

Adventures with Plant Introductions

John Waddington

I have spent some time attempting to introduce new plants to the valley, primarily for dryland gardens, because I believe that xeriscape horticulture is a necessity for future gardening here. This is not without some risk. There is the story of an individual finding a pretty little alpine plant that he thought would look good in the rockery in his garden. But it turned into a monster, taking over his garden as a first step to taking over the world. There are some fine examples of this around us, Yellow Iris and Purple Loosestrife in our waterways, for instance.

In the natural environment, every plant species grows in a range of conditions. In a garden, where competition between plants is much less than in the wild, and partly under our control, it should be possible to 'stretch' the limits of the range somewhat. Ideally, you collect seed from plants growing in the coldest part of their range. You germinate the seed over winter and plant out the seedlings (at least 1000) in spring in a range of conditions: sand, loam, clay soils in various aspects: sunny shady, open, sheltered, etc. You collect seed from the survivors and repeat the process for 3-4 generations, and you end up with plants which will survive and maybe thrive in the valley. There are limits of course: you will not be growing bananas outside in Saskatchewan, but stretching the limits to one or maybe two climate zones is realistic. Even more ideally, you bring in plants to start the process.

Reality is different. Most often someone else collects the seeds, and you have no idea exactly what were the conditions where the plants were growing. Likely you purchased the seed. Depending on how much money you are prepared to spend, you may have less than the 1000 seeds I suggested as reasonable, especially if the seeds are large. Plants, especially dryland ones, I suspect, have ingenious ways of preventing their seeds from germinating when conditions are less than ideal, and even for extended periods when conditions are ideal. Consequently, I was delighted to get germinations of perhaps 30%, and more often content with getting half a dozen seedlings.

Bringing in quantities of live plants hasn't been realistic for individuals for more than 100 years because of cost and border regulations. One or two plants, yes. But that is another story...

JW

Prince's Plume (*Stanleya pinnata*)

A perennial herb in the cabbage family, native to Arizona, New Mexico and southern Colorado and less frequently further north. It produces long racemes of yellow flowers on tall slender stems, reminiscent of spiderflowers. According to the internet, hardiness is between 4 and 8 (US zones) so it should be hardy in the Okanagan.

I grew it from seed obtained from my usual source (Alplains), one plant only. It survived and flowered in my early garden in West Kelowna for two years. It grew to about a metre high, several stems each topped by a raceme of flowers that open from the bottom up over several days. No seedlings volunteered and my trial of it ended then. According to the literature, it normally grows on poor sandy soils, so perhaps my garden soil at that time was too rich for it. Some years later Toni Boot had one growing at her nursery in Summerland. She challenged me to identify it which, to her surprise, I did . But then, I had already grown one so I knew what it looked like before it flowered. On reflection, I should have pursued it further. It is well worth trying.



Penstemons

There are between 200 and 300 species of Penstemon, almost all native to western North America, most of them drought-tolerant, many hardy to at least zone 5 (CDN), commonly with blue flowers but with a limited selection of white, yellow, red flowers. Taxonomists divide them into 5 groups, based mostly on the way the anthers open to shed pollen. They hybridize freely within a group but not so much between groups. As well, there are many selections mostly of species native to the US-Mexican border area hybridized in Europe and not likely to be reliably hardy in the Okanagan. More recently, selections of colour and texture variants of hardy mid-western species are becoming available at local nurseries.

In the 1990's the Gardens received a donation of a collection of Penstemons. Over time they hybridized and reseeded and died so the number of plants and the range of variation declined. The individual who donated the collection (or perhaps his descendants – I am not sure which) complained about our lack of attention, so we (the committee) ordered seeds from Alpains who had a list of about 100 species, and handed them over to a local grower. That was unsuccessful, because the grower attempted to germinate them as annual flowers which doesn't work. Almost without exception the seeds need a cold stratification period before they will germinate. On the second attempt I persuaded about 60 of them to produce seedlings. Unfortunately we forgot that seedlings are not as drought-tolerant as the mature plants so we lost most of them. Further attempts produced some transplants, but of course they are declining again.

