Roses at UBC Botanical Garden

The history of roses and botanical gardens is firmly entwined. Few plants are as revered by the public or as rewarding when well grown to both growers and garden visitors, and garden managers have found it easy and frequently profitable to capitalize on the public's attraction to roses. In practically any jurisdiction in the temperate world, in almost every display garden, roses figure prominently. Botanical gardens from Dubuque (Iowa) to Chandigargh (India), and from Christchurch (New Zealand) to St. John's (Newfoundland) promote themselves through their rose gardens.

A significant aspect of rose culture is the degree to which these plants have been hybridized. Rose breeding has an impressive history - sufficiently complex and fascinating to be the subject of countless books. Today, most modern rose gardens are planted almost exclusively with hybrids. The overwhelming majority of those are "hybrid tea" and "floribunda" roses, and it is the convention to plant this sort of rose out in regular patterns in rectangular or semi-circular beds. Such roses also require a particularly severe kind of pruning, both for optimal health and maximum flower production, and the resulting awkward, sparsely branched habit seems to demand a formal treatment. Typically, rose beds are kept very clean: free of weeds or other "competing" ornamental plants, so that the overall effect is rather stark and artificial, particularly when plants are without leaves. Nevertheless, there are many well designed and beautiful rose gardens around the world; one such is the University of British Columbia's. Here one finds the typical mix of modern cultivars and older favourites, the subtle and the vibrant, the intensely fragrant and the scentless, the well-behaved, the gangly and the sulking. Out of flower, their shortcomings are easily overlooked, as the garden has both strong architectural elements and stunning views of Georgia Strait and especially to the north, Howe Sound and the icy Tantalus Range beyond.

Botanical Garden staff once maintained the UBC Rose Garden, when there

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was sufficient staff to attend to such things, but the campus gardening crew of Land and Building Services now has the responsibility. On the opposite side of the campus, where the Botanical Garden now resides, there is no such assembly of roses; ours is primarily a collection of species planted to grow amongst other plants in a naturalistic way, without benefit of pruning or extraordinary maintenance. These roses are distributed between four main areas of the garden. The formally arranged Physic Garden houses a small number of European species noted for their early use in herbalism. The E.H. Lohbrunner Alpine Garden is home to primarily low-growing, drought-tolerant species and hybrids, and the BC Native Garden to local taxa. The bulk of the Botanical Garden's rose collection is found in the David C. Lam Asian Garden, where there is plenty of room for larger growing species and selections. Still others, primarily old hybrids too valuable or attractive to discard, such as the climbers 'Mme Alfred Carriere' (1879) and 'The Garland' (1835), are located in a few out-of-the-way places.

Classification

There are currently more than 60 different roses in the Botanical Garden, with nearly half representing documented wild collections of species from Asia (ca. 20 taxa) or native species and forms from British Columbia (10 taxa). Of the remaining, approximately 20 are hybrids or selected forms of species, and 15 are presumed wild (but undocumented) species from commercial sources. About two thirds of all of our roses are shrubs, and the remainder, climbers. In modern rose taxonomy (i.e., excluding the classification of hybrids), the genus is split into four subgenera: *Platyrhodon*, *Hulthemia*, *Hesperodos* and *Eurosa*, these separated on the basis of significant differences in fruit structure. The first three subgenera are monotypic (each representing a single species) or consist of two species, while the subgenus *Eurosa* comprises 10 sections with approximately 100 to 150 species (see Rehder, 1940). There is general agreement that the classification of roses is a difficult matter (not to say anything of organizing the hybrids), fraught with often subtle anatomical distinctions and historical disagreements. Fortunately, recent investigations using modern molecular techniques for assessing phylogenetic relationships give support to the classification as outlined here (see Matsumoto, Kuchi and Fukui, 2000).

Armature

Nearly all roses are armed to some degree, and contrary to both vernacular and common literary usage, the correct assignation is not the thorn, but the prickle. This descriptor has nothing to do with shape or size of the weapon; prickles can be straight or curved. Rather, it is the kind of tissue from which they are derived that determines whether a thorn, prickle or spine. Prickles are common to roses and brambles (*Rubus* spp.), as well as a number of other clambering and climbing plants. Technically, a prickle is merely an outgrowth of the epidermis of the stem. In roses they may be densely borne or almost or entirely absent, or commonly, scattered along the stems. A frequent arrangement sees prickles organized in pairs immediately below a leaf (i.e., an *infrastipular* arrangement). The lanky stems of climbing roses have scattered, downward curved prickles that help the stems gain a foothold on a variety of rough or vegetated surfaces, and thus, allow the plants to climb. In most cases, prickles eventually wear off older stems naturally, and they can be physically removed, as is sometimes seen with long stem cut roses, usually without any lasting damage to the underlying tissues.

