

Growing Butterfly Milkweed

Janet M. Grabowski

INTRODUCTION

Butterfly milkweed (*Asclepias tuberosa* L.) is one of the most striking native wildflowers found in the state of Mississippi and is probably one of the most coveted by wildflower enthusiasts for planting in home gardens. Major obstacles to their widespread landscape use are: (1) limited marketing by the nursery trade, (2) difficulty in successfully transplanting large, established plants from the wild, and (3) seed germination problems. This publication will describe methods that can be used to successfully grow this attractive wildflower.

PLANT CHARACTERISTICS

Butterfly milkweed is an upright, hairy perennial with thick stems arising singularly, or in clusters from a large, fleshy rootcrown. Stems can vary in height from 1-3 feet. Leaves are numerous, alternate, simple, long and narrow in shape. Flowers are produced from May to August and are grouped in large clusters. Flower color is generally orange to red, however, it may also be yellow. The fruit is a pod-like structure called a follicle that is held upright atop the plant (Radford et al., 1968). The follicles split at maturity to release numerous flat, dark brown seed each attached to a tuft of silky hairs (down) that aid dispersal by wind (Phillips, 1985).

Butterfly milkweed is not the only species of milkweed that can be found in Mississippi, but it is the only one that occurs throughout the entire state (Timme, 1989). Its native range includes most states east of the Rocky Mountains (Bailey and Bailey, 1976). Unlike other milkweed species, it does not have a milky sap (Phillips, 1985). It can be found growing on fairly dry roadsides, prairies, pastures, fields and along woodland edges (Timme, 1989). It grows and flowers best in full sun to light shade and requires a well-drained soil. As its common name suggests, it is a favorite flower for butterflies because of the large amounts of nectar produced (Phillips, 1985). Another common name is pleurisy root because the root has medicinal uses as an emetic and a diuretic (Timme, 1989).

PROPAGATION

Because this plant is not sold in most garden centers, it is quite common for people to dig specimens from the roadsides. This practice should not be widely recommended, because it decreases the attractiveness of our highways and unless the plants are dug correctly, they

generally will not survive. Also, collectors should be aware that such digging may be legally restricted in some states.

If plants are to be dug, it is best to transplant them in the winter, when the plants are dormant, or in the early spring before the shoots have grown very large. Most people will dig the plants when they are in full flower because that is the only time they can identify them. Plant stress that occurs when transplanting during this growth stage and time of year may cause the plants to die or at least it will greatly slow their establishment. Therefore, for the greatest success, plants should be flagged or staked while flowering so they can be easily located and then dug the following winter or spring. It is critical to dig deep enough to remove as much of the tuberous root system as possible. Phillips (1985) stated that if the brittle tap root is broken during collection, the plant usually dies. The plant should be planted at the same depth as it was when it was dug. A slow release fertilizer can be added to the bottom of the planting hole to encourage root growth, but never apply a soluble fertilizer in this manner, because it will burn the roots. After planting, water thoroughly to settle the soil around the root system. Phillips (1985) did not advise mulching around butterfly milkweeds. Plants may not flower the first year after transplanting.

Seed should be collected when the pods just begin to split but before the seeds are exposed. Pods can be collected earlier if the seeds inside have turned brown. The pods open quickly and will need to be checked frequently, or if this is not possible, a string can be tied around the middle of the pod to prevent the seed from being released. To clean the seed, split the pod and remove the cylindrical mass of seeds and down. Grasp the seed with one hand and the down with the other and tug to pull the seed free from the down. Seed should be stored dry in the refrigerator in a sealed, labeled container (Phillips, 1985).

An article by Bir (1986) addressed some major problems in seed propagation of butterfly milkweed - low germination rates and misinformation. Authorities such as Phillips (1985) and Reilly (1978) stated that it is easy to grow from seed, however, Bir and others have found this is not the case. Seed, especially that which has been stored for a period of time, requires a cold moist prechilling (stratification) to germinate. Bir (1986) recommends 60 days of stratification at 40 degrees F. Young and Young (1986) recommend 21 days at 35-41 degrees F. At the Jamie L. Whitten Plant Materials Center (PMC), we have had good germination when seed was prechilled for 60-90 days at approximately 40 degrees F. This variation in recommended prechilling periods may be due to ecotypic differences among seed lots from different geographic locations (Borland 1987).