My experience with non-native penstemons is that they will live for 3-5 years in a garden and some will produce seedlings to replace themselves. I suggest that our experience at the Gardens is similar.



Empress Tree (*Paulownia tomentosa*)

A handsome tree that you see in the Fraser Valley where it produces clusters of lavender-coloured bell-shaped flowers in early spring about the same time as the Rhododendrons. Apparently some gardeners prefer instead the large leaves it produces on new spring growth if it is chopped down in fall.

Hardiness in the valley is doubtful. Many years ago Donna Lane told me she had tried one but it didn't survive. About 5 years ago Gunther at Dogwood Nurseries told me that sometime in the past he had brought in some by request but he had no idea what had happened to them. It turned out that a contact I had in West Kelowna had one in her yard, likely one of the ones Gunther had brought in. She absolutely hated the tree for several reasons but she hadn't taken it out. I got the impression that she didn't like the flowers, she didn't like the large leaves that covered her lawn in fall, she didn't like the roots that messed with her lawn mowing, and she didn't like the obstruction of the view in summer from her kitchen.

On reading descriptions on the internet I can quite see why she didn't like it. Flower buds develop in fall, so if the winter is cold, the buds fall off in spring instead of opening. (When they do open, they have a vanilla scent). The roots are shallow and protrude above ground and produce suckers. Even the standard leaves are quite large and prevent viewing through the tree in summer and litter under the tree in fall. And the wood is rather brittle so the tree sheds twigs and occasionally branches.



JW

Chitalpa 'Morning Cloud'
(*Chilopsis linearis* x *Catalpa speciosa*)

I'm not sure when I started seeking a source for this plant. I tried Desert Willow. A couple of seedlings survived the first winter in West Kelowna but not the second. It seemed to me that the hybrid with the Southern Catalpa which is hardy in the Okanagan would also be hardy and maybe inherit the drought tolerance of the Desert Willow. And so it has turned out, although the hybrid which we have has the Northern Catalpa as the pollen parent. It seems bizarre to me that the original hybridization of two North American natives would have been done in Tashkent, Uzbekistan (by Dr. A. Rusanov in 1964). But so be it. Cuttings were brought to the US in 1977 and have been propagated over here since then.

My several gentle requests to bring in the plants went nowhere with the local Kelowna nurseries. But in 2017 I was on a bus trip with Scott Austin of Gardenworks, Penticton to the Northwest Flower & Garden Show in Seattle. I told him of my search and said I wanted two, one for me, one for the Gardens and I didn't care what size though smaller was preferred. I had seen some unusual stuff at Gardenworks, so I was hopeful. Sure enough, Scott phoned me in May to say he had brought some in. I went the next day to get them. They were rather larger and more expensive than I had anticipated – 6ft, pruned to tree form and \$100 each. But I wanted two, I had promised him two, so I bought two, and dropped one off at the Gardens.

When I planted mine in West Kelowna, I pruned it to a nice symmetrical shape with three branches. Next spring one branch died so it was now unbalanced. It also grew a new shoot from near the ground. What to do? If I pruned off the new shoot, there was no guarantee that new growth on the top would be such that I could prune it to balance over the next couple of years. If I didn't prune off the new shoot, the tree would probably put more of its resources into it and leave the top with less new growth and still unbalanced. **My usual approach in these circumstances is not to prune on the assumption that a year's growth will reveal the correct solution.** And so it was. In 2019 I pruned off the old trunk, got new shoots from the base, and grew the plant as a shrub.

JW



Mariposa Lilies (*Calochortus*)

A group of bulbous plants native to western North America, and usually drought-tolerant. There are three native to the Okanagan, though I have seen only one - Sagebrush Mariposa Lily (*Calochortus macrocarpus*). It is fairly common but not abundant. By all means collect a few seeds, but DO NOT DIG THE BULBS.