Thorns are modified branches, and spines, the modifications of leaves. Unlike prickles, both thorns and spines are, at least initially, vascularized; i.e., intimately connected with the internal anatomy of the plant, and therefore strengthened by it. Typically, the thorns of climbing plants such as *Elaeagnus* (sweet olive) or *Bougainvillea* (bougainvillea) are longer and more robust than the prickles of roses, angled backward down the shoot and wickedly sharp. The small size and inherent weakness of prickles is more than made up for by their great numbers in the species that use them to climb. The prickles of non-climbing roses are often exceptionally numerous and the stems rather bristly, and these provide considerable protection from browsing animals.

Banksianae, Hulthemia and Pimpinellifoliae

Yellow-flowered rose species are relatively uncommon in nature, although a good number are found in Asia and four taxa are grown in the Botanical Garden. The yellow forms of the evergreen Lady Bank's rose, *Rosa banksiae* (section *Banksianae*) including the most commonly grown, double-flowered version, *R. banksiae* 'Lutea' (which climbs, despite being essentially "thornless"), are thought to be hybrids derived out of China. The shrubby

R. xanthina, also from China, *R. hemisphaerica*, from western Asia (both members of section *Pimpinellifoliae*) and *R. persica* (subgenus *Hulthemia*), native to the steppes and deserts of Asia, are responsible in large part for contributing the yellow flower pigment to modern roses. Section *Pimpinellifoliae* is characterized by plants with small, mostly solitary flowers and relatively thin, bristly stems with small leaflets. Nearly all roses have pinnately compound leaves; only species in subgenus *Hulthemia* have simple leaves. This section also includes the notable *R. sericea* subsp. *omeiensis* f. *pteracantha*, whose flattened, translucent scarlet thorns, primarily borne on young, vigorous shoots, are a significant ornamental feature, particularly when backlit. Unfortunately, many of the plants in this section, and yellow species in general, are short-lived at UBC, due to in part to their preference for drier conditions and susceptibility to black spot disease (*Diplocarpon rosae*) and powdery mildew (*Sphaerotheca pannosa* var. *rosae*).

Cinnamomea

The majority of roses in the Botanical Garden are attributed to section *Cinnamomea*, the largest of all of the sections. The species here are mostly upright shrubs with pairs of infrastipular and/or scattered prickles. Flowers are borne in many-flowered clusters and the hips are usually elongated and smooth. Arguably, one of the most ornamental species is the Chinese *R. moyesii*, a tall, open shrub to 6 m, noted for its clear pink to geranium-red flowers and bottle-shaped hips. The cultivar 'Geranium', the commonest of the red-flowered *R. moyesii* (Figure 3) seedlings, is well known and valued particularly for its hips. The rose hip (or hep) is derived from the hypanthium of the flower (the floral cup) and encloses the true fruits (multiple, indehiscent, single-seeded fruits) in a fleshy pulp. Rose hips are sometimes used in preserves and are an excellent source of vitamin C and, not surprisingly, birds especially favour them. Species in this section also flourishing in the David C. Lam Asian Garden, and similarly attractive in fruit, are plants of *R. davidii*, *R. macrophylla*, *R. sertata*, *R. setipoda*, *R. sweginzowii*, *R. wardii*, *R. webbiana* and *R. wilmottiae*.

Many of the species in this section are so similar as to be basically indistinguishable, except to the experienced eye; however, a few are clearly extraordinary. Plants of *R. sertata* subsp. *sertata* (front cover) (syn: *R. hwangshanensis*) from western China planted in the Asian Garden exhibit strong,

nearly prickle-free, arching stems (to 3 m) that begin as startlingly bright pink leafy spears. As they expand, the developing shoots change to the palest blue-green before becoming olive-green and with age, corky-brown. The deep pink, 4-5 cm diameter flowers are borne against ample, dark green leaves with purple-tinged marginal serrations, and are followed by small, smooth red crabapple-like hips with long, twisted calyces. Another, a *R. macrophylla* affinity, sports fat green to orange-green stems, densely bristly at their bases, with broad, flattened, apricot-coloured prickles on the upper portions of the stems. Its pink flowers are followed by glandular, glistening orange to crimson, flagon-shaped hips, which smell of pine.

