latin for 'crown'). When looking straight down from the top, the corona looks like a star. It is made up of five tiny horns, each surrounded by a hood, with nectar produced at the base. The horns and hoods surround the male and female parts (anthers and stigmas, respectively), which are fused. Beneath the corona, is the *corolla* — five petals that are generally bent backward or out to the side. Beneath the corolla is a *calyx* of five small, petal-like sepals. The unusual shape of the corona and corolla is unique to milkweeds. Other Idaho groups with latex have very different flowers. For example, a dogbane flower has five petals fused into a bell.

Milkweed flowers are grouped in spherical or flat-topped *umbels* (technically 'umbel-like cymes'). Umbels are clusters in which the stalk, or *pedicel,* beneath each flower is attached to a central point, like the ribs of an umbrella. The umbels may be upright or drooping, depending on the species. The flowers of all Idaho milkweeds are fragrant.

Milkweed pollen is packaged in masses, termed *pollinia*, which are linked in pairs by a thread-like structure called a *translator*. The translator may snag the leg of an insect, such as a bee, butterfly, or beetle walking on the flower. When the insect flies away, it carries the pollinia like tiny saddlebags, which may then be deposited on another milkweed flower.



Parts of a milkweed.

Top photo: Bee with milkweed pollinia on its leg. Bottom photo: Showy milkweed follicle (pod), seeds, and coma.

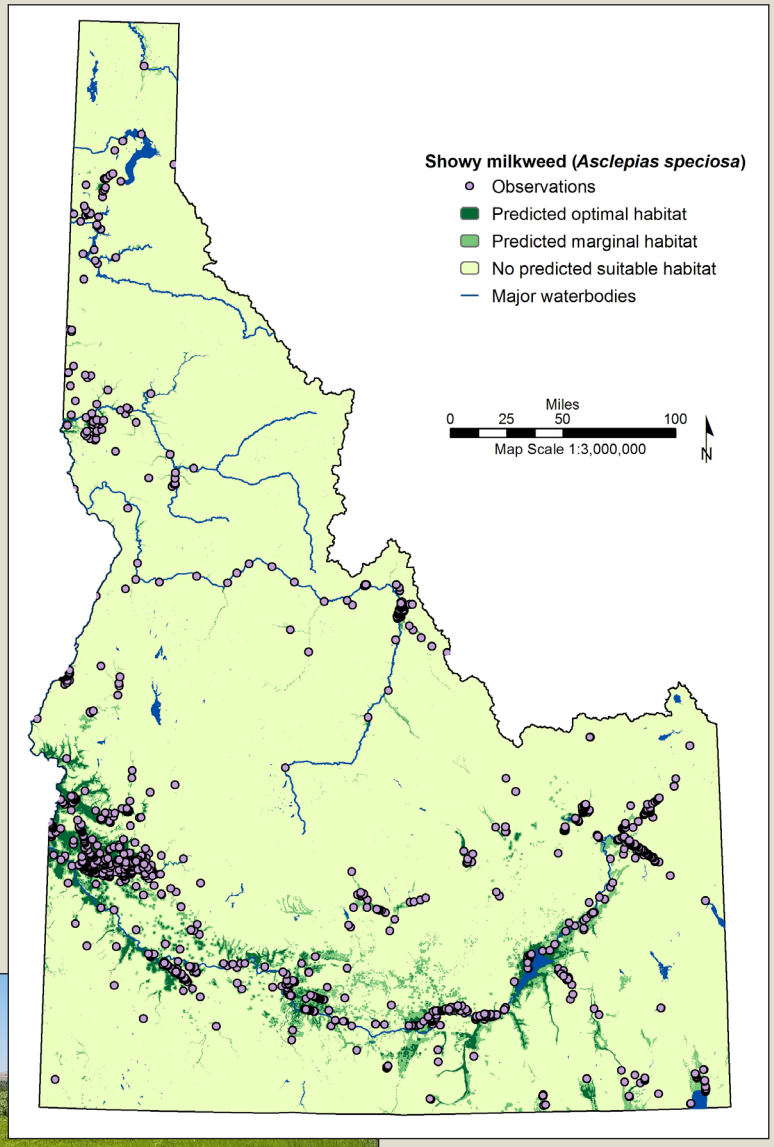
Fruits

A milkweed fruit is a *follicle* — a pod-like structure that splits open along one seam. All Idaho species have stout follicles that stand upright or out from their flowering stems. When the follicle dries and opens, it reveals flat, brown seeds layered like fish scales. Each seed is tipped by a tuft of long, silky hairs, termed a *coma*, that helps the seed disperse on the wind.