Several mariposas produce attractive flowers and are worth trying. I obtained seed of 3-4 from my usual source (Alplains) but had little success in germinating them and none in keeping the seedlings alive. Consequently, the alternative is buying bulbs. They are available from time to time and cost \$5-\$10 for one or two bulbs, and not much choice in species. This is OK until you add the cost of an import permit (\$25 some years ago) and a phytosanitary certificate (at least as much).

Some years ago I found a source of bulbs from a bulb supply company in Oregon.

They were offering about 5 species in quantity. I reckoned that with the price of the import permit (\$25) plus phyto certificate (\$75 in this case) I would need to buy about 300 bulbs to reduce the price to about \$1 per bulb. The Garden's fall plant sale was approaching so I reckoned if I kept 10 bulbs per species for myself and either donated the rest to the Gardens for a tax receipt, or arranged some financial deal to split the cost between us, the bulk purchase was possible. So I sent off the import permit application plus a \$25 cheque to Ottawa.

A few days later I got a phone call from Ottawa saying I didn't need an import permit for those bulbs and some confusion about the cheque. Apparently sending a cheque with the permit application screwed up their system. It appears that I was expected to send in an application, they would send a bill if needed, I would then send a cheque and they would then send the permit. I surmise that it is easy to submit money to the Receiver-General for something like this but much harder to get it back out for refund if not needed. In the event, I think they sent the cheque back with a letter saying I didn't need the permit.

Now that I had all my ducks in a row, I sent off the order for the bulbs by email, payment after phyto preparation and packaged for delivery. I got an email back from the bulb people in Oregon saying that the bulbs are coming from Holland to a warehouse in Michigan and they (in Michigan) needed an import permit before issuing the phyto certificate. I emailed to Michigan pointing out that Ottawa do not require an import permit for these bulbs, and

I included a copy of the letter from Ottawa saying so. Michigan emailed back refusing to issue a phyto without an import permit. Clearly the individual in the Michigan Dept. of Agriculture was a bureaucratic stick-in-the-mud exacting rule follower. I reckoned by the time I had persuaded the Michigan people to phone Ottawa to confirm there being no requirement for an import permit, if that was even possible, the fall plant sale at the Gardens would be long over. So I gave up.

JW



Jointfirs (*Ephedra*)

This is a group of plants native to the intermountain area of the USA and similar climates in Asia, Europe and North Africa. For a long time their relationship with the rest of the plant kingdom was uncertain, but now they are considered to be conifers, although they look nothing like the trees that we are familiar with. Their appearance is often compared to the horsetails that grow in moist places around the valley – green stems and twigs jointed with a ring of vestigial leaves at each joint, and cones that look more like those of junipers or yews. They are shrubs of various sizes from 1-4 metres high, with one exception from Asia which has a rhizomatous habit and grows only 20 cm high. They are all very drought- tolerant.

The twigs of some of the native USA species are used to make tea (Mormon Tea) which is supposed to have wonderful benefits and cures from weight loss to headache cures to athletic performance to allergies, etc. The tea certainly has some stimulatory effects much like coffee but nothing certain beyond that. The Chinese species are used in Chinese medicine and definitely contain ephedrine-related compounds but the North American species have little or none.

Their green twiggy nature makes them useful for texture variation in a xeriscape garden and some colour contrast in winter. Three species are definitely hardy in the Okanagan. Green Jointfir (*Ephedra viridis*) grows about 1.5 metres high and wide, native to Utah, Nevada and adjacent states. Chinese jointfir (*Ephedra sinica*) grows a bit less than 1 metre high and wide, and spreads very slowly with rhizomes and rooting stems. Creeping jointfir (*Ephedra monosperma*) grows only 10-20 cm high and spreads slowly by rhizomes. There may be others also hardy, but they all look the same so the two shrubs that are definitely hardy are adequate for our landscaping requirements. Male and female cones are most often on separate plants. The first year that the creeping jointfir I had produced cones, they were male. The second and subsequent years they were female and, at maturity in August, a bright red, about 3-4 millimetres in diameter among the green twigs. This could be an attractive ground cover in texture contrast with creeping juniper.