Another Chinese species, *R. elegantula*, known as the three-penny bit rose, has an interesting history. Collected by Reginald Farrer in the hills of southern Gansu in 1915, and subsequently named for him (*R. farreri*), the same species was actually collected and introduced as *R. elegantula* more than a decade earlier by Ernest (Chinese) Wilson. It is one of Farrer's seedlings that yielded the superior 'Persetosa', however, with its darker flowers and bristlier stems. Planted in the Asian Garden, this cultivar sprawls into the low branches of a large *Acer griseum* (paperbark maple). The stems reminded the celebrated garden writer and grower of Farrer's original seedlings, E.A. Bowles, of "some furry caterpillar with a waxy-grey body and rose coloured hair." The tiny flowers (hence the common name) open salmon-pink from coral buds and are followed by delicate orange hips in autumn.

The majority of North American native roses belong in section *Cinnamomea*, including all of those found naturally in British Columbia. One of the largest flowered is the beautiful pink *Rosa nutkana* (Nootka rose), named for the first peoples of the west coast of Vancouver Island and the area (Nootka Sound) where Europeans first encountered them, and where the shrub is common. The first European seamen to explore these waters were greeted with shouts of "Noot-ka-eh! Noot-ka-eh!" by the people there. The sailors took that as an exclamation of self-identification, but it turns out that *nootkaeh* translates in the language of the Nuu-chah-nulth (Nootka) people as "Go around!" Clearly, it was meant as a warning to the tall ships to avoid the rocky shoals.

A particularly vigorously stoloniferous and heavily-flowered form of another native, *Rosa woodsii* subsp. *ultramontana* (Figure 4), was selected in south-eastern British Columbia by Wilf Nicholls, and named 'Kimberley'

after the town near to where it was collected. At the time, it was considered for inclusion in the Botanical Garden's Plant Introduction Scheme (PISBG), but ultimately, judged unsuitable for residential landscaping because of its excessive below-ground vigour. Despite its aggressive tendencies, however, it has much to recommend it, including excellent cold hardiness, copious soft pink flowers and glaucous leaves with red petioles. 'Kimberley' is an excellent nursery plant, easily propagated from stem cuttings and quick to fill a container with its lush, compact growth. It has become a popular rose for highway and industrial plantings locally.

Chinenses

Rosa × *odorata* 'Mutabilis' (often listed as *R. chinensis* 'Mutabilis') is a rose that did make the PISBG recommended list. Although a hybrid, the venerable parentage of this "tea rose" and its species-like disposition are often factors in its inclusion in species collections. The plant is shrubby (2-2.5 m) with purple-brown stems and bronze emerging, nearly evergreen leaves. A recurrent bloomer (flowers are produced successively over the season), the large, single flowers (to 8 cm or more) are fragrant and unfurl yellow-apricot, changing to pink when fully open and eventually to brick red. All shades can be seen at the same time on established plants. Happily, this cultivar is completely free from black spot (an uncommon trait in a rainy climate), and it was this fact that probably tipped the balance in favour of recommendation by the Botanical Garden. The original cross of *R. gigantea* × *R. chinensis* (both species are in section *Chinenses*) that produced the original tea roses occurred in their native China, probably centuries ago, although some insist the species hybridize in nature and thus, did not require human intervention. Botanists have known 'Mutabilis' itself since the late 1890s, but it is probably much older.

Caninae and Rosae

The dog rose or briar, *R. canina*, and its relatives in the Botanical Garden, *R. rubiginosa* (eglantine or sweet briar), *R. pulverulenta* (syn: *R. glutinosa*) and *R. villosa* (apple rose) are shrubs or climbers with fragrant, mostly pink flowers, and red hips. The dog rose could hardly be called pretty - it is certainly an unruly, prickly climber - but Europeans write about it with tremendous fondness and nostalgia, as it is the common wild rose that inhabits hedgerows. *Rosa canina* is vigorous, easily grown from seed, and commonly used as an

understock for the grafting of hybrids - a practice celebrated by Shakespeare in *A Winter's Tale*:

> You see, sweet maid, we marry
> A gentler scion to the wildest stock,
> And make conceive a bark of baser kind
> By bud of nobler race; this is an art
> Which does mend nature, change it rather, but
> The art itself is nature.

