

a voice
for the natural
landscaping
movement



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Celebrating natives
plant and natural
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Grapevine

By Maryann Whitman

Quotable statistic: One inch of rain falling on an average-sized yard results in four thousand gallons of storm-water runoff, which because storm water is not treated, goes straight to the nearest stream or lake. With it goes fertilizer, herbicide, bacteria from pet feces, driveway grease, soap from car-washing, grass clippings, and dirt and trash.

A recommendation from Cornelia Mutel (co-author with Stephen Packard of Tallgrass Restoration Handbook).

"I love Woodlands & Prairies Magazine, which since 2004 has been bringing together gardeners, landscapers, and others concerned with perpetuating native plants and environmental health. The journal broadens the reader's viewpoint through well-written, interesting stories about the activities of laypeople and professionals who are tending and using native-plant communities – through restoring retired agricultural lands, gardening with planting prairies, 'adopting' native landscapes, forestry and woodworking, producing nuts, administering public lands, fighting invasive plants, and the like. The journal focuses on passionate Midwesterners involved with these activities. But with its high-quality photographs and broadly interesting, highly accessible articles, I think that it would be welcomed by native-plant lovers and outdoors people throughout the country." More details on their web site at woodlandsandprairies.com.

Another reason why biodiversity is important.

Birds such as robins, Townsend's solitaires, and wax wings pluck chunky berries from the branches of dogwoods, junipers, and red cedars, then fly away to places where they can safely eat their prize – the berry's fleshy fruit that surrounds its small, hard seed. This feeding helps survival of the seed by moving it away from the competition of the parent trees. Seeds that birds swallow may pass through their digestive systems, land on the ground, and be carried away and buried by small mammals like deer mice or kangaroo rats. Burying hides the seeds from other seed eaters, and helps the seeds germinate.

The big picture.

Seeds of many plants are dispersed in two or more "phases," with a different type of dispersal agent involved in each. This method of dispersal is called



Adult Canada thistle stem gall fly
(*Urophora cardui*). Photo: Alec McClay,
McClay Ecoscience, Canada.

Continued on page 2

diplochory. For such plants, phase one of dispersal moves seeds away from the influence of the parent plant (reducing potential competition between seedling and parent), and reduces losses to seed predators by distributing seeds widely. Phase two often moves seeds to safe sites (e.g., below ground), where they are relatively protected from seed predators, and the chance of successful germination and seedling establishment are enhanced. The combination of two dispersal mechanisms often provides greater benefits to seeds than do most single means of dispersal. Diplochory is probably far more common in nature than is suggested by current literature, but with recent species declines, many such dispersal systems might be lost before they can be identified.

Nemesis of Canada thistle.

Canada thistle (*Cirsium arvense*) is an invasive that is familiar to us all. The weed may grow as a biennial, but grows primarily as a perennial, propagating by both seed and roots. Its vigorous spreading by roots largely accounts for its ability to crowd out other vegetation and achieve high stem densities in local areas. It seems that there are now three insects that will help us control this pest. None of them alone is enough to kill a thistle plant, but working in concert, having been introduced purposely, by western pasture-range farmers, they have a significant effect.

- Tortoise beetle: (*Cassida rubiginosa*), native to Europe; feed on stem and foliage of thistle, defoliating it; reduce plant hardiness.
- Stem mining weevil: (*Ceutorhynchus litura*), originally from Germany, larvae bore into the stem, crown, and root; permit entry of fatal rust fungus disease; reduce plant's root reserves.
- Canada thistle gall fly: (*Urophora cardui*), indigenous to all of Europe; eggs laid into stem tissue; larvae hatch and cause a large gall to form, distorting and stunting the stem above the gall.

Small-time gardeners should remember what these bugs look like, because they also will eat our desirable native *Cirsiums* (*discolor*, *muticum*, *altissimum*). (See July/August 2007, issue of the Wild Ones Journal.)

Recognizing the enemy lets you squish it before it does damage, or perhaps move it to a stand of Canada thistle where it may "go to town."



Damage caused by Canada thistle stem gall fly (*Urophora cardui*). Photo: Alec McClay, McClay Ecoscience, Canada.



Canada thistle stem mining weevil larvae (*Ceutorhynchus litura*). Photo: Norman A. Rees, USDA Agricultural Research Service.



Thistle tortoise beetle pupa (*Cassida rubiginosa*). Photo: David Cappaert, Michigan State University.



Thistle tortoise beetle adult (*Cassida rubiginosa*). Photo: David Cappaert, Michigan State University.