Showy milkweed *Asclepias speciosa* Torr.

Showy milkweed is the most common and widespread milkweed in Idaho. Its specific epithet *speciosa* is Latin for 'showy' or 'beautiful' (Borror 1988). Indeed, its large pink flowers and silvery green foliage are lovely. A showy milkweed with completely white flowers has been reported from the Jack's Creek area, near Marsing, Idaho (Kristin Lohr, pers. comm. 1 June 2015).

The young leaves of showy milkweed are sometimes much narrower than mature leaves, and may be confused with leaves of swamp milkweed (*A. incarnata*), narrowleaf milkweed (*A. fascicularis*), or hemp dogbane (*Apocynum cannabinum*).



Showy milkweed is widely distributed in Idaho. Top photo by Stephanie McKnight, Xerces Society. Map and predicted habitat model by Leona Svancara (Svancara et al. 2019).

DISTRIBUTION
Common and widespread across Idaho. Widespread across western and central US, east to Minnesota, Nebraska, north Texas (Kartesz 2015). No varieties or subspecies have been described.

HABITAT
Roadsides, fields, pastures, ditches, streambanks, lakeshores; can tolerate moderately dry sites and alkaline soils

FLOWERING IN IDAHO
Late May to mid-August

FLOWERS
Umbels in the upper nodes, with several to many flowers in an almost spherical arrangement

- Horns light pink to white, exerted 1-2 mm and much shorter than hood
- Hoods pink to cream, 10-13 mm long, widely spreading, lanceolate
- Corolla purple, rose, or pink, (8) 9-12 (15) mm long, reflexed (bent backward)
- Calyx greenish tinged with red, 4-6 mm long

FRUITS
6-10 (12) cm long, densely woolly, rough with short, soft, horn- or wart-like projections; seeds 6-9 mm long

STEMS
60-120 cm tall, erect or ascending, unbranched

LEAVES
Sage green, with soft, woolly hairs, more dense on underside

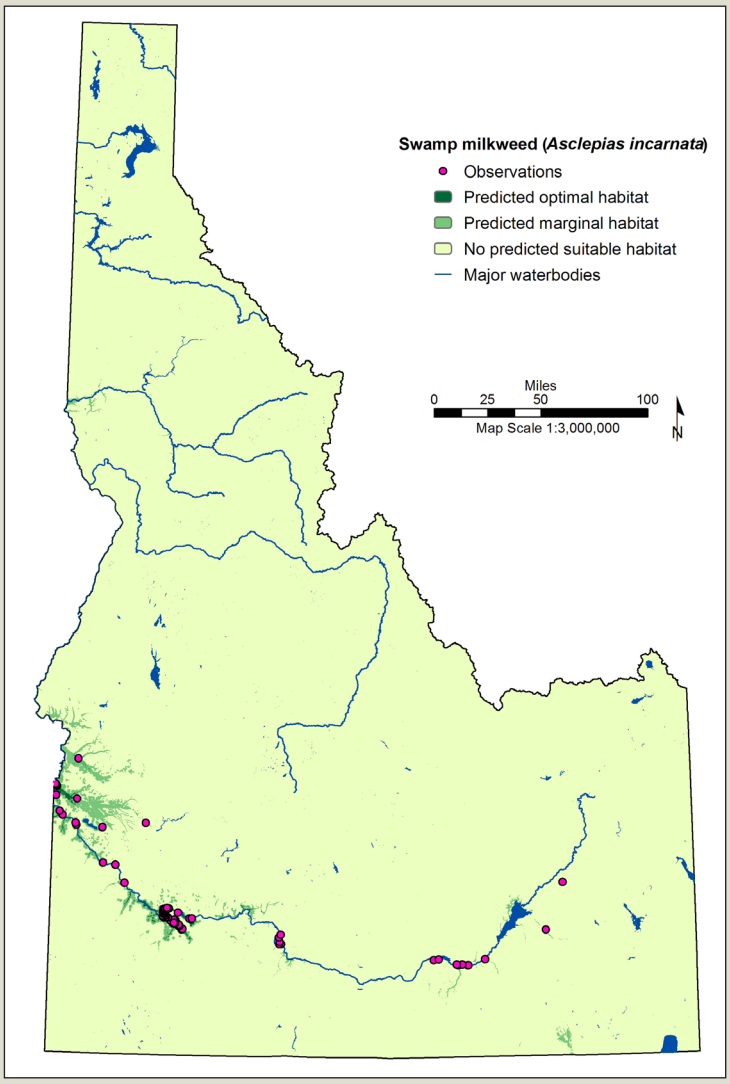
- Ovate (egg-shaped, attached a broad end), or sometimes lanceolate, especially when young; (6) 10-18 cm long, (3) 4-8 (11) cm wide
- Base obtuse, rounded, or subcordate (almost heart-shaped); tip broadly obtuse to rounded
- Opposite (2 leaves across from each other on stem)

Swamp milkweed *Asclepias incarnata* ssp. *incarnata* L.

