

CHAUTAUQUA WATERSHED NOTES
From the Chautauqua Watershed Conservancy
October 25, 2009

CUCURBITS IN YOUR HOME AND WATERSHED
By Priscilla Titus



Figure 1 Female Wild Cucumber flower at the Chautauqua Watershed Conservancy's Cassadaga Creek Preserve.
Photo by Priscilla Titus

It is the time of year when the Cucurbits rule our kitchen, living room and even the front porch. I am lamenting the last of the melons while baking pumpkin bread, making squash bisque and curries, and am eagerly awaiting the carving of our Halloween pumpkin so that I can toast those tasty and nutritious seeds that are revealed during the excavation. Gourds decorate our shelves and are waiting to become shelters or nesting spots for next spring's migratory bird arrivals. Even in the shower, I use a loofah sponge derived from a squash to scrub those itchy spots on my back that I can't quite reach. Where did all these members of the squash family come from anyway?

The Cucurbitaceae (Kyoo-ker-bi-TAY-see) Family includes over 100 genera and over 800 species worldwide. This family of plants includes many that produce edible fruits, which is likely the reason that it was one of the earliest families to be cultivated around the world. Some estimates hold that the first squash farms were in place over 10,000 years ago. The natural distribution of the family prior to cultivation was primarily within and near the tropics, but now many species are grown around the world.

Members of the Cucurbitaceae include not only the annual vines that most of us are familiar with, but also woody lianas, a few thorny shrubs, and even a tree. The flowers are unisexual, with male and female flowers found separately, either on different plants (dioecious), or on the same plant (monoecious). The female flowers have inferior ovaries (found below the flower) and because these plants have separate male and female flowers, a pollinator is usually needed to

move pollen from male to female flowers. The fruits that we are familiar with are actually one-celled, many-seeded berries, technically known as pepos.

Aside from the abundance of this family's representation in our farms and gardens, we in Chautauqua County are graced with two native members of this family: wild cucumber (*Echinocystis lobata*), and bur cucumber (*Sicyos angulatus*). Wild cucumber is an annual vine that occurs along streams and in moist woods and thickets. Its flowers have six narrow greenish-white petals that appear from June through October and are approximately one-half-inch long. When a flower is fertilized, a spiny cucumber-like fruit develops that gives this plant its common name. As the fruit matures, the lower end splits open and reveals up to four large seeds similar to squash seeds that will germinate and grow the following year. Our other native species, bur cucumber, is similar to wild cucumber but has hairy leaves and clustered five-petaled flowers that produce bunches of small spiny fruits that each contain only one seed.

Although inedible, there have been many medicinal uses of wild cucumber including preparation of infusions to treat rheumatism, chills, fevers, and kidney ailments, and poultices used to treat headaches. Some considered it to be a panacea that was good for "all ailments", while others used it in love potions. Bur cucumber has been used to treat venereal diseases and to aid in bovine birth difficulties. The seeds of both species have been used as beads and for other decorative purposes. In addition to human use, birds and other wildlife eat the fruits and disperse the seeds of both of these species.

Squash bees are named after the plants they pollinate, along with pumpkins, gourds, and other members of the Cucurbitaceae. These solitary bees are native to the United States, and are similar in size to honey bees but have brownish-grey and white striped abdomens. Squash bees synchronize their foraging activity with the bloom of their host plants and, thus, are active just before dawn when the flowers open.

Modern agricultural crops in this family all come from wild progenitors that were cultivated to favor progressive improvements in palatability and other valued attributes. Here in the Chautauqua watershed, we are able to enjoy wild native cucurbits, a host of horticultural wonders that resulted from a native ancestor, and the native pollinators that allow these plants to bear the fruits that feed us and produce a new generation.

The Chautauqua Watershed Conservancy is a local, private not-for-profit organization supported primarily by membership donations and grants from private foundations. Its mission is to preserve and enhance the water quality, scenic beauty and ecological health of the lakes, streams and watersheds of the Chautauqua region. It is the only locally-based not-for-profit organization actively conserving important habitats, scenic sites and watershed lands in the county. It takes a preventive approach to address lake algae and plant problems. For a list of upcoming events go to <http://www.chautauquawatershed.org/> or call 664-2166.