Prickly Poppy (*Argemone arizonica*)

There are several species of prickly poppy in western USA. I first came across them the summer I spent in Colorado. They look for all the world like a thistle until they produce a white poppy flower. Some years ago I ordered seed from my usual supplier (Alplains), probably as *A. hispida*, but I cannot find my records so I am not sure. Along with several other seeds I planted some nice straight rows in my garden, all carefully labelled so I would know what was what when they came up the following spring. Before then, the quails arrived, rooted around a lot, probably ate most of the seeds and scattered my labels far and wide. Come spring, nothing was as I had left it the previous fall. All that came up were a couple of cacti seedlings from South America which turned out to be not hardy.



Two years later a couple of seedlings arose. I thought some thistle species. When they flowered later that summer they turned out to be poppies. Over the next few years they started flowering in June, branched below the flower head and produced some more flowers, and kept on until late September. By that time the stems were over a metre long but had flopped over and never exceeded half a metre high. The flowers were 5 cm across, white with yellow stamens. The bees loved them, often with two or even three bees sort of swimming in the anther cluster. Once there were four bees, but that was too crowded. One soon left. I assume they were gathering pollen. For some reason I was expecting them to be annuals. When they obviously weren't I went to the Flora of N. America and they keyed out to be *Argemone arizonica*, very prickly stems but only a few prickles on the undersides of the main ribs of the leaves.

Many seeds have been scattered around them for several seasons but it was another two years before two more seedlings grew, and not from where the plants had scattered them but from locations more likely from the original seeding. If you like having large white poppy flowers in your garden all summer, this one is worth trying. Seeds are still listed in Alplains seed catalogue as of 2023, but I have no idea how to germinate them.

JW

Agaves (*Agave*)

Agaves are not hardy in the Okanagan. Everybody knows that. And yet two plants of *Agave utahensis* ssp. (probably) *kaibabensis* have been living



successfully in the Gardens since the early 1990's. Sometime in the early 2000's I decided it was time to try a few more. I picked two out of my favourite catalogue (Alplains) – *Agave parryi* and another that I cannot recall the name of, probably *Agave lechuguilla*, plus of course *Agave utahensis*. These were the only ones that had the cold zone limit of 6 US. I planted one healthy seedling of each in spring. They died. Except that the *Agave parryi* seedling first produced a pup. Which lived. It has been growing slowly ever since. It produces perhaps one new leaf per year., and during some winters there has been freezing damage.

I think the reason it has survived (apart from its hardiness) is its location. It is protected from the northeast with a tall cedar hedge, from the northwest by housing on the slope upward to Mt. Boucherie, to the west by the house. It is open to the south and southwest with a downslope to the lake. So there is excellent air drainage all the time. Because it is only about 15 cm tall, it is often covered in winter with snow.

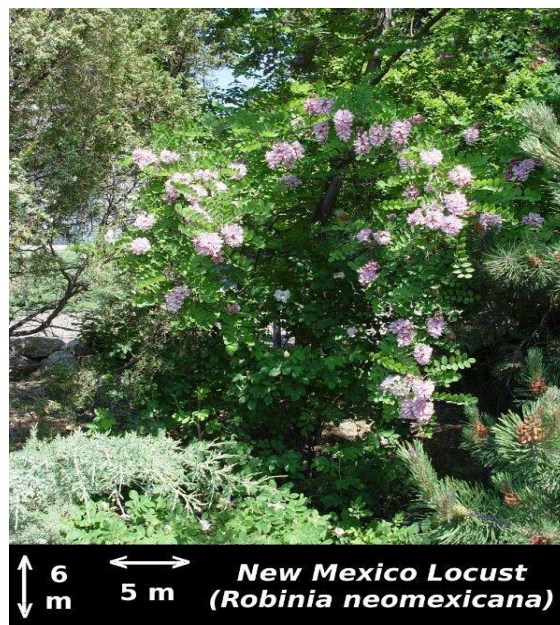
New Mexico Locust (*Robinia neomexicana*)