Swamp milkweed is named for its wetland habitats. *Incarnata* is Latin for 'flesh pink,' in reference to the flower color (Borror 1988), which also ranges to bright pink. The sap of swamp milkweed is only slightly milky (Cronquist et al. 1984).

Swamp milkweed was formerly on the Idaho Rare Plant list, but was dropped in 1995 because of concerns that it was introduced. At that time, a 1986 collection from Notus was believed to be the first in Idaho (Old et al. 1993). With the benefit of current online databases, a few earlier specimens are now known: six scattered collections from 1971 to 1976. A 1939 collection from Hagerman by Ray J. Davis (1788, WS, IDS, MO) was identified by Woodson as *A. fascicularis*, but appears to be *A. incarnata*. Notably, Woodson (1952) did not include *A. incarnata* in his floristic treatment of the milkweeds of Idaho.

Showy milkweed, narrowleaf milkweed, and Davis's milkweed (*A. cryptoceras* var. *davisii*) all have a steady record of at least a few collections per decade back through the 1930s or earlier. However, swamp milkweed lacks this record — either it eluded collectors between 1939 and 1971, or was absent in the state. The former explanation seems unlikely given its bright flowers and its affinity for wetlands, which are often targeted by botanists. Many other wetland species have a strong record of collections back to the 1930s.



Map and predicted habitat model by Leona Svancara.

In posing the question of possible introduction to Mark Fishbein, a milkweed authority at Oklahoma State University, he noted that this species commonly has isolated western outliers, as in Arizona, New Mexico, Colorado, and Wyoming, and it is difficult to know whether these outliers and the Idaho outliers are recent human-caused introductions, natural introductions, or even relict populations from a range that was previously larger (pers. comm. 24 Apr 2019).

Photo by Bill Ament.

DISTRIBUTION
Occasional on and near the Snake River across southern Idaho. Swamp milkweed reported in 2010 near Granite Lake in Bonner County may have escaped from a local garden (Bill Harryman, pers. comm. 11 Mar 2019). Idaho is on the western edge of the known range and disjunct from the main occupied area, which stretches from Nebraska and Kansas to the East Coast. Only subspecies *incarnata* is known from Idaho. Subspecies *pulchra* is widespread across the eastern US (Kartesz 2015). Several cultivars are available commercially. Swamp milkweed may be confused with narrowleaf milkweed (*A. fascicularis*), which also occurs along the Snake River. Differences are detailed in the account for narrowleaf milkweed.

HABITAT
Very moist sites, such as marshes and the edges of streams, ditches, and lakes

FLOWERING IN IDAHO
Mid-July through August

FLOWERS
Umbels often paired in axils of upper leaves, flat-topped with several to many flowers

- Horns pale pink, 2.3-3.4 mm long, exerted from hood
- Hoods white when young to dark pink when older, (1.8) 2-2.5 mm long, ovate
- Corolla dark to light pink or rarely white, 3-5.5 mm long, reflexed
- Calyx greenish purple, (1.5) 2-2.5 mm long

FRUITS
5-9 cm long, hairless or with minute straight hairs, smooth; seeds 7-10 mm long

STEMS
40-150 cm tall; erect, single to much-branched; often with short, small-leaved branches in upper leaf axils; hairs various — with fine, short, curved hairs in a line, or with dense, long, soft, straight hairs, or almost hairless

LEAVES
Medium green; hairless or with short, soft hairs; short, rough hairs on veins and margins

- Lanceolate, often folded lengthwise; (5) 10-17 cm long, (0.5) 1-2.5 (6) cm wide
- Base obtuse, rounded, squared, or cordate; tip acute
- Opposite, but sometimes 3 or 4 at some nodes

Bottom photo by Kristin Lohr.

Narrowleaf milkweed *Asclepias fascicularis* Decne.