Borland (1987) performed a literature search on germination techniques for butterfly milkweed and found that although stratification does improve germination percentages, that is not the only obstacle to successfully growing butterfly milkweed from seed. He suspected that much of the difficulty encountered when growing seedlings in containers is due to the rooting characteristics of the plant and the requirement for aeration in the container medium. In a normal pot, the medium at the bottom of the container will always be saturated with water and is therefore not conducive to growth of this deep-rooted species. When growing these plants at the PMC, we have also noted poor growth in standard four inch pots. We sow

the seed in a seed flat containing a well-aerated potting mix and cover the seed shallowly. We then transplant them into a fairly tall (4.5 inch) container that does not have a bottom. These containers are then placed into a wooden flat with hardware cloth bottoms. These bottomless containers do not have a layer of saturated medium at the bottom as normal pots do, and because the roots will not grow out of the bottom into the air they are "air pruned", eliminating root circling and encouraging a more fully branched root system. The only losses we have had were when a significant amount of the root system was damaged as the seedling was removed from the seed flat. Phillips (1985) recommended that seedlings be transplanted from the seed flat when they have two sets of true leaves, but we have left them in the seed flat until they had four to six sets of leaves and successfully transplanted them.

Phillips (1985) described the following techniques that can be used to propagate butterfly milkweed from cuttings. Stem cuttings should consist of a 3-4 inch length of the terminal portion of the shoot, cut before the plant begins to flower. Remove half the leaves from the basal portion of the cutting and stick it in a container of pure sand or equal parts of sand and peat moss. Cover the top of the container with a tent of clear plastic, held well above the leaves, and then mist the cuttings regularly to maintain a high humidity. Cuttings should root within six weeks. Another cutting method that requires less maintenance is to use root cuttings. In the fall dig a mature plant and cut the taproot into 2-inch sections. The sections should be planted outdoors in a sandy rooting mix that is kept slightly moist.

PLANT CARE

Phillips (1985) stated that this plant thrives on neglect with only occasional watering or fertilizer applications needed. Butterfly milkweed should not be planted in an area that requires regular mowing. The plants will not flower if they are mowed at any time from late spring to early summer. A single mowing after flowering and seed production may encourage production of new stems and result in a more fully branched plant. Plants can also be mowed in late fall, after frost.

In certain growing sites, some insect pests can develop. Aphids are fairly common, often occurring after the plant flowers, while the fruit is forming. A brightly-colored true bug (Order Hemiptera) that, like aphids, sucks the sap from the plant may also be found on this plant. At the PMC, these insect pests are most common on succulently growing plants in a garden situation, not on those growing on less fertile sites. This particular species of milkweed does not appear to be a favorite food of monarch butterflies.

REFERENCES

- Bailey, Liberty Hyde, and Ethel Zoe Bailey. 1976. Hortus third a concise dictionary of plants cultivated in the United States and Canada. Macmillan Publishing Co., New York.
- Bir, Richard E. 1986. The mystery of milkweed germination. American Nurseryman. November 15, 1986, p. 94-97.

- Borland, Jim. 1987. Clues to butterfly milkweed germination emerge from a literature search. *American Nurseryman*. March 1, 1987, p. 91-96.
- Phillips, Henry R. 1985. *Growing and propagating wild flowers*. Univ. of North Carolina Press, Chapel Hill.
- Radford, Albert E., Harry E. Ahles, and C. Ritchie Bell. 1968. *Manual of the vascular flora of the Carolinas*. Univ. of North Carolina Press, Chapel Hill.
- Reilly, Ann. 1978. *Park's success with seed*. George W. Park Seed Co. Inc., Greenwood, South Carolina.
- Timme, S. Lee. 1989. *Wildflowers of Mississippi*. University Press of Mississippi, Jackson.
- Young, James A., and Cheryl G. Young. 1986. *Collecting, processing and germinating seeds of wildland plants*. Timber Press, Inc., Portland, Oregon.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C., 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.