I tried this as a smaller, shrubbier, more drought-tolerant red-flowered version of the Black Locust, a common tree in Kelowna. The problem with the whole family is their vigorous sucker production. I was warned of this by Dave Weir of our local Research Station, but I thought that under drier conditions it was probably limited and controllable. I envisioned a multistemmed shrub, perhaps 3-4m tall.

It grew well in my zero extra water garden, though it may have benefitted by reaching water from the uphill neighbour's irrigated yard. And the red flower skeins are very pretty. Still, when it reached 4m tall on a single trunk, and a sucker grew in my adjacent neighbour's yard (not the irrigated one) I decided to take it out which included digging out the root system including the root reaching into the adjacent yard. Just cutting down the one stem to force its regrowth into a multistem form would instead have produced a flood of sucker regrowth.

Perhaps in a larger garden on sandy soil it might have a place. But not in my garden. Pity. Some you win, some you lose.

JW



Afghan Lilac (*Syringa protolaciniata*)

Also known as Cut-Leaf Lilac. I found it at Dogwood Nursery in West Kelowna. According to the Flora of Pakistan it is most likely originally from Western China, but has been cultivated along the Great Silk Route through Kabul and Teheran since ancient times. In Pakistan the plant has both entire and divided leaves, but selection over time has developed a variant with all the leaves divided into 5-7 leaflets, and this is the form that I purchased.

The shrub has basically the same form as the common lilac, perhaps a little more spreading, with the usual clusters of pale lilac flowers produced at the same time. Apparently there is a white-flowered version also. Supposedly it is more drought-tolerant than the common lilac, which is itself quite drought-tolerant. My impression is that it is less floriferous than modern selections of lilacs but that may have been because of its drier location and its not having a full root system developed after its recent establishment.

It is an interesting conversation item because even experienced gardeners often fail to recognize it as a lilac when it has no flowers. The divided leaves act as a distraction from recognizing the easily identified paired leaves and paired branching of lilacs when the leaves are entire.



Arbutus

Arbutus menziesii, an attractive small tree with red peeling blotched bark and evergreen leaves, common on southern Vancouver Island and adjacent mainland, hardy to zone 8, not the Okanagan. However, it has a relative, *Arbutus xalapensis* var *texana* in Texas that some consider hardy to zone 7 and drought-tolerant. Worth a try, I thought, so I brought in some seed. One germinated and I planted it in a very sheltered location surrounded by a sage (probably *Artemisia ludoviciana*) that constantly tried to take over the area) and surrounded by a juniper and a large Mugho pine. The arbutus seedling survived. In the first couple of years there was some winter damage to the three or four leaves, but in later years not. By 2020, the arbutus had reached about 30 cm complete with evergreen leaves. Whether it is still surviving, I do not know.

Texas Red Yucca

One August, about 2012 -2014, I was in Gardenworks in Penticton and I noticed that Scott Austin had brought in a few Texas Red Yucca plants. This is not really a yucca, it is an aloe relative – *Hesperaloe parviflora* – that looks a bit like a yucca and has red flowers. Naturally I bought one, a good-sized clump, and planted it in my front garden. The following spring it was only $\frac{1}{4}$ the size, but alive. Over several years it grew slowly and eventually flowered, one stalk. Unlike yuccas, it flowers continually from July to September, a few flowers at a time, and they are a reddish coral colour, large and tubular, about the size and shape of a foxglove flower. It was fun to watch the bumblebees crawl right inside, and I did get a few seeds. It flowered again two years later and again three years after that.