While it has been argued that Shakespeare might only have been extolling the virtues of grafting in general (it was probably better known as common practice for apples and other rosaceous fruit trees), it is nevertheless cheering to think of the normally formidable dog rose in more poetic terms. Section *Caninae* makes a valuable contribution to the botanical garden as a significant biological curiosity, as well; significant, because its species are mostly pentaploids (i.e., with five sets of chromosomes), a condition that would normally render them sterile. Typically, an even-numbered multiple of the base chromosome number is required for normal sexual reproduction to occur. Despite this, viable seeds are set, as, in this group, the maternal parent contributes four-fifths of the genetic material and the pollen parent one-fifth. Plant geneticists call this peculiarity *matroclinal heterogamy*. Success only through such lopsided reproductive blending explains why this group has not contributed much in conventional rose breeding.

A common feature of species in this section is sweetly aromatic foliage, and both sweet briar and apple rose are noteworthy in this respect, particularly after rain. In Vancouver, our plants in this section are generally disfigured by leaf diseases (especially under overhead irrigation), except for the hairy-leafed *R. villosa*, which barely registers a blemish. This accommodatingspecies is from central and southern Europe, Asia Minor and the Caucasus. *Rosa villosa* has luxurious, velvety soft, blue-grey-green leaves on stiff, upright stems, and small clusters of slightly fragrant flowers. The plant under this name in the Asian Garden has mostly unarmed stems to about 2 m tall, and following the attractive floral display, clusters of fat, sealing-wax-coloured hips. These are reminiscent of another disease-resistant species, the frequently planted *R. rugosa*, Ramanas rose (section *Cinnamomea*), from the maritime regions of China, Japan and Korea. Both the leaf-backs and the hips of *R. villosa* smell strongly of apples - hence the common name.

Photo: Gerald Straley

Figure 3. *Rosa moyesii*.

Photo: Wilf Nicholls

Figure 4. *Rosa woodsii* subsp. *ultramontana* near Kimberley, British Columbia.

Photo: Daniel Mosquin

Figure 5. *Rosa roxburghii.* The prickly fruits smell of apple.

Photo: Daniel Mosquin

Figure 6. *Rosa* 'Cooperi'. Sir Christopher Lloyd praised this particular plant during a 2003 visit to UBC.