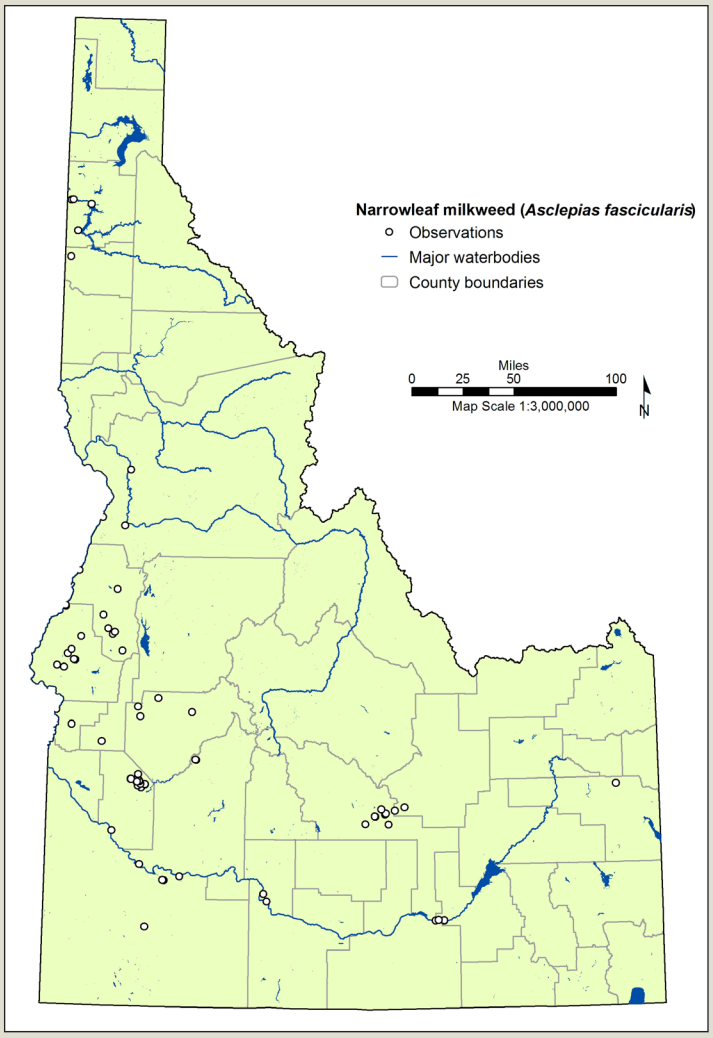
Narrowleaf milkweed has narrower leaves than all other Idaho species. The specific epithet *fascicularis* is Latin for 'little bundle,' which apparently refers to the small bundles of leaves that are often found in the leaf axils.

Some herbarium specimens of this species from Blaine County and Bear Lake County have been misidentified as horsetail milkweed (*A. subverticillata*). Horsetail milkweed has not been documented in Idaho, as detailed later in this guide.

Narrowleaf milkweed is also confused with swamp milkweed. Flowers of narrowleaf milkweed tend to be lighter pink, but color is not reliable for differentiation, especially once the flowers have dried. The flower and column sizes of the two species overlap, as do fruit sizes. Narrowleaf milkweed tends to be shorter and less robust, with leaves ≤1.5 cm wide with an acute base (‹90° angle where the two sides of the base join); swamp milkweed leaves are 1-6 cm wide with an obtuse base (›90°). The upper stems of narrowleaf milkweed lack hairs, those of swamp milkweed have short straight or curled hairs. The fruits of narrowleaf milkweed lack hairs, while those of swamp milkweed may lack hairs or have minute, straight hairs.

The anther head of narrowleaf milkweed is 1.4-1.7 mm high and 1.4-1.7 mm wide; that of swamp milkweed is 1.7-2.3 mm high and 1.5-2.1 wide. Seeds of the former species are 5.5-7 mm long; those of the latter are 7-10 mm.

The arrangement of leaves on the stem must be used with care. Narrowleaf milkweed typically has a whorl of four leaves per node, while swamp milkweed typically has only two leaves per node, but sometimes three or four at some nodes.



Map by Leona Svancara.

DISTRIBUTION
Occasional across western and southern Idaho. Occasional in Washington; widespread across Oregon, California, Nevada (Kartesz 2015). No varieties or subspecies have been described.

