

September 6, 2005

Days of yellow and violet

This is the season of goldenrods and asters. In many ways more showy than the flowers of spring, these under-appreciated native plants are busy these days turning fields a riot of yellow and violet. Although goldenrod yellow is by far the dominate colour right now, the violets, mauves and whites of asters will reign supreme by month's end.

Peterborough County is home to about 15 species of each of these plant groups. Because the common names often change from one field guide to another, it is essential to know the scientific names. This is true for plants in general. By far the most common goldenrod species in our area is the Canada goldenrod (*Solidago canadensis*). Look for it in dry, sunny habitats. Watch, too, for grass-leaved (*S. graminifolia*) and early goldenrod (*S. juncea*). In rich, open woods, look for the aptly named zig-zag goldenrod (*S. flexicaulis*). Other common species in the county include blue-stem (*S. caesia*) and stout (*S. squarrosa*) goldenrod.

Although many of the asters are similar in appearance and identification can be tricky, it is certainly possible to learn the more distinctive species. Asters have always been a favourite plant of mine, probably because they are the last plants of the year to bloom and in this way represent summer's final offering. In fields, meadows and along roadsides, look for the deep violet-coloured New England aster (*Aster novae-angliae*), probably our most common aster species. In damp thickets, purple-stemmed aster (*A. puniceus*) is easily found along with flat-topped white aster (*A. umbellatus*). Large-leaved aster (*A. macrophyllus*) is a very common plant of wooded areas. The dominant asters later in September and in October are the heath (*A. ericoides*), panicked (*A. lanceolatus*) and calico asters (*A. lateriflorus*). All of these have white flowers and are usually the last wildflowers that are still in bloom after Thanksgiving.

The true star of the aster parade, however, is the New England aster. First of all, the flowers are a favorite nectar source for monarch butterflies as they migrate south to Mexico. They also attract a plethora of other insects. However, it is the colour contrast between the rich, violet rays and the deep orange-yellow center that really make this plant stand out. New England aster also really lights up the fall garden with its daisy-like flowers.

Ragweed, too, is in full bloom right now and its pollen has hay fever sufferers cursing with every sneeze. The small, green flowers of ragweed rely strictly on the wind to spread their light but irritating pollen. A single plant can produce one billion grains of pollen and breathing in only three or four of the spike-covered grains is often all it takes to cause the onset of hay fever symptoms. Pollen density is especially high during the morning hours. Contrary to popular belief, goldenrod does not cause allergic reactions, because its pollen is too heavy and sticky to be carried by the wind. The bright, yellow flowers of the goldenrod have evolved with the express purpose of attracting insect pollinators, and this is something they do extremely well.

Goldenrod is a veritable insect magnet, drawing in an amazing variety of species with its offerings of pollen and nectar. This provides us with excellent opportunities for close-up insect observation and photography. Among the various guests, watch for wasps, syrphid or hover flies (which mimic bees and wasps in appearance), ants, long-horned beetles, soldier beetles, ambush bugs, praying mantids, butterflies, wasps and especially honey bees and bumble bees. The round "baskets", brimming over with orange pollen, are easily visible on the hind legs of the bees. Crab spiders, too, can be found hidden in the flowers, ready to pounce on an unsuspecting wasp, while

small meadowhawk dragonflies are a common sight as they patrol the air above the goldenrod patch, scooping up flies.

Goldenrods are also well known for the ball-like swellings or galls that often appear on the stalks. These are actually caused by a common roadside fly, the goldenrod gall fly. In early summer, the female fly lays her eggs on developing goldenrod plants. The eggs hatch and the larvae burrow into the stalk and create a chamber in which to feed. The plant responds to this intrusion by growing a spherical deformation around the insect chamber. If you open the gall with a pen knife, you will find a small, white larva with a dark head. The larva spends the winter in this cozy enclosure, unless it falls victim to hungry downy woodpeckers.

In the spring, the larva becomes active again and chews out an escape tunnel, almost to the outer surface of the gall. It then moves back into the centre and pupates in a hard, cocoon-like puparium made from the larval skin. The adult escapes from both the puparium and the gall itself by inflating a spiny, balloon-like structure out through the front of its head! This structure presses a circular hole through both the puparium and the covering of the gall. It then retracts back into the head. Old galls usually show a small hole on the outside through which the fly escaped.

In addition to ball-like galls, you may also see an elliptical gall as well as a well-disguised bunch gall. The latter is found only in Canada goldenrod. The bunch gall is not a bulge but rather a mass of small leaves where a midge (*Rhopalomyia solidaginis*), a type of fly, laid its egg. This creates a stunting of stem growth. However, many small leaflets emerge creating a curious, dried-flower-like appearance. The elliptical gall is created by the larva of the goldenrod gall moth (*Gnorimoschema gallaesolidaginis*). The moth lays its eggs on the goldenrod in the fall, the eggs hatch out in the spring and then the larva burrows into the stem where it develops during the summer.

Try to take a moment to observe and appreciate our asters and goldenrods this fall. They are some of the last vestiges of summer and as much a part of autumn colour as the reds, oranges and yellows of the leaves.

What to watch for this week:

Early September is peak time for fall songbird migration. Warblers, vireos, thrushes, swallows and flycatchers are departing for Central and South America in huge numbers. Keep an eye on the weather forecast because the passage of cold front usually brings in large numbers of migrants. They can turn up anywhere, even in suburban backyards. Listen for chickadee calls because, quite often, you'll find migrants mixed in with them.

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