

Context:

Gabriola natural history

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Scotch broom—the golden gangster

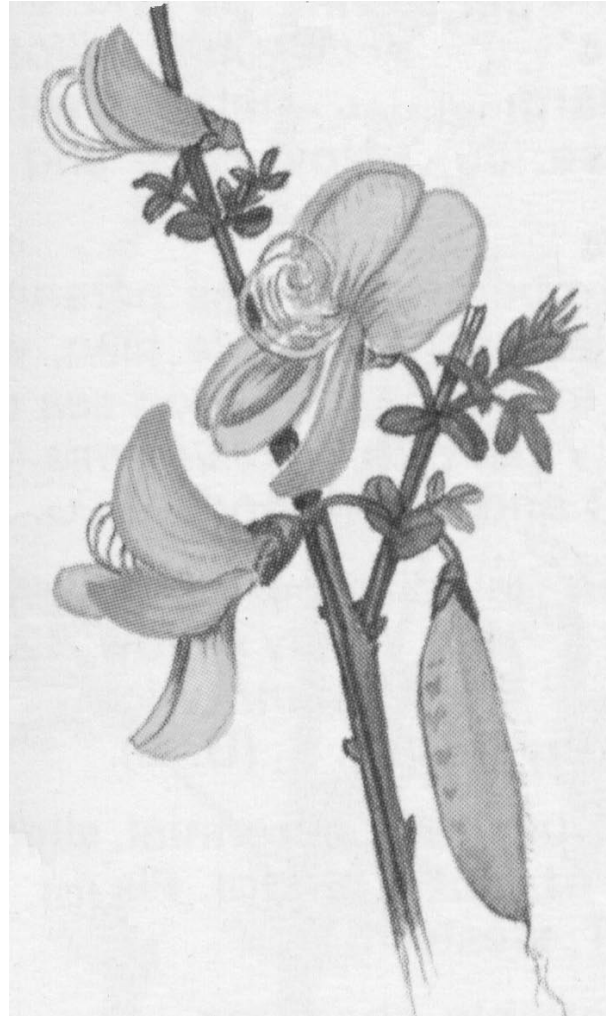
by Phyllis Fafard

As alien plants go, Scotch broom (*Cytisus scoparius*) is of minor importance on a Canada-wide scale. It was not even included on a survey of invasive plants in a recent study by the Canadian Wildlife Service. However, to those of us in southwestern BC who notice the acid yellow blooms encroaching along highway rights-of-way and invading our wild places, it is a plant for concern.¹

It has spread rapidly. Seed from the Sandwich Islands (Hawaii), where it was grown as an ornamental, was introduced to Vancouver Island in 1850 by a Scottish immigrant, Captain Walter C. Grant. Apparently, only three of the seeds he planted at his home in Sooke germinated, but their progeny has spread steadily and is now well established in West Vancouver, Squamish, most of the Gulf Islands, and southern Vancouver Island. Broom has

¹ Readers of Scottish descent who share concerns about broom might like to note that in other parts of the world *Cytisus scoparius* is variously known as: English broom, Irish broom, and European broom. In the Pacific states of the US, Spanish broom (*Spartium junceum*), French broom (*Genista monspessulana*), and Portuguese broom (*Cytisus striatus*) are also listed as being established with potential to spread. However, not all brooms are “bad”. Species suitable for gardens include *Genista lydia*, *Genista pilosa*, and *Cytisus praecox*, and many people, including myself, have had no trouble with *Spartium junceum*.

The word “broom” appears to be derived from an Old Teutonic word that meant “thorny shrub”. “Bramble” has a similar origin. Scotch broom probably acquired the name at some point through confusion with gorse (*Ulex europaeus*), a very prickly plant with similar appearance and habits that is common in Britain. The foliage of broom subsequently gave its name to the familiar sweeping tool and alternative mode of transport.



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reached as far north as Bella Bella, east to the West Kootenay region, and as far south as central California. Five states including Washington and Oregon classify it as a noxious plant. It is not yet considered a problem in the interior of BC but its continued spread is likely in areas where conditions are suitable.

Scotch broom is native to the British Isles and the Mediterranean area of Europe where

it is well adapted to a climate very similar to our own, with mild wet winters and warm dry summers. It is arguably an attractive plant with wand-like green branches reaching a height of three metres and a massive display of showy golden “pea” flowers borne singly in the axils² of the leaves in spring and early summer. It was an early garden favourite and several breeders played with the variations of colour they found creating forms such as “Andreanus”, with reddish wing petals. Some of the older British hybrids include “Cornish Cream”, “Lord Lambourne”, and “Lady Moore”. Variations of floral colour are apparent on many of the naturalized shrubs found on Gabriola. However, lovely as it is, it fits beautifully into the Pacific Northwest Exotic Pest Plant Council’s definition of a weed—“a non-native plant that disrupts or has the potential to disrupt the natural ecosystem function, composition, and diversity of the site it occupies”.

