

## The Lure of Nectar!

For gardeners, providing plants to feed our native pollinators has become a major mission. Interestingly, not all of our pollinator plants play nicely with their visiting guests. The genus *Aesclepias*, commonly called Milkweed or Butterfly Weed is renowned for helping insects, but it also possesses a hidden dark side.

*Aesclepias* is a member of the subfamily Asclepiadoideae or Milkweed Family, whose members characteristically have a milky latex sap that contains alkaloids. Alkaloids are very bitter to the taste and can be ‘beneficial’, as in the case of caffeine or deadly, as with strychnine. Of the many milkweed species available to New Jersey Gardeners, *Aesclepias tuberosa* and *Aesclepias incarnata* are two native species that have risen to gardening stardom! Native to sun baked, drier locations *Aesclepias tuberosa* grows to 18” tall and produces very bold and brassy orange flowers from late May into June (picture on the right). It is certainly quite the eye catcher! The species epithet of *tuberosa* refers to the enlarged tuberous root that allows the plant to survive prolonged periods of drought. The root also contains poisonous cardiac glycosides.



Interestingly, if taken in appropriate dosages, the Native American Indians found that chewing the roots served as a cure for pulmonary ailments and pleurisy (an inflammation of the tissues surrounding the lungs). It was from its reputation to heal that Carl Linnaeus (1707-1778) named this genus after the Greek god of healing, Asclepius!

*Aesclepias incarnata*, or Swamp Milkweed reaches a more robust height of 30” and is another very garden worthy plant. As the common name infers, it prefers moister soil conditions and the flower color is a soft pink (pictured on right). In fact, the species epithet is from the Latin *Carn*, meaning flesh and *Atus*, meaning like, referring to the resemblance of the flower color to flesh. Both of these species are known for attracting numerous types of pollinators, including Swallowtail and Monarch Butterflies, native bees as well as Honey Bees and Hawk Moths. However, their ability to attract great quantities of native pollinators is where our hero reveals its dark side! *Aesclepias* flowers appear in dome shaped clusters called an umbel. Each fragrant flower is about ¼” in diameter, with upwards of 70 flowers in an umbel. Each flower has 5 reflexed petals that subtend an associated cup or hood, which holds copious amounts of alluring



nectar. The center of the flower contains a central stigmatic disc that is tightly surrounded by anthers. Unique is the method of pollen transfer, since the pollen is not present as free grains, but is stored in large quantities within a golden colored satchel called a pollinium. Although only one pollinium resides within a given anther, they are actually arranged in pairs, with 2 adjacent anthers and pollinium connected by a strong filament. Centrally located along this filament is a relatively large, sticky ball called a corpusculum, giving the whole assembly the resemblance of a saddlebag! In between the nectar containing hoods of the flower is a slit in the central corona, with the globe shaped corpusculum visible at the very top of the slit. The concept is for the visiting pollinator to insert its leg into the slit and to pull forth the pollinium laden saddlebag as it moves about the flower. This process is enhanced by the horn-shaped appendages that curve inward above the hoods. As the insect perches on this horn to sip the nectar, its leg slips from the horn and through the slit, becoming glued to the corpusculum in the process. With great effort, the insect pulls the two pollinium from their anthers and transfer it to another flower, reversing the process and the plant is pollinated. Unfortunately, some pollinators fail to have the strength needed to pull forth their saddlebag laden leg, perishing on the flower after a final sip of nectar!



Come autumn, the process of pollination culminates in 3" long, horn-shaped seed pods. Each pod releases ample quantities of seed with parachute-like appendages (pictured on the left), allowing them to freely float to new homes. Seemingly a touch Femme Fatale, *Aesclepias* is a plant that neither gardener nor pollinator can live without!