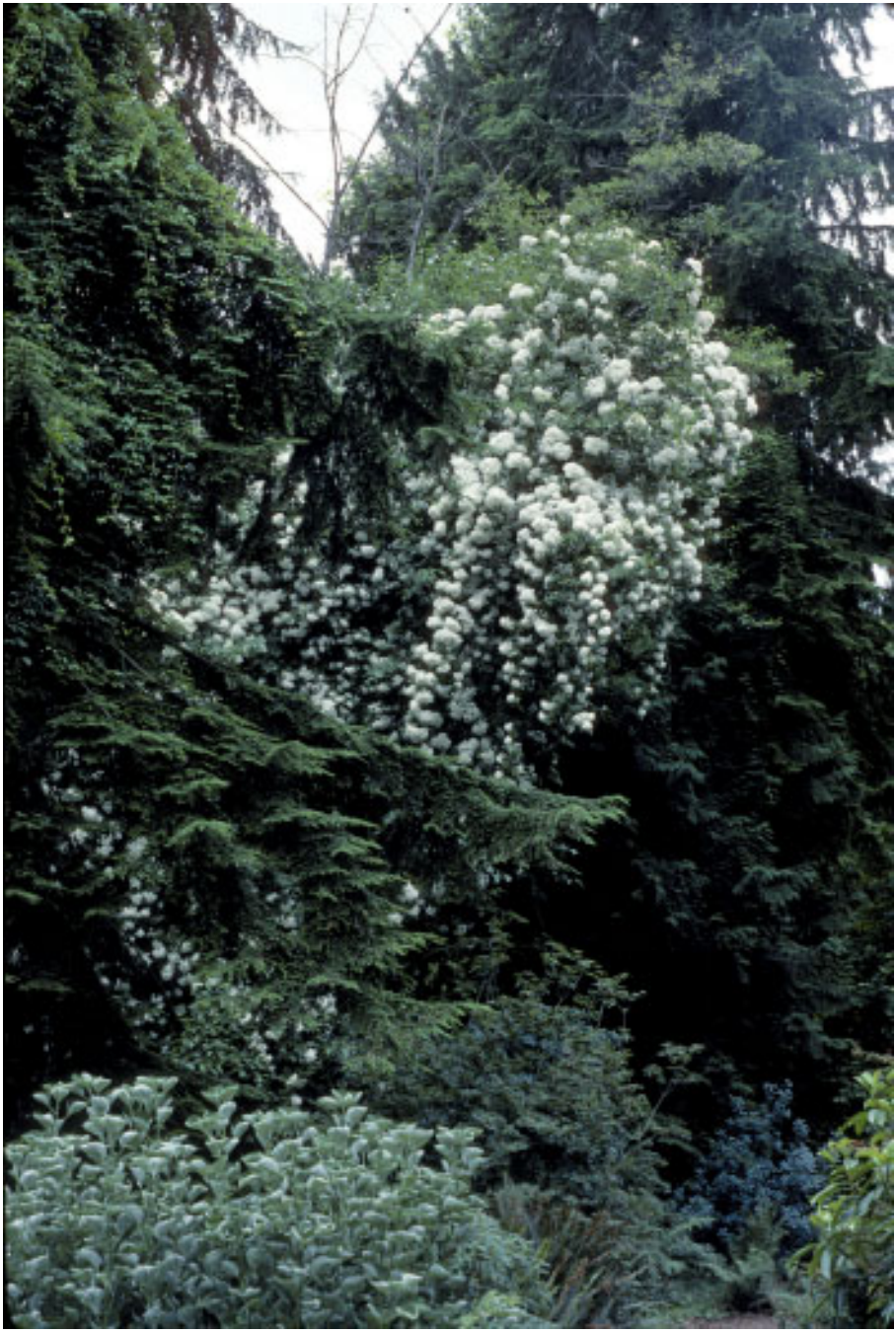

Photo: Douglas Justice

Figure 7. *Rosa filipes* 'Kiftsgate'.

Photo: Daniel Mosquin

Figure 8. *Rosa filipes* 'Kiftsgate'.

The Physic Garden, one of the more intimate features of the Botanical Garden (it is enclosed by a high hedge), features a number of shrubby roses, including the semi-double, red, Apothecary's rose, *Rosa gallica* var. *officinalis* (section *Rosa*) and Rosa Mundi, *R. gallica* 'Versicolor', a variegated (pink streaked) sport of var. *officinalis*. The former, known at least from the Roman era, was once widely cultivated for its medicinal and culinary properties and perfume. Closely related and nearby them in the Physic Garden is the beautiful double-flowered *R.* × *damascena* 'Versicolor', the York and Lancaster rose.It is a plant known from Tudor times, so named because both white and pink flowers are borne on the same bush. The Damask roses have always been recognized as ancient Gallica hybrids, but only recently has this been proven. DNA analysis has shown that the oldest *R.* × *damascena* cultivars (including 'Versicolor') are triparental hybrids derived from *R. gallica*, *R. moschata* (section *Synstylae*) and *R. fedschenkoana* (section *Cinnamomae*) (Iwata, Kato and Ohno, 2000). Both the Damasks and the Gallicas figure importantly in the development of modern roses, having provided, among others, the qualities of late flowering and strong fragrance. These roses are the usual sources of attar of roses, a highly-valued preparation used in perfumery and flavouring.

Platyrhodon and Laevigatae

Rosa roxburghii (Figure 5) (chestnut rose) is a favourite of many long-time visitors to the Botanical Garden. An upright grower to about 5 m, it has mostly smooth stems with paired prickles. Three features make it a standout: large, fragrant, solitary pink flowers that contrast well with the mountain ash-like pinnate leaves; papery, exfoliating bark on older stems; and aromatic, walnut-sized, prickly fruit with stiff, upright, persistent sepals. In the Asian Garden, a number of individual plants more than 25 years old are grouped together and create a high tunnel effect. The hips, which are amply produced, fall in August when still green, littering the narrow trail and scenting the surrounding area with the fragrance of apples. Subgenus *Platyrhodon* consists of the Chinese R. *roxburghii* and one other similar, closely related Japanese species, *R. hirtula*.

