Plant Lover's Almanac

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Miniature "watermelons" that taste a bit like cucumbers and watermelon rind – in a good way. Giant swan milkweed with bizarre inflated fruits. A parasitic plant. Measles on your peonies. What a way to introduce a new month. Weird things in the woods – and bent science. Ah, the joys of being a plant lover. Let's start with…

…Cucumelons (*Melothria scabra*) Matt Schultzman of Secrest Arboretum introduced me to this plant. My wife Laura planted some seedlings from Matt around one of our ash tree memorials, the ash tree a victim of emerald ash borer that was felled last year. The vine produced tiny watermelon-like fruits. Laura collected them this past week for a Botany in a Box for her 2nd grade class at Hazel Harvey Elementary in Doylestown. We popped a few in our mouths - not bad - and now Laura has pickled the cucamelons, a prelude to her pickling science-in-the-kitchen experiment she does each year with her students.

This is not a new fruit cooked up by plant breeders. Cultivated for centuries, these inch and a half long fruits also go by the name of mouse melon, sour gherkins, and in their native Central American and Mexican homeland, *sandiita* (little watermelons). If you have ever been to Albuquerque, you know of Sandia Peak, with its reddish rock rind lit in the sunset, like a watermelon. These fruits are cool to look at, with a slightly sour, cukey flavor to the tongue.

Giant swan milkweed or family-jewels plant. Once in the genus *Asclepias* like other milkweeds, this increasingly popular ornamental plant now has the Latin name of *Gomphocarpos physocarpus*. What's in a name? *Carpos* or *carpus* means "fruit". The *physo-carpus* part of the name literally means "inflated fruits" which is obvious from its bladder-like fruits and another of its common names of balloon-plant. The genus name of *Gompho-carpos* is a little less obvious to me as it means "nail-fruit", though perhaps it is the spike-like projections on the fruit's surface. By any name, it is oddly spectacular.

The flowers, as with all milkweeds, are also quite unusual and complex. Petals are reflexed backward. The male pollen is fused into pollinia like orchids rather than individual pollen grains. Pollinating bee mouthparts are inserted into pollinia in a complex mechanical procedure. After fertilization of sperm and egg, the seeds develop in overlapping rows attached to silky floss-like hairs known as the coma, known to all boys and girls who check out milkweeds. And on and on.

Milkweeds are in the Apocynaceae family and as I collected a sample of this plant this week for a workshop, I noticed that it was home to thousands of oleander aphids. Guess what? Oleander aphids only feed on plants in the Apocynaceae family: milkweed, oleander, and vinca being common hosts. And, monarch butterfly caterpillars also feed on *Gomphocarpus physocarpus*, like other self-respecting milkweeds. Natural connections galore.

O Dodder, Where Art Thou? Well, on a recent odyssey to Pennsylvania, dodder was along a streamside bank, in small amounts amongst a lot of knot. Dodder as in *Cuscata*, a parasitic plant in the Convolvulaceae (morning glory family). Knot as in Japanese knotweed, or *Fallopia japonica*, touted as one of the most pervasive invasive weeds in the eastern United States.

Woe to us, the dodder is not going to kill off the knotweed, but it is quite fascinating. *Cuscata* spp. consist of thin twine-like stems, tinier scale-like leaves, and somewhat larger cream-white flowers. Dodder has small amounts of chlorophyll, but does not photosynthesize enough to pursue a sustainable life style. Dodder seeds that germinate

must chemically sense or otherwise find host plants, then send hastoria down into the vascular systems of host plants to find their nutrition.

By withdrawing nutrients and reducing host plant resistance to viruses, severe dodder infestations can reduce yields of over 100 host species including alfalfa, clover, and soybeans, and even solanaceous plants in gardens such as petunias and tomatoes. Controls involve seed quality control and plant removal, though seeds can survive for over a decade, and pre-emergent herbicides.

At this Pennsylvania siting, dodder coverage was minimal and unlikely to control the Japanese knotweed. It was an interesting sight, though, especially with the potential confusion of the tiny white flowers of dodder with the tiny white flowers of knotweed. More on that later in an alert on Japanese knotweed, and even some additional potential confusion with the tiny white flowers of wild cucumber vine, *Echinocystis lobata*. For more on that, come to the 84th Ohio Plant Diagnostic Workshop on September 8 in Wooster (http://bygl.osu.edu/node/872).

For now, let us focus on dodder, *Cuscata* spp., and its sometimes paradoxical and purely pleasurable alternate common names of: strangleweed, lady's laces, wizard's net, devil's hair, goldthread, love vine, hellbine, angel hair, and witch's hair. And get this, Chinese researchers are finding chemo-communications of insect predation between dodder host plants and mycorrhizal fungal connections. Whoa.

Peony measles. Cultivate your own garden, said Voltaire at the end of *Candide*. Looking homeward, I note that peony measles, first seen in mid-July has continued to develop in the ChatScape. Measles, or red spot or leaf blotch or *Cladosporium* leaf blotch disease are alternative names for this fungal disease. It is caused by, you guessed it, *Cladosporium paeoniae* or, who knew, with its new moniker, *Dicholocladosporium chlorocephalum.*

On the upper leaf surface, reddish and brownish "measles"-like spots develop earlier in summer, now coalescing into purple blotches. I noticed this week a different symptom on the lower leaf surfaces, described quite aptly by Nancy Pataky of the University of Illinois as "dull chestnut brown" in color.

Cladosporium blotch truly starts to look unsightly now and this worsens as the growing season wanes. The fungus overwinters on dead stems and foliage, which is a real hint for control. Sanitation, which OSU Extension, Lake County Educator Tom De Haas constantly reminds us, is a crucial key to plant disease management. Certainly is the key for Cladosporium blotch control. Horticulturist, purge, not thyself, but peony debris – in fall or early next spring.

The good news is that peony measles is not a serious health problem for this lovely plant. So – sanitize. Or if you cannot bear to ever look at measles again, get more modern peony varieties or start a preventive fungicide program next spring.

Bent Science. September also marks the beginning of the Bent Science Salon at the Bent Ladder Cidery and Winery at the Rittman Orchard outside of Doylestown Ohio. Starting the third Thursday of each month with this September 21 at 7:00, and continuing third Thursdays forever, we will have some fun interchanges of plant science and natural wonders. From plant galls to bees and other pollinators, from the science of wines and food to climate change. Up first, from yours truly this September 21, Weird Things in the Woods. Weird. Things. In. The. Woods. Bring your weird plant samples and enjoy my weird stylings and samples as well.