



Wildflowers

Inside this issue:

Plant Based Insect Repellents	2
Detroit River Wildlife Refuge Info	2
Ash Tree Alternatives	3
Effects of Demise of Native Ash	3
Web Wanderings	4
The Case for Choosing Native Plants	5
Book Review	6

President's Note

This year has been one of the best growing seasons in recent memory. Without question, many species of wildflowers on our property are the tallest I have ever seen them. Some of the Cup Plants (*Silphium perfoliatum*) are well over 10 feet tall. Even the Western Sunflower (*Helianthus occidentalis*) located on the highest and driest sandy ridge has many flower stalks over three feet tall. At my mother and father's home, there is a Compass Plant (*Silphium laciniatum*) that is easily over 9 feet and approaching 10. I should probably take an actual measurement as I may never see it reach those heights again. The fruits and vegetables from the farms and orchards in south-west Michigan have also been quite bountiful. The last batch of blueberries we bought at the farm had some quarter-sized behemoths, and they were oh so sweet. The Northern Dewberry (*Rubus flagellaris*) harvest on our property was also the largest since we moved here in 1998.

While the 2014 WAM Conference may be the farthest thing from your thoughts right now, the Conference Committee, along with the rest of the Board, has already been planning for many months. I take great pleasure in announcing that we have confirmed Rick Darke as our keynote speaker. For those of you not familiar with his work, here is a link to his web page - <http://www.rickdarke.com/bio.htm>. He is probably best known for his book *The American Woodland Garden: Capturing the Spirit of the Deciduous Forest*. Additionally, he just co-authored a new book with Douglas Tallamy. It is titled *The Living Landscape: Designing for Beauty and Biodiversity in the Home Garden* and is scheduled to be released in May of 2014. Rick will be presenting on both Sunday and Monday at the conference.

Enjoy the rest of summer!

Chad



Compass Plant



Cup Plant

Plant Based Insect Repellents

Tyler Smith contributed an interesting article on plant based insect repellents that work in the Journal of the American Botanical Council. 'Herbal Gram' number 98, May-July 2013. This can provide an alternative to purely synthetic formulas of "bug spray" for those who wish to use them. DEET, a synthetic insect repellent, is still more effective but can cause un-desirable side-effects in some children and adults who use it. What with the appearance of West Nile Virus in the US (in 2012, 250 deaths and 5,300 cases nationwide, and this summer rapid rise in tick populations, a person should protect oneself when working or playing outdoors.

EPA and/or CDC approval plant based insect repellents include the following. In 2008, the EPA approved hydrogenated catnip oil. It was approved in four formulations that include lotions and liquids. These are made by DuPont and can protect from 7-15 hours **HOWEVER**, none of these are currently marketed according to Mr. Smith. The EPA has stated that "no risks to human health will be expected from the use of hydrogenated catmint oil [as] it has low toxicity and is currently approved as a food ingredient. (RJK note- Nothing was said about whether in repelling mosquitoes one becomes a 'magnet' for weirdly behaving cats!)

A second effective plant based repellent is a natural chemical isolated from the lemon eucalyptus tree known as PMD. It is not 'lemon eucalyptus oil' which can be bought easily. The CDK approved it in 2005. It is as effective as DEET and lasts up to 8 hours. It is principally used in malaria endemic areas.

Citronella oil, less effective than DEET, protects for only about 2 hours and is a ubiquitous ingredient in insect repellent candles. It is registered by the EPA (1997) as a highly safe effective insect repellent.

Lots of other plant based ingredients have been tested as insect repellents but these were deemed the most effective by Mr. Smith.

RJK, PhD.



Detroit River International Wildlife Refuge

For our "WAMmers" in the southeast corner of the state, the DRIWR has released its goals for 2013. A lot will be happening at its locations, so stop in and watch an 'urban wildlife refuge' rise to world prominence. The goals in part are:

- Continue invasive species management at refuge units, including undertaking prescribed burns
- Restoring the Ford Marsh unit in partnership with Ducks Unlimited
- Expanding the Fighting Island sturgeon reef and constructing a new one near the Del Ray boat launch (Fort Wayne Reef)
- Sustaining the Detroit River Hawk watch
- Identifying other suitable locations for aquatic habitat enhancement projects within refuge waters
- Completing the investigative study of Grassy Island and identifying the proposed remedial option
- Acquiring at least three new refuge tracts with \$1.8 M of funding from the U.S. Department of Transportation or donation

Many more exist. To read more about the refuge got to its website: www.fws.gov/midwest/detroitriver/

RJK, PhD

Effects of the Demise of Native Ash Populations

I read an article on-line in the Washington Post (May 13, 2013) by Patterson Clark that brought back memories of the total collapse of the American Elm some 60 years ago. We have all seen the effects of the Emerald Ash Borer (EAB) unsightly blond bark patches, 'D' shaped exit holes, dead limbs, etc. I have lost 3 beautiful 30+ year old Green Ash in my yard to the voracious EAB. It is not yet moved all the way to the east coast states, but all of the 22 native North American Ash tree species are food for the EAB. That means 7.5 billion trees are sentenced to death by its feeding!

What the article really wanted to point out however was an earlier article in the scientific literature (February issue of the American Journal of Preventive Medicine) that there appears to perhaps be an indirect link to the disappearance of the trees and a possible rise in the number of cardiovascular and lower respiratory disease deaths by 24 per 100,000 people every year.

The health benefits of trees are known. They improve air quality, moderate temperature, provide opportunity for physical activity, and are psychologically soothing and act as buffer for stress. According to Mr. Clark, research has also shown that a

walk in the woods can lower one's heart rate, lower one's cortisol levels, and children living on tree lined streets are less likely to have asthma.

All is not gloom and doom however like the stories of the elms and chestnuts. There are 3 East Asian parasitic wasps whose larvae eat EAB eggs and larvae. In Michigan, 2 of the 3 species are well established and parasitism rates in areas inhabited by the wasps are currently at 10%. This should increase over time.

RJK, PhD



Pyrus calleryana

Ash Tree Alternatives

If you need to replace dead/dying Ash trees what should you select for planting? I picked up a list of 41 alternatives when recently at my (Mecosta County) soil conservation district office. All on the list are at least hardy to Zone 5. If planting numerous trees, do not select more than 10% of any one species to preserve diversity. Some of the species are listed here.

Autumn Blaze Freeman Maple
 Trident Maple (acer buergerianum)
 Sugar Maple
 Red Maple
 Horse Chestnut
 American Hornbeam (carpinus caroliniana)
 Hackberry
 Ginkgo
 Kentucky Coffee Tree
 Thornless Honey Locust
 Sweetgum
 Tulip Tree
 Callery Pear
 Common Chokecherry
 Linden and Little Leaf Linden
 Silver Linden (tilia tomentosa)
 Oaks (Bur, Shingle, Northern Pin, Swamp White, Chinkapin)

Note: Not all of the above are natives. Research what height, spread, soil conditions, etc. will fit best with your planting site before selection to assure success. Most of these will be compatible with sites where Ash trees were formerly planted.

RJK, PhD