HABITAT
Dry shrub steppe to moister sites, including roadsides and water's edge; sandy to clay soils

FLOWERING IN IDAHO
June through August

FLOWERS
Umbels often paired in axils of upper leaves, flat-topped with several to many flowers

- Horns white, 1.7-2.8 mm long, exerted from hood
- Hoods white to grayish pink, (1.2) 1.7-2.2 mm long
- Corolla grayish pink to rose or rarely white, (3) 3.5-4.5 mm long, reflexed
- Calyx greenish to pinkish, 1.5-2.5 mm long

FRUITS
5-9 (12) cm long, without hairs, smooth; seeds 5.5-7 mm long

STEMS
30-80 cm tall; erect; often with short, small-leaved branches in upper leaf axils; mostly glabrous, possibly with fine, short hairs at nodes

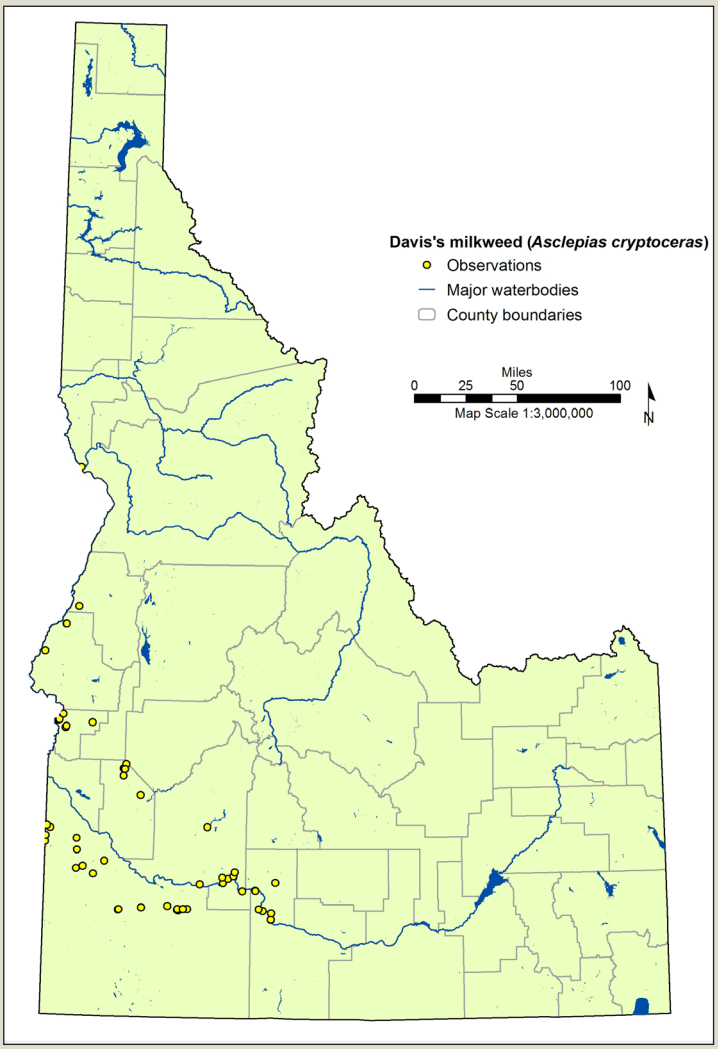
LEAVES
Medium green, mostly hairless

- Linear to lanceolate, often folded lengthwise; (3) 5-12 (15) cm long, 0.2-1.8 cm wide
- Base acute; tip acuminate to obtuse
- Most in whorls of 4 (occasionally 3-6)

Top photo by Beth Waterbury. Middle photo by Joe Decruyenaere (Flickr, cropped).

Davis's milkweed *Asclepias cryptoceras* ssp. *davisii* (Woodson) Woodson

Photo by Lisa Harloe.



Map by Leona Svancara.

At the species level, this milkweed is commonly called jewel milkweed or pallid milkweed.

In Idaho, only one subspecies is known — *A. cryptoceras* ssp. *davisii* — Davis's jewel milkweed or Davis's milkweed. This subspecies has long been recognized as distinct from the typical subspecies, *A. cryptoceras* spp. *cryptoceras*, and recent genetic studies support this (Fishbein et al. 2011, Weitemier and Liston 2016). Davis's milkweed was originally published as *A. davisii*, for Ray J. Davis, the former botany professor at Idaho State University who collected the type specimen near Glenns Ferry (Woodson 1939).

The specific epithet *cryptoceras* is Greek for 'hidden horn' (Borror 1988), in reference to the horn which is attached as a crest inside the hood and not visible from the outside.

DISTRIBUTION
Occasional across southcentral and southwest Idaho, and north to Nez Perce County. *A. cryptoceras* ssp. *davisii* is also known from Asotin County, Washington, eastern Oregon, and northern and central Nevada. *A. cryptoceras* spp. *cryptoceras* is documented in eastern Utah, western Colorado, and adjacent Wyoming, Arizona, and New Mexico. Intermediate populations occur in western Nevada and adjacent California and are genetically similar to subspecies *davisii* (Weitemier and Liston 2016).

