

SPECIES SPOTLIGHT: **Narrow-Leaf Milkweed (*Asclepias fascicularis*)**

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Fifteen milkweed species (*Asclepias* spp.) are native to California, and they can be found in a range of plant habitats, including deserts, riparian zones, forest clearings, and roadsides. Milkweeds are named for the milky, latex sap they produce when the plant is damaged. This sap contains alkaloids and cardenolides, and these chemicals make the plants unpalatable and toxic to most insects and animals, including livestock, but also give protection to the specialized species that can feed on them. When most people think of milkweeds, they immediately think of them as the host plant for monarch caterpillars, but they also provide food, nectar, and shelter for a diverse range of other insects including beetles, bugs, bees, wasps, flies, and other butterflies (Borders and Shepherd 2011; Figure 1).

The milkweed species that are native to California are perennial, and they generally go dormant over the winter and flower beginning in their second year. Milkweed flowers are an excellent and reliable source of nectar for pollinators, including hummingbirds, bees, and butterflies, and they have also been found to attract beneficial insects that are predators or parasitoids of agricultural and garden pests. Milkweed fruits, also known as pods, range in color, shape, and size and are generally elongated. When the seed pods are ripe, they split and release seeds with fluffy, silk-like attachments (Figure 2). These silky fibers, also known as “floss,” allow the seeds to be dispersed by the wind and, interestingly, were used to fill life-preserving equipment for U.S. soldiers during World War II. Milkweed floss is currently used to fill specialty pillows and comforters (Borders and Mader 2012).

Narrow-leaf milkweed (*Asclepias fascicularis*) has the widest range of the milkweeds native to California and is found in a variety of plant communities, including valley grasslands,

chaparral, and foothill woodlands. Outside of California, narrow-leaf milkweed can be found in Utah, Oregon, Nevada, Washington, and into Baja California, Mexico. Narrow-leaf milkweed has characteristically narrow, almost lacy, leaves and is a persistent and drought-tolerant perennial that dies back over the winter and emerges from seemingly bare soil in spring. It can reach 3 ft. in height and produces delicate pink and white flowers between May and October (Figure 3). Narrow-leaf milkweed seed pods are smooth, hairless, narrow, and between 2 and 4 inches long. They germinate in early spring and can produce flowers and seeds in the first year. The seeds require moist stratification to germinate, which usually takes place naturally in the ground over winter but can be simulated in a refrigerator if necessary. Transplants can also be used to establish milkweed successfully.

Monarch butterflies (*Danaus plexippus*) are absolutely reliant on milkweeds. Female monarchs lay their eggs on milkweed species, which are the only food that monarch larvae can eat. Monarch larvae are able to sequester the harsh chemicals found in milkweed until adulthood, and this gives the monarch butterfly added protection against predators who find these chemicals unpalatable. The level of cardenolides in the plant and in the monarchs that feed on them varies widely among milkweed species. *Asclepias fascicularis* has one of the lowest concentrations of cardenolides, and the monarchs that feed on it also have low cardenolide concentrations in their bodies (Malcolm and Brower 1989).

North American monarch butterfly populations have undergone steep declines within the last 20 years (Monroe et al. 2014,

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Figure 1: Tarantula hawk wasp (*Pepsis grossa*) nectaring on narrow-leaf milkweed (*Asclepias fascicularis*). Photo: John Anderson

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Rendón-Salinas and Tavera-Alonso 2014), and one of the contributing reasons is loss of milkweed habitat across the monarch's breeding range (Commission for Environmental Cooperation 2008). Milkweed populations have been declining due, in part, to the development and intensified management of agricultural lands, roadsides, and rangelands. Planting milkweeds that are native to a region in groupings of several plants can support monarchs and also add an additional nectar source to a site. These plantings should be done in areas that are not prone to disturbance so that the monarchs will have a reliable source of milkweed over several years.

A select number of insects other than the monarch caterpillar can also feed on milkweeds, and a few are considered pests and can cause substantial harm to the plant or seeds. Most milkweeds, including the narrow-leaf, are susceptible to oleander aphid (*Aphis nerii*) outbreaks (an introduced, invasive species), and these should be controlled so they do not overwhelm the plants. During early spring and summer, blue milkweed beetles (*Chrysochus colbaltinus*) can be found feasting on milkweed foliage, and if left unchecked they have been known to defoliate



Figure 2: Narrow-leaf milkweed (*Asclepias fascicularis*) seed with pods at different stages of ripeness. Photo: John Anderson

a plant in a matter of days. Distinctive black and red milkweed bugs (*Lygaeus kalmii*, *Oncopeltus fasciatus*) can feed on milkweed seeds. Most milkweed pests are milkweed specialists and should not be a threat to agriculture. Livestock will generally avoid

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milkweeds if sufficient forage is available, but care should be taken that milkweed is not included in hay used for feed. Milkweed latex can also be toxic to humans, and contact with skin, eyes, and mouth should be avoided.



References

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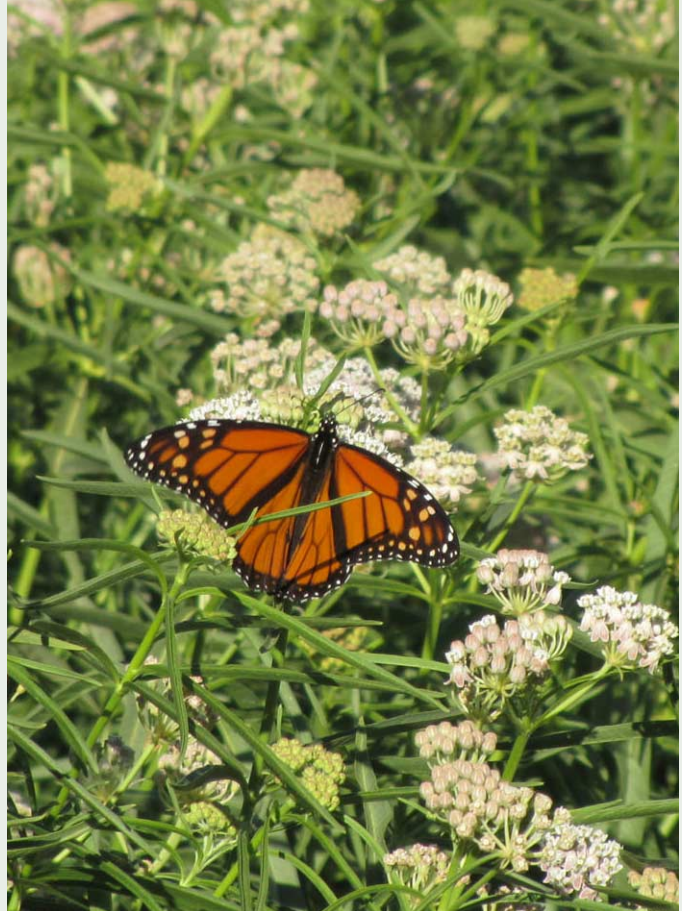


Figure 3: A monarch butterfly on narrow-leaf milkweed (*Asclepias fascicularis*). Photo: John Anderson



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