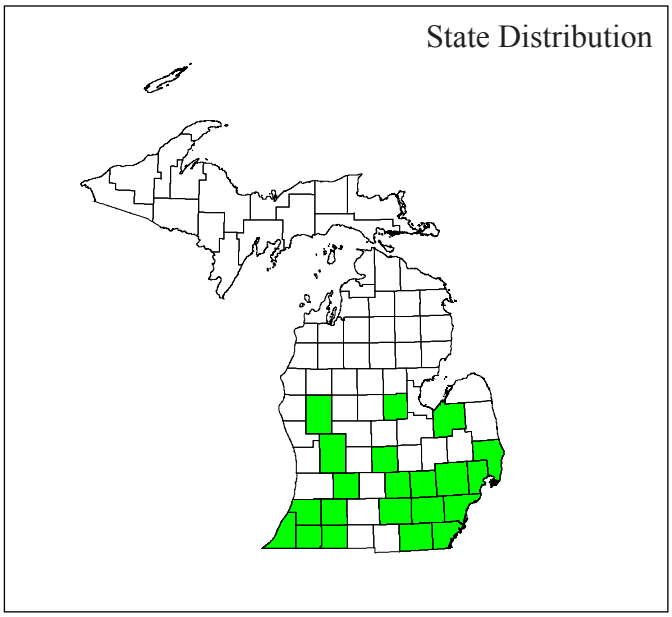
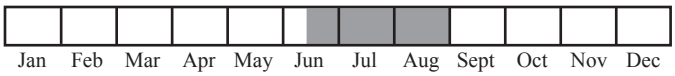
Asclepias purpurascens L. purple milkweed

Photo by Michael R. Penskar



Best Survey Period



Legal status: State threatened

Global and state rank: G4G5/S3

Family: Asclepiadaceae (milkweed family)

Total range: *Asclepias purpurascens* is found principally in eastern North America, occurring from New Hampshire south to Virginia and ranging west to Wisconsin, Iowa, Kansas, and Oklahoma.

State distribution: Purple milkweed is known from more than 60 occurrences in southern Michigan; thirty-four of these records are derived from collections made prior to 1930. This species is concentrated primarily in southeastern and southwestern Lower Michigan, where it is known from 19 counties, with most counties tallying only a single occurrence. Counties with the most occurrences are Washtenaw (10), St. Clair (9), and Jackson (8). The most northern location is Midland County.

Recognition: *Asclepias purpurascens* stands erect on **stout**, **puberulent (short-hairy) stems**, ranging to about 1 meter in height. Like other species of milkweed, the sap is a milky latex that readily bleeds from bruised or cut foliage and stems. The 10-15 cm long leaves are **opposite** and **elliptic** to **ovate-oblong**, **hairy beneath,** and **end in acute tips**. At their base, the leaves are **broadly tapered** to petioles that range from about 1-2.5 cm. The inflorescence consists of a **tight umbel of purplish-red flowers** borne terminally; occasionally, one or two additional umbels are present in the upper leaf axils. The individual flowers, which are usually from 13-17 mm long, bear **reflexed, purplish corolla lobes that are glabrous (smooth)**, **pale purple hoods** (forming the corona) **5-7 mm long**, and **incurved flat horns** that are shorter than the hood. The reproductive parts (filaments, anthers, and style) are fused into a structure called the **gynostegium**. The fruit is a smooth follicle (a pod) filled with seeds attached to downy hairs (coma**)** that aid in wind dispersal.

Asclepias purpurascens is often difficult to distinguish from the very similar looking common milkweed, *Asclepias syriaca*, which despite its unfortunate Latin epithet is also a native milkweed. Overall, the **leaves** of *A. purpurascens* are **more acute** and **less predominately pinnately–veined** (i.e. more strongly net-veined) than *A. syriaca.* In addition, *A. syriaca* bears **umbels in three or more leaf axils**, with flowers that have **hairy corolla lobes** and **hoods 3.5-5 mm long**. There have been collections from St. Clair and Jackson counties that suggest the possibility of hybridization between these two species.

Best survey time/phenology: Surveys are best conducted during the flowering and fruiting periods, which occur from late June to August.

Habitat: This species is found primarily in dry soils in prairies, including lakeplain prairies, and within open woodlands (especially oak and oak-pine), shrub thickets, and on shores. Commonly associated species

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include such plants as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparius*), blazing star (*Liatris spicata*),ironweed (*Vernonia missurica*), culver's root (*Veronicastrum virginicum*), Indian grass (*Sorghastrum nutans*), tall coreopsis (*Coreopsis tripteris*), yellow loosestrife (*Lysimachia ciliata*), mountain mint (*Pycnanthemum virginianum*), Riddell's goldenrod (*Solidago riddellii*), field milkwort (*Polygola sanguinea*), Seneca snakeroot (*Polygala polygama*), creeping cinquefoil (*Potentilla simplex*), riverbank grape (*Vitis riparia*), red ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus foemina*), and dogbane (*Apocynum cannabinum*). In lakeplain prairie regions, purple milkweed may grow with such rare species as Sullivant's milkweed (*Asclepias sullivantii*), Clinton's bulrush (*Scirpus clintonii*), Gattinger's gerardia (*Agalinis gattingeri*), and Skinner's agalinis (*Agalinis skinneriana*).

Biology: *Asclepias purpurascens* is a perennial arising from a stout root. It flowers in June and July and fruit development occurs through August. As in other species of *Asclepias*, the flowers are highly modified for insect pollination. Adjacent anthers are joined together by two arms (translators) to a gland known as the corpusculum. Each half-anther contains pollen grains united into a waxy mass termed the pollinium. The pollinia are situated behind the hood, with the translator arms and gland visible between the corona. During pollination an insect removes a pair of pollinia by snagging them – via the sticky corpusculum — on a spur of its leg as it visits the milkweed flower. The pollinia must be reinserted in a precise fashion in vacant slots behind the hood of another flower in order to effect pollination.

Conservation/management: Purple milkweed is found in numerous counties in southern Lower Michigan, yet its status at many sites is unknown. Surveys to determine the status of this species at historical sites would enable a more reliable statewide assessment to be made, in order to determine if elevation to threatened or endangered status has merit. The primary conservation strategy for this species at the present time, in addition to status surveys, is the protection of prairie remnants and other dry open sites, as well as prairie restoration management, and prescribed burns to perpetuate suitable habitat in known sites.

Comments: Milkweed floss was used throughout World War II for stuffing life-preserver jackets. The amount of milkweed harvest in 1943 in Emmet Co MI, was almost 200 tons of pods (Voss 1996). Milkweed has other commercial uses such as latex (rubber), fiber, or even fuel.

Research needs: Perhaps the principal need at the present is experimental restoration management of prairies and oak savannas to determine the most appropriate treatments (e.g. prescribed burning regimes) for perpetuating habitat. Demographic work on populations and life history studies would also assist land managers.

Related abstracts: Lakeplain wet prairie, lakeplain wet-mesic prairie, appressed bog clubmoss, eastern prairie fringed-orchid, purple milkweed, Sullivant's milkweed, blazing star borer, culver's root borer, red-legged spittlebug.

Selected references:

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Woodson, R.E., Jr. 1954. The North American species of *Asclepias* L. Ann. Miss. Bot. Gard. 41:1-208.

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