HABITAT
Dry barren ash outcrops, clay, or loose sandy slopes in shrub steppe

FLOWERING IN IDAHO
Late April through mid-July

FLOWERS
Umbels terminal and in upper leaf axils, round-topped to drooping, few to several flowers

- Horns absent or included in hood as an attached crest
- Hoods reddish violet to dark violet, 3.5-5 mm, sac-shaped with 2 lobes at top
- Corolla pale yellow to greenish-yellow, 9-11 (13) mm long, lobes reflexed
- Calyx pale yellow to greenish-yellow, sometimes tinged with red

FRUITS
5.5-7 cm long, hairless, smooth; seeds 6-8 mm long

STEMS
8-35 cm long, lying on ground sometimes with tip raised, one to few unbranched stems or rarely branched at base

LEAVES
Light blue-green with a white waxy coat, hairless

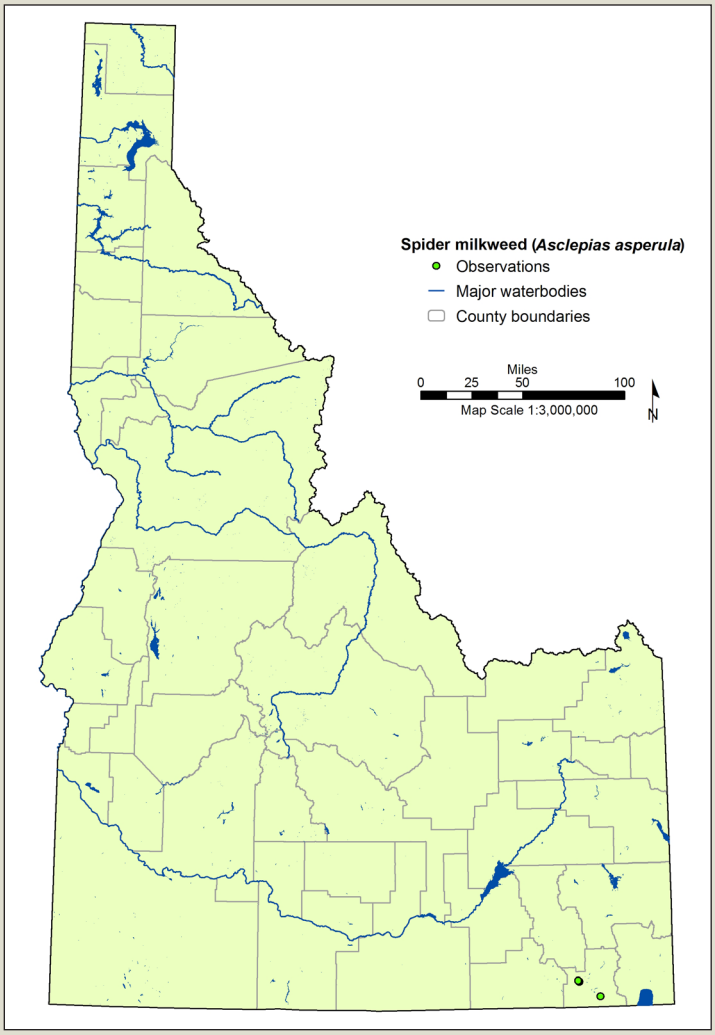
- Broadly ovate to round; (2) 4-7.5 (9) cm long, (2) 3-6 (8) cm wide
- Base rounded to subcordate; tip acute to obtuse with an abrupt point
- Opposite

Top photo by Beth Waterbury.

Spider milkweed *Asclepias asperula* ssp. *asperula* (Decne.) Woodson

Spider milkweed was added to the Idaho Rare Plant List in 2018, and is documented as extant at only one location in Franklin County. Other sites likely occur within the county, as suggested by the label of a 1938 collection by soil scientist J.H. 'Heinie' Christ that states, "Cub River, southeast of Preston; on raw hillsides." Spider milkweed may occur in other counties of southern Idaho, as it has been documented in adjacent Utah and Nevada (Kartesz 2015).

On the Hayden expedition of 1872, John M. Coulter collected spider milkweed. The label of his specimen at the Field Museum of Natural History simply states "Idaho." The specimen was collected in flower — likely late June or early July. From June 24 to July 3, the party was traveling from Ogden, Utah, to Fort Hall, Idaho, via Malad and Marsh Valley — the present-day route of I-15. From Fort Hall, they continued north and out of the potential range of spider milkweed. In a separate report, Coulter (1873, p 779) describes only one spider milkweed collection: "Hot springs ten miles from Ogden, Utah, June." It is possible that he made a second collection in Idaho, or that either the report or the 'Idaho' label are in error. If the specimen was collected in Idaho, it would have been from along the party's route through Oneida and Bannock Counties.



