

December 14, 2004

Winter fruits

During these short, sometimes drab days of mid-December, colour is usually a rare commodity. Leafless trees and faded roadside plants create a world of grays and browns, punctuated only by the early-winter snow and the dark green of conifers. Against this muted background, the many fruits still clinging to vines and shrubs are finally able to grab our attention, no longer hidden by a cloak of foliage. Not only do they provide a welcome source of visual interest, they play a crucial role in the winter survival of a large variety of birds and mammals.

In the naturalized corner of our schoolyard stand several European highbush cranberry bushes (*Viburnum opulus*) which are laden every fall and winter with bright red, translucent fruits, hanging in beautiful clusters. I'm always surprised that the fruits are not immediately devoured by migrating birds, especially since they seem to yell out: "Come and get me boys!" Surprisingly, many of the berries are still on the branches at winter's end, while others have simply fallen to the ground. As it turns out, the whole matter revolves around fat content.

Bird migration demands high-quality food. High-fat berries provide more than twice as much energy as berries that are rich only in carbohydrates. Dogwood berries, for example, are rich in fats and are therefore a preferred food of migratory birds. Their high fat content provides calories to fuel the long flight south. However, high fat also means that the berries rot quickly and soon become inedible. Despite this risk, dogwoods have taken the evolutionary path of putting a great deal of energy into the creation of fatty fruit, hoping that the fruit is eaten before it rots. Judging by how quickly dogwood berries disappear from my own shrubs, the gamble seems worth it. When animals eat fruit, they rarely digest the seed itself, generally excreting it far enough away from the parent plant to generate a new seedling that won't be shaded out by the parent's leaves.

However, some trees have taken another evolutionary direction and decided to opt for low-quality fruits with a low fat content. The low fat but often high acid content means the fruits will remain fresh, bright and juicy until early spring. At this time, late winter or early spring migrants can turn to them when little else is available. They have usually had the chance to freeze and thaw several times by then which makes them more palatable as well. Bohemian waxwings, a species sporadically found here in late winter, is particularly fond of highbush cranberry fruits. These two kinds of fruit production - low quality and high quality - obviously have their pros and cons, but they do achieve the same end result, namely the spreading of the plant's genes.

If you are interested in planting highbush cranberry in your own yard, the best choice is the native American highbush cranberry (*Viburnum trilobum*). The European variety has shown invasive qualities, as it can escape from cultivation and spread vigorously. The fruits of *trilobum* also seem to be more popular with birds.

Winterberry holly (*Ilex verticillata*) is another eye-catching species which holds its fruit over much of the winter. Laden with Christmas-appropriate crimson berries, you will find this shrub growing around lakes and in wetland borders. Like highbush cranberry, the berries often go untouched for months. Once again, low fat content explains their durability. However, as with many things in nature, winterberry holly presents a paradox. The berries do seem to be popular with one species, namely migrating fall robins, which appear to ignore the holly's low food quality and gobble it down just the same. Maybe it just tastes really good!

Staghorn sumac, too, provides the winter landscape with much-needed dabs of colour. Its

purple-red plumes of berries serve as a late winter and early spring emergency food. However, the pickings are slim. Not only are sumac berries low in fat, but there is very little pulp in the berry and the seed is quite large. Birds usually don't bother with them until at least March. By this time, the freeze-thaw cycle has softened the berries up and made them attractive to a variety of early migrants such as robins and flickers.

Unfortunately, the most common winter berry to be found in and around Peterborough is also the least attractive. It is, of course, the European buckthorn. In winter, this small tree of Eurasian origin can be identified by the thorns born at the tips of most of the branches, the flaky bark and the black berries. The leaves are not shed until very late in the fall, and the berries often stay on the branches until March - that is, unless robins or cedar waxwings get to them first. The berries are also a strong laxative. If you have concrete or patio stones near your buckthorn trees, they often end up with a purple stain from the bird droppings.

Buckthorn is also a very aggressive species which can easily out compete native trees and shrubs. Buckthorn infestations result in a lack of plant diversity which decreases the habitat value of fence rows and woodlots. Because only one kind of food and cover is being provided, wildlife diversity is reduced as well. Buckthorn stands are also unattractive from an aesthetic point of view, especially in the fall when the trees stay green long after most native trees are bare. Sticking our like a sore thumb, buckthorns take away from our "sense of place". Native woodlands should have native species. Also, because of the thick lower branches and numerous thorns, a buckthorn stand is not very pleasant to walk through. Whenever possible, removing the buckthorn and replacing it with native species such as cherries, serviceberries and dogwoods is the preferred option. From an evolutionary perspective, buckthorn has only been part of the robin's winter diet for a very short time, so I'm sure they'll adapt!

Other berries to look for when out on a winter walk include those of wild grape, bittersweet, hawthorn, and the viburnums such as maple-leaved viburnum, arrowwood and nannyberry. In built-up areas, look for the orange berries of European mountain-ash and the red, yellow or orange fruit of crabapples. Remember, too, to keep an eye open for bird activity around any stand of winter fruit. With any luck you may be treated to a flock of robins - a small number of which overwinter in Peterborough every winter - or maybe even more exotic species like pine grosbeaks or bohemian waxwings.

What to watch for this week

A huge bank of clouds along the horizon is a common winter sight when you look south from Peterborough on a clear day. These clouds form over Lake Ontario as a result of water vapour from the relatively warm lake condensing in the cold air above.

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