A more recent acquisition to the garden is Cooper's Burma rose, *R.* 'Cooperi' (Figure 6), a seedling of the robust, western Chinese climber *R. laevigata* (section *Laevigatae*). In the Shop in the Garden, there are more requests for this rose than all others put together. Although rather tender,

this rose has an exuberance seldom seen in many plants. Its evergreen leaves are lustrous bright green, completely unaffected by black spot or mildew, and densely held on smooth, red-brown stems with curved prickles and small bristles at the growing tips. The single, white flowers are freely borne, fragrant and up to 10 cm across. As they age, they become spotted and stained with pink. Large, top-shaped orange-red hips are produced after particularly warm spring and summer weather and in cold winters in Vancouver, plants will defoliate partially or die back completely. Our plants are sited where they have the benefit of afternoon heat, on a south-facing slope and wall. Here they grow with riotous abandon and must be clipped back frequently.

Synstylae

Some of the most impressive sights at UBC Botanical Garden are climbing roses at various stages of scaling mature (30-50 m tall) conifers. Most of these climbers belong in the section *Synstylae* and many are amazingly robust. For example, *Rosa mulliganii* is a 10 m wall of glossy green leaves, dangerous, looping stems and in June, opulent clusters of fragrant flowers. *Rosa longicuspis* var. *sinowilsonii*, at only 20 years, has swathed the entire south side of a 30 m tall *Thuja plicata* - the *Flora of China* lists this species as growing to 6 m tall - in a tangle of its ferocious stems. Both stems and the backs of the leaves of both species are studded with hooked prickles, making these roses extremely difficult to handle, but able climbers. Sinowilsonii, as we call it, is a wondrous sight, especially when covered in hundreds of thousands of fragrant white flowers, each about 5 cm across. Its dark, evergreen foliage is uncompromising, however, and will smother any green growth beneath it. Now that the tree is nearly completely engulfed, we won't wait long to make the cut, as the *Thuja* can't go on much longer under this heavy cloak.

Increasingly, we have had to deal with aggressive lianas (woody climbers) in this way. As they age, a number of plants in the Asian Garden, including, *Actinidia* spp. (kiwifruit), wisterias, grapes, *Celastrus* spp. (bittersweet), climbing roses and a few others, seem to actually increase their rate of growth, although this is probably just the normal arithmetic increase in size coupled with the remarkable scale of vine and host. Nevertheless, it does sometimes look as though they're growing at a demonic rate, particularly when they near the tops of giant conifers or bound from one tree to the next. Typically, these lianas eventually overtop their hosts, whereupon they flower and fruit even

more heavily than before. This adaptation is particularly advanageous for species with bird-dispersed seeds, but not so for the tree underneath. Luckily, few of these monsters produce seed that successfully survives our soggy winters. We are watching this very closely, though, and will step in quickly in the event that seedlings begin to survive. Once stems are cut off at ground level, the arboreal portions immediately wither and die and are a horrible sight, but the resurging tree branches quickly gobble them up. The vines eventually break up and fall to the ground or disintegrate in-situ, or birds, including bald eagles and other large raptors, take them away for nest building. Within a few years, there is little outward evidence remaining.

Synstylae is so named because the styles (pollen-receptive appendages of the carpel) are fused together into a column and exserted at or beyond the level of the stamens in the open flower. Despite this rather technical formula, the species are actually "of a kind" and easily distinguished as belonging to the section. Nearly all of them have similar hooked prickles on stems that climb, sprawl or recline - the beautiful, diminutive semi-evergreen, *R. wichuraiana* is an excellent ground cover - and all produce large corymbs of usually white flowers, followed by small, often showy, globose hips. Without a doubt, the most famous of all *Synstylae* is a selected form of *Rosa filipes* called 'Kiftsgate' (Figures 7, 8), named for the garden at Kiftsgate Court, Gloucestershire. The species itself is an energetic grower, producing long, thick, sinuous stems that grip with vicious prickles. Its flowers are fragrant, white and individually small (about 2.5 cm), but they are produced in spectacular, enormous compound corymbs. The cultivar 'Kiftsgate' is much like the species, but a particularly vigorous clone and the flowers are apparently even more fragrant.