Map by Leona Svancara.

The name 'spider milkweed' derives from crab spiders (Thomisidae) that often hunt among the flowers. The common name 'antelope horns' is also applied to this subspecies, but more often to *A. asperula* ssp. *capricornu*. Follicles occur in pairs and curve upward when dry, resembling horns. The Latin word *asperula* means 'a little rough' (Borror 1988), in reference to the texture of the vegetation.

DISTRIBUTION
In Idaho, known only from Franklin County. Our subspecies is widespread across Utah, eastern Nevada, Arizona, New Mexico, west Texas, and west, central, and southeast Colorado. *A. asperula* ssp. *capricornu* is scattered across central Kansas and adjacent Nebraska, Oklahoma, central Texas, and northern New Mexico (Kartesz 2015).

HABITAT
Dry barren slopes, gravelly soils, open shrublands and woodlands

FLOWERING IN IDAHO
Early June through mid-July

FLOWERS
Umbels terminal, solitary, many flowers densely packed into a sphere

- Horns absent
- Hoods reddish-violet to purple on back and white inside, 8-10 mm long with blunt tips
- Corolla pale yellow-green, often purple-tinged toward outside edges, 9-12 mm long, spreading with tips curved forward
- Calyx pale yellow-green, 3.5-5.5 mm long

FRUITS
6-10 cm long, with minute straight hairs, smooth; seeds 7-8 mm long

STEMS
30-60 cm tall, unbranched, ascending and spreading; usually many in a cluster

LEAVES
Medium green, hairless or with minute straight hairs

- Lanceolate to linear lanceolate, usually folded lengthwise; 8-18 (20) cm long; 0.8-2 (2.5) cm wide
- Base acute to obtuse; tip acute
- Alternate to nearly opposite

Middle photo by Beth Waterbury

FALSELY REPORTED

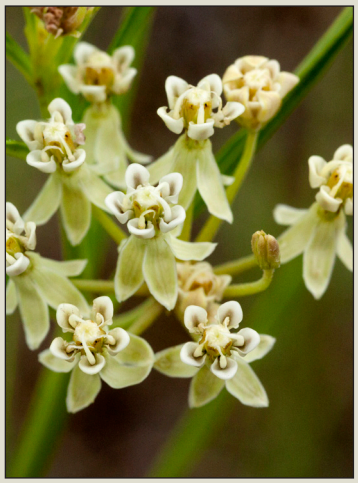


Photo by Patrick Alexander (Flickr).

Horsetail milkweed

Horsetail milkweed, *Asclepias subverticillata* (A. Gray) Vail, has been falsely reported from Blaine County based on three herbarium specimens: Atwood 28631 at Lava Lake, Atwood 28495 at Huff Creek, and Evers 100919 at the lava beds of Craters of the Moon National Monument. I examined the Atwood specimens and high-quality scans of Evers, visited the collection sites, and determined that all specimens are actually narrowleaf milkweed (*A. fascicularis*). A single collection reported from Bear Lake, in Bear Lake County (Isabel Mulford 272, 9 Aug 1898, at MO) is a poor-quality specimen that was originally identified as narrowleaf milkweed. Later it was widely cited as horsetail milkweed (e.g., Woodson 1954, Cronquist et al. 1984). Milkweed expert Mark Fishbein recently examined the specimen and determined it is *A. fascicularis* (pers. comm. 19 May 2017). Therefore, horsetail milkweed is not documented in Idaho. It is well-documented from central Utah and northern Colorado south into Mexico.

MILKWEED LOOK-A-LIKE

Dogbane

Hemp dogbane (*Apocynum cannabinum*), spreading dogbane (*A. androsaemifolium*), and their hybrid (*A. ×floribundum*) have milky sap, opposite leaves, and are easily confused with milkweed, especially when young. Many authors place milkweed in the same family with dogbane — in the Dogbane Family (*Apocynaceae*). Like milkweed, dogbane flowers have five petals; however, the petals are fused into a simple bell shape, rather than the distinctive corona and corolla of milkweed. The follicles, or "pods," of dogbane resemble long, thin green beans (up to 16 cm long). They are markedly thinner than the stout, somewhat inflated follicles of milkweed.