Two years after I got mine, Bylands in West Kelowna brought some in. Next year I asked Maria Byland if they had had any complaints about its winter survival. She said not. Clearly it is hardy but mine still isn't as big as when I got it. Perhaps a better location? If you try one, plant it in spring to give it the best chance of adapting to its new surroundings before winter. There is also a yellow-flowered version.



California Lilacs

One of this group, *Ceanothus velutinus*, called Buckbrush or Snowbrush, is native in the Okanagan, forming evergreen thickets about 2 m or more high and wide, with clusters of white flowers in June. The much-admired blue-flowering selections of natives further south are generally not considered hardy in the Okanagan, though I have heard rumours that one or two can be found in Penticton gardens.

I obtained seed of two creeping species – *Ceanothus prostratus* and *C. pumilus*. I planted seedlings of both, though only *C. prostratus* (Mahala Mat) survived, and even that was doubtful in my mind for a while. The plant remained very small, with only two or three leaves, growing one new leaf per year for three years. In the fourth year it suddenly expanded and since has grown steadily 10-15 cm per year, and flowers regularly. The leaves are evergreen, looking like small holly leaves. The flowers on my specimen are such a pale blue that after a day in the sun they are effectively white. Apparently flower colour can be blue to lilac, varying from one plant to another. Definitely worth trying in a xeriscape garden.

JW



Turkish Hazel (*Corylus colurna*)

It was spring 1997 and I was at the Summerland Gardens plant sale, looking for plants suitable for a planned conversion of my garden in West Kelowna to xeriscape. Brian Stretch was head gardener at the Research Station and had brought in some Turkish hazels for the gardens and had one left over, a somewhat columnar tree which together with the container was about 2.5 m (8 ft) tall. He was quite determined that I should buy it. I supposed he really wanted to get rid of it so it didn't have to be looked after all summer. I was looking for something that was drought-tolerant and would block off the end of the driveway and restrict the view through to the house back garden. So I played coy and told him that if he could get it in my car, I would take it, knowing full well that the Subaru Forester I was driving had easily contained a handful of 8 ft 2x4's in the past. Brian grinned, rubbed his hands together and said that would be no problem.

I planted it where I had intended in a clay soil patch and about 3m from a house roof downspout. As usual, it spent the first summer getting established. But it grew at a rate of a metre or more (3-4 ft) each of the next several years and after about 10 years it started to produce nuts. They are produced in clusters of 2-4 surrounded by a thick, hard, spiny cup structure. If the nuts do not fall out by themselves, they are hard to remove. For the first two years there were only a few and almost all the shells were empty. This didn't surprise me: the trees are reputed to be self-sterile. Of course, supposedly self-sterile plants usually have a Plan B and produce a few seeds anyway.

Starting in the third production year, the tree produced a good supply of nuts. My neighbour picked up those falling in his yard and mentioned that they were good eating: 90% of the shells were full! I assumed that there was a shrub hazel nearby because the nearest Turkish hazel that I was aware of was in the Gellatly park some 4 km away. The seeds are 1/3 to 1/2 the size of a commercial hazel and taste the same, but are harder to get out of the shell. Some of the seeds fell in the thick leaf litter under the tree and germinated to produce single-stem seedlings like the mother tree, not the multi-stem shrubs of other hazels. Apparently this tree is self-fertile.

After 20 years the tree has reached its mature size of 20 m (65 ft) in a cone shape with mostly horizontal branches reaching about 4 m (13 ft) from the trunk near the base. It has shown no need to demonstrate its drought tolerance probably because it has an area of about 35 sq m. (400 sq ft) of a water-retaining soil under it and about the same area of the house roof via the downspout. The ones in the Research Station gardens have grown much more slowly in much poorer soil with no extra water from a nearby roof.

Hardy Yuccas

There are two yucca species commonly available from local nurseries. They are Adam's Needle (*Yucca filamentosa*) which has four variants – a plain green-leaved variety, one with yellow-cream leaf edges (Bright Edge), one with broad yellow stripes (Colour Guard), and one with yellow leaf centre stripes (Golden Sword), all producing tall often branched flower spikes with downward-facing white flowers, and Soapweed Yucca (*Yucca glauca*) which produces narrow spikes of downward-facing white flowers.