There are approximately 200 species of roses and most are worth having for their beauty alone, but many also merit collecting and displaying for their educational and research value. Clearly, however, we cannot grow them all. *Synstylae* are particularly well suited to the conditions in the Botanical Garden. In the Asian Garden, there is plenty of vertical space, as well as many good vantages from which to see them climb. With the possible exception of the North African species, most in this section (ca. 35 species) would probably be successful here. Some of our collections (e.g., *R. glomerata*, *R. henryi*, *R. luciae* and a few unidentified species and natural hybrids) are of wild origin from China, but the majority are not, and a number of these are of dubious

status. The garden may yet formally embark on the acquisition of material from native areas we have access to, and build up our documented collection of *Synstylae*. With our Aggressive Climber Policy in place, we feel confident we can have spectacular roses and healthy trees, as well.

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Appendix: Roses at UBC Botanical Garden

Names below are currently accepted species according to the Royal Horticultural Society. Following each name is the geographic origin and subgenus or section to which it belongs.

Name	Origin	Subgenus, Section
Rosa persica	Iran, Afghanistan	Hulthemia
Rosa roxburghii	W China	Platyrhodon
Rosa chinensis 'Viridiflora'	Horticultural Origin	Eurosa: 1. Chinenses
Rosa banksiae 'Lutea'	China	Eurosa: 2. Banksianae
Rosa cymosa	C, S China	Eurosa: 2. Banksianae
Rosa hemisphaerica	Gardens of SW Asia	Eurosa: 5. Pimpinellifoliae
Rosa morrisonensis	Taiwan	Eurosa: 5. Pimpinellifoliae
Rosa pimpinellifolia 'Glory of Edzell'	Horticultural Origin	Eurosa: 5. Pimpinellifoliae
Rosa pimpinellifolia 'Grandiflora'	Horticultural Origin	Eurosa: 5. Pimpinellifoliae
Rosa sericea	E Asia	Eurosa: 5. Pimpinellifoliae
Rosa sp. (aff. *hemispherica*)	Afghanistan	Eurosa: 5. Pimpinellifoliae
Rosa xanthina f. *spontanea*	China	Eurosa: 5. Pimpinellifoliae
Rosa anemoniflora (syn: *R.* × *beanii*)	China	Eurosa: 6. Synstylae
Rosa brunonii	Himalayas	Eurosa: 6. Synstylae
Rosa filipes	W China	Eurosa: 6. Synstylae
Rosa filipes 'Kiftsgate'	Horticultural Origin	Eurosa: 6. Synstylae
Rosa gentiliana	China	Eurosa: 6. Synstylae
Rosa glomerata	China	Eurosa: 6. Synstylae
Rosa helenae	China	Eurosa: 6. Synstylae
Rosa henryi	China	Eurosa: 6. Synstylae
Rosa longicuspis	E Himalayas, W China	Eurosa: 6. Synstylae
Rosa longicuspis var. *sinowilsonii*	SW China	Eurosa: 6. Synstylae
Rosa luciae var. *fujisanensis*	Japan	Eurosa: 6. Synstylae
Rosa moschata 'Plena'	Horticultural Origin	Eurosa: 6. Synstylae
Rosa mulligannii	W China	Eurosa: 6. Synstylae
Rosa sp. (SABE.1934) (poss. *rubus* × *helenae*)	Hubei (China)	Eurosa: 6. Synstylae