At maturity, hemp dogbane can be as tall (30-120 cm) as showy milkweed and swamp milkweed. Spreading dogbane is shorter (20-50 cm) and smaller overall. The hybrid is intermediate. Both species are widespread and common across Idaho; the hybrid is widespread, but less common. Dogbane does not support monarch butterfly larvae.

GROWN IN IDAHO

Tropical milkweed. Photo by Bill Harryman.

Garden Species

Butterfly milkweed (*Asclepias tuberosa*), tropical milkweed (*A. curassavica*), their cultivars, and other species are sometimes planted in Idaho gardens and home landscapes. No milkweeds are known to have escaped or become invasive in Idaho; however, it is important not to plant non-native species in the wild. Many milkweeds are adapted to disturbed sites and could become invasive in a suitable environment. Tropical milkweed and African milkweed (*A. fruticosa, = Gomphocarpus fruticosus*) are invasive elsewhere in the US (Kartesz 2015). Honeyvine (*Cynanchum laeve*) is a close relative of milkweed and is used by monarch larvae. It is native to the eastern and mid-western US, and has been reported from Canyon County, Idaho (Blaine Linford sn, 15 Jul 1966, ID; also Richard Old, pers. comm., cited in Kartesz 2015). Among gardeners, it has a reputation as being invasive.

ACKNOWLEDGMENTS

Thank you to all the BOTANISTS, TECHNICIANS, AND CITIZEN SCIENTISTS who have contributed milkweed data to herbaria and databases through the decades. Your dedication and diligence is truly a gift to the planet!

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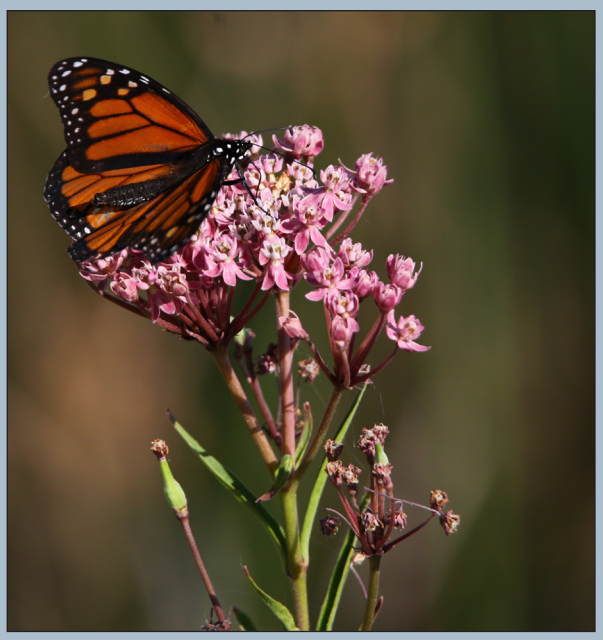
KEY TO THE

Native Milkweeds of Idaho



Swamp milkweed. Photo by Bob Kibler.

1a. Stems lying on ground; leaves light blue-green with a white waxy coat, hairless, broadly ovate to round, 4-7.5 cm long, 3-6 cm wide . . . . Davis's milkweed, *A. cryptoceras* ssp. *davisii*

1b. Stems upright; leaves sage green or medium green without a white waxy coat, with or without hairs, linear to lanceolate to ovate, clearly longer than wide 2

2a. Leaves sage green, with soft, woolly hairs; ovate, or sometimes lanceolate when young; 10-18 cm long, 4-8 cm wide; opposite . . . . . showy milkweed, *A. speciosa*

2b. Leaves medium green, hairless or with short hairs; linear to lanceolate; 5-18 cm long, 0.8-2.5 cm wide; opposite, alternate, or whorled 3

3a. Hoods reddish-violet to purple on back and white inside with blunt tips; horns absent; corolla pale yellow-green, often purple-tinged toward outside edges; leaves alternate to sub-opposite . . . . . spider milkweed, *A. asperula* ssp. *asperula*

3b. Hoods white to light pink; horns pale pink or white, exerted from hoods; corolla white, pink, or rose; leaves opposite or whorled. 4

4a. Leaves 1-6 cm wide with an obtuse base (›90° angle where the two sides join the stem); usually opposite, but sometimes whorled; upper stems with short hairs; seeds 7-10 mm long . . . . . swamp milkweed, *A. incarnata* spp. *incarnata*

4b. Leaves ≤1.5 cm wide with an acute base (‹90°); whorled, often with small bundles of leaves in the axils; upper stems hairless; seeds 5.5-7 mm long . . . . . narrowleaf milkweed, *A. fascicularis*

Front Cover Photo: Showy milkweed. Photo by Lynn Kinter, Idaho Department of Fish and Game.