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Milkweeds pretty, beneficial

By Susan Yost

Two native milkweeds, butterfly-weed (*Asclepias tuberosa*) with stunning orange flowers, and swamp milkweed (*Asclepias incarnata*) with pinkish flowers, bloomed in my garden this summer. I don't remember exactly when I planted these perennials, but they come up every year and surprise me with their bright blossoms.

Another Delaware native, common milkweed (*Asclepias syriaca*), has pink flowers also in the characteristic clusters called umbels. Milkweeds are attractive wildflowers in gardens and along roadsides and have intriguing and beneficial features.

"Butterfly-weed" is well-named, as the colorful blossoms of this and other milkweeds attract butterflies and other insects that feed on nectar and at the same time pollinate the flowers. A close look at the flower shows five petals that hang down, and a "crown" that points up. Five little pools of nectar at the top of the flower reward the pollinators. The reproductive parts are highly evolved, with the male and female parts fused together in a central portion (the "gynostegium").

Milkweed pollen is unusual, as it's packed in little "bags" called pollinia, which are attached together in twos. Look very closely at a bee visiting the flowers and you may just be able to make out these tiny yellowish pollen bags hanging from the bee's legs (a magnifying glass will help).

Milkweeds have a unique and well-studied pollination mechanism, in which the pollinia have to be inserted into a special groove in the flower for fertilization to take place. Occasionally the insect pollinator gets its leg stuck in the flower!

Then there's the milkweed/

Garden Tales

monarch butterfly connection. Monarch butterflies are the well-known orange and black butterflies that migrate great distances every year, traveling from as far north as Canada to over-winter in Mexico.

A few years ago, my daughter and I watched a Monarch butterfly flying around common milkweed plants, occasionally alighting on a leaf for a few seconds. When she took a close look, my daughter found a tiny, whitish butterfly egg attached to the underside of the leaf! The eggs develop into yellow, white and black striped caterpillars, which form beautiful green chrysalises with a few gold dots during their transformation to butterflies.

Milkweed plants are the only food of the Monarch butterfly caterpillars, so it's a good idea to avoid mowing these beneficial plants along roadsides!

Monarch butterflies are distasteful to birds that attempt to eat them because the Monarchs store toxic cardiac glycosides from the milkweed plants in their bodies. To add to this story, another butterfly, the Viceroy, closely resembles the Monarch and is now also known to be toxic to predators, an example of Mullerian mimicry.

Milkweed plants even played a role in World War II. Milkweed fruits ("follicles") are dry and split open on one side to release seeds with fluffy white hairs, which allow the seeds to be transported by the wind. During World War II, many milkweed fruits were collected by schoolchildren so the fluff could be used in life preservers.

If you make a small cut in the leaf or stem, the white sap that oozes out of some species eas-



Submitted photo/Susan Yost
During World War II, many milkweed fruits were collected by schoolchildren so the fluff could be used in life preservers.

ily explains the common name "milkweed". Milkweeds can be toxic to humans, although some species, with proper preparation, have been used for food and medicine.

Editor's note: On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware's center for research, education, and outreach about plant identifications, locations, and uses. Call Dr. Yost at 857-6452 to arrange a tour of the herbarium, or for more information about this article.