Name	Origin	Subgenus, Section
Rosa wichuraiana	E Asia	Eurosa: 6. Synstylae
Rosa acicularis subsp. *sayi*	N, W, C North America	Eurosa: 7. Cinnamomeae
Rosa albertii	Central Asia	Eurosa: 7. Cinnamomeae
Rosa arkansana	N America	Eurosa: 7. Cinnamomeae
Rosa cinnamomea	Eurasia	Eurosa: 7. Cinnamomeae
Rosa davidii	W, C China	Eurosa: 7. Cinnamomeae
Rosa davidii var. *elongata*	China	Eurosa: 7. Cinnamomeae
Rosa elegantula 'Persetosa'	S China	Eurosa: 7. Cinnamomeae
Rosa giraldii	China	Eurosa: 7. Cinnamomeae
Rosa glauca	C, S Europe	Eurosa: 7. Cinnamomeae
Rosa gymnocarpa	BC	Eurosa: 7. Cinnamomeae
Rosa hemsleyana	N, C China	Eurosa: 7. Cinnamomeae
Rosa macrophylla	Himalayas, W China	Eurosa: 7. Cinnamomeae
Rosa moyesii f. *rosea*	W China	Eurosa: 7. Cinnamomeae
Rosa nutkana	W North America	Eurosa: 7. Cinnamomeae
Rosa nutkana var. *hispida*	NW USA, BC	Eurosa: 7. Cinnamomeae
Rosa nutkana var. *hispida* (white flowered selection)	NW USA, BC	Eurosa: 7. Cinnamomeae
Rosa nutkana var. *nutkana*	W North America	Eurosa: 7. Cinnamomeae
Rosa pendulina	S, C Europe	Eurosa: 7. Cinnamomeae
Rosa pisocarpa	SW BC to N Calif	Eurosa: 7. Cinnamomeae
Rosa sertata var. *multijuga*	Sichuan (China)	Eurosa: 7. Cinnamomeae
Rosa sertata var. *sertata* (*R. hwangshanensis*)	China	Eurosa: 7. Cinnamomeae
Rosa setipoda	W China	Eurosa: 7. Cinnamomeae
Rosa sp. (SABE.1784) (*setipoda* × *hemsleyana*)	Hubei (China)	Eurosa: 7. Cinnamomeae
Rosa sweginzowii 'Macrocarpa'	Horticultural Origin	Eurosa: 7. Cinnamomeae
Rosa wardii f. *culta*	SW China	Eurosa: 7. Cinnamomeae
Rosa webbiana	Asia	Eurosa: 7. Cinnamomeae
Rosa willmottiae	W, NW China	Eurosa: 7. Cinnamomeae
Rosa woodsii ssp. *ultramontana* 'Kimberley'	Horticultural Origin	Eurosa: 7. Cinnamomeae
Rosa woodsii ssp. *woodsii*	W, C North America	Eurosa: 7. Cinnamomeae
Rosa gallica 'Versicolor'	Horticultural Origin	Eurosa: 9. Rosa

Name	Origin	Subgenus, Section
Rosa gallica var. *officinalis*	Horticultural Origin	Eurosa: 9. Rosa
Rosa canina	Europe, Caucasus	Eurosa: 10. Caninae
Rosa pulverulenta (syn: *R. glutinosa*)	S Europe, SW Asia	Eurosa: 10. Caninae
Rosa rubiginosa	Europe, W Asia	Eurosa: 10. Caninae
Rosa villosa	Europe, Caucasus	Eurosa: 10. Caninae
Rosa balcarica	Caucasus	Unknown
Rosa sp. (Alpine Garden Club. ex. Turkey)	Turkey	Unknown Rosa sp.
Rosa sp. (B&L.12511)	Yunnan (China)	Unknown
Rosa sp. (Daubney ex. Ladakh)	Himalayas	Unknown
Rosa sp. (GUIZ.0320)	Guizhou (China)	Unknown
Rosa sp. (H&M.2330)	Sichuan (China)	Unknown
Rosa sp. (HM.1427)	Sichuan (China)	Unknown
Rosa sp. (SICH.0746)	Sichuan (China)	Unknown
Rosa 'Cooperi'	Horticultural Origin	Hybrid (poss. R. laevigata seedling)
Rosa × *damascena 'Versicolor'*	Horticultural Origin	Hybrid
Rosa 'Geranium'	Horticultural Origin	Hybrid (R. moyesii seedling)
Rosa 'Mme Alfred Carriere'	Horticultural Origin (1879)	Hybrid
Rosa × *odorata* 'Mutabilis'	Horticultural Origin	Hybrid
Rosa 'Paul's Himalayan Musk'	Horticultural Origin	Hybrid (poss. R. brunonii seedling)
Rosa 'Pheasant'	Horticultural Origin	Hybrid
Rosa 'Sealing Wax'	Horticultural Origin	Hybrid (R. moyesii seedling)
Rosa 'Sir Cedric Morris'	Horticultural Origin	Hybrid