Characteristics that make a plant invader successful are wonderfully displayed in this species. Showiness is definitely an asset as friends willingly pass along seeds and cuttings. Seeds travel easily in drainages and streams. Also it grows with vigour. Anyone can grow broom. It is totally forgiving. It tolerates a wide range of soil conditions with pH values from 4.5 to 7.5. In fact, there is evidence that broom has a slight tendency to make the soil more acid, which makes it less hospitable for most plants that, would compete with it. It also has the legumes’ capacity to “fix” or convert gaseous nitrogen into a form useable by the plant through specialized bacteria, which live in the roots. It quickly colonizes disturbed areas, and is well adapted to withstand drought having reduced leaves

² the notch between the upper side of the leaf and the stem at the point of attachment

and a tough waxy epidermis. The plant is semi-evergreen, retaining leaves, which together with the green stems continue to photosynthesize during the time when most deciduous shrubs are dormant. The taproot goes deep for moisture and anchorage and the root system is so successful for binding soil that highway departments in several areas have planted it to stabilize road embankments. This practice assisted the spread of broom in past years. BC Ministry of Transportation and Highways now uses a sterile form of the plant for such purposes.

The reproductive capacity of Scotch broom is remarkable. Its fragrance, bright colour, and large flowers are indicators that it is pollinated by insects. Pollination is enhanced by the unique design of the five-petalled flower with its ten stamens, which spring up to deposit pollen on the underside of a nectar-seeking bee. Seedpods are borne generously with two to nine seeds per pod, which open with an audible snap when expelling the contents. In addition to bountiful seed production which begins when the shrub is about two years old, the seeds can remain viable in the soil for up to thirty years establishing a “seed bank”. When suitable conditions occur some of the seed germinates. A fire above, instead of destroying the seeds, actually enhances their viability and prepares the seedbed.

There are many reasons to look at this attractive and fragrant shrub with concern. Without the constraints of its native homeland, it is spreading. In many areas it has left the gardens and roadsides and is moving into the coastal Douglas-fir forests and is interfering with reforestation following harvest. The major negative impact however is the invasion of sensitive ecosystems such as the Garry oak meadows. These meadows are home to many species including the common camas (*Camassia*

quamash). Broom is not the only non-native species to invade these threatened areas (exotic grasses may comprise over thirty percent of the total species in Garry oak ecosystems) but Scotch broom has visibly altered the makeup of many of these ecosystems, changing the soil nutrients and crowding out native plants.

Another concern is the toxic nature of this plant. While the pea and bean family³ has many tasty and nutritious examples, broom along with lupine, locust, and the lovely laburnum are poisonous. At one time the roasted and ground seeds of Scotch broom were used to make “coffee”. We have learned however that this plant contains toxic quinolizidine alkaloids that can depress the heart and nervous system, and cause nausea and vomiting.⁴ Scotch broom can also produce respiratory distress in some people during the flowering season though lighter wind-borne pollens are considered a greater irritant. It may be that its early use as a besom (twig broom) is the best way to use this plant,⁵ though its newly promoted role as Christmas wreath material seems promising, at least in terms of removing some of it from the wild.

Broom is often found growing in provincial parks like our own Drumbeg Park but the

³ Fabaceae (Favaceae), formerly Leguminosae.

⁴ Alkaloids are compounds in which one carbon atom in a standard ring of six has been replaced by a nitrogen atom. The nitrogen’s additional electron makes the molecules chemically very active. Nearly all are poisonous. Alkaloids are produced by a few plants, and are especially common in small brightly-coloured tropical frogs. Familiar alkaloids include caffeine, nicotine, morphine, and strychnine.

⁵ There is however an old English rhyme: “If you sweep the house with blossomed broom in May, you are sure to sweep the head of the house away”. Broom also used to be used for basketwork, thatching cottages, and in the making of fences.

Parks Department in these days of financial constraint lacks the resources to control it. Various volunteers and conservation groups are mobilizing to attempt control of this plant. Much work has been done in the Victoria area by groups such as the Garry Oak Meadow Preservation Society. Clearing has been initiated on Gabriola by volunteers including Jay Mussel through Heartlands and more recently by Margaret Taylor coordinating the activities of the Gabriola Walking Group. This spring, the Parks Department has approved the use of mechanized equipment for this purpose. Whether or not Government resources will be found to curtail the spread of this species or whether volunteer groups and the “enlightened” public can hold the line remains to be seen. Considering all the events that are taking place on a worldwide scale that are completely beyond our ability to direct or modify, the physical removal of an offending green shrub may be a small satisfaction.

Bibliography

Elizabeth Carson, *Overview of Scotch Broom in British Columbia*, An initiative of Invasive Plants of Canada Project, Parks Canada, Canadian Heritage, May 1998.

Lewis J. Clark, *Wildflowers of British Columbia*, Gray’s Publishing, Sidney BC, 1973.

J.W. White, E. Haber, and C. Keddy, *Invasive Plants of Natural Habitats in Canada*, Canadian Wildlife Service & Canadian Museum of Nature, 1993.

Jim Pojar & Andy MacKinnon (ed.), *Plants of Coastal British Columbia—including Washington, Oregon & Alaska*, Lone Pine Publishing, 1994.

K. Zielke, J.O. Boateng, N. Caldicott, and H. Williams, *Broom and gorse in British Columbia—a forestry perspective problem analysis*, Silviculture Branch, Ministry of Forests, Vancouver BC, May 1992. ◇