Both species produce offshoots at soil level.

Thirty years ago Brian Stretch, head gardener at the Research Station in collaboration with the Friends of the Research Station Gardens brought in Banana Yucca (*Yucca baccata*), a thick-leaved yucca looking almost like an agave. This also produces the usual white flowers though they are on a short branched stem somewhat hidden in the leaves. There are two or three in the xeriscape area. This yucca will eventually develop a stem.

Around 2005 I brought in seeds from my usual source (Alplains) of three other yucca species, germinated them and planted the seedlings in my garden. *Yucca brevifolia* (Joshua Tree) I planted in a very sheltered area. Over the next 12 years it grew slowly to about 30 cm (1 ft). Unfortunately, I ran over it with my wheelbarrow and it broke off at the ground. The following spring two shoots appeared. It was not dead but it will be years before it reaches a height where its winter hardiness will be tested.

The second species was *Yucca nana* (Dwarf Soapwort), arguably a dwarf version of *Yucca harrimanae*, and native to a small area on the Colorado/Utah border. At maturity it is about 30 cm (1 ft) high and wide, and produces a flower spike about 1 m (3 ft) high. Reports claim that it sends out branches at ground level but in my experience this starts only after it has flowered. It appears to be fully hardy. I preferred its appearance when it had no side shoots, but I expect it would not be hard to root them.

The third species was *Yucca neomexicana*. The one I had produced two growths from ground level to about 60 cm (2 ft) height. The leaves are stiff, long and narrow with a very sharp tip. One of the growths flowered in 2020 with a spike just over 2 m (6 ft) high. The plant never showed any



Banana Yucca

A few for the Truly Dedicated Xeriscapers

Mountain Mahoganies

The Ornamental Gardens have two. One is definitely Curl-Leaf Mountain Mahogany (*Cercocarpus ledifolius*), the other is probably Alder-Leaved Mountain Mahogany (*C. montanus*). Many years ago I collected seeds and grew one of each in my garden in West Kelowna. The flowers are not spectacular and the seeds have long curled plumes in clusters, but not in enough quantity or colour to be a feature. The Curl-leaf MM is definitely evergreen. The leaves are about 3 cm long, thick, fairly narrow with the edges curled under, hence the name. The other has broader toothed leaves and is probably deciduous. Both are reputed to be very drought-tolerant. I reckon height to about 2 m, but the internet reports them much taller. Possible use as background shrubs, the curl-leaf MM being evergreen may be useful as part of a garden in winter.

Four-Wing Saltbush (*Atriplex canescens*)

Height and width to 1.5 m. Short narrow greyish evergreen leaves make it a useful plant for contrasting leaf colour in winter compared to the usual dark green or reddish-purple of other evergreens. The flowers are yellow but very small. The plant is wind-pollinated. The seeds each have four wings about half a centimetre in width (hence the name) and can occur in large amounts which would be a feature if they were a better colour than green when young and pale brown when mature. That is if it produces at all. The plant has the ability to change sex. Your plant may be male or female or both, depending on the year.

Winterfat (*Krascheninnikovia lanata*)

This is an odd little shrub, native to much of Western North America and Siberia. Height at most one metre depending on the seed source: seed from Canada will produce smaller plants than seed from further south. Cattle find it very tasty. A rancher in Swift Current told me that if cattle see it they will head straight for it. It is used extensively for winter grazing in the western states. The plant is evergreen but with such a dense covering of hairs that it appears gray more than green. Seeds mature in August and are covered with white hairs. If there are enough of them the plant will appear white. The plant develops a small framework of short woody stems. New growth often dies back over winter almost to the basic frame. To keep it neat, it is probably best to cut it back in late winter after the coldest weather is over. Seed is available commercially but has a very short shelf life. Cleaning and sowing the seed must be a nightmare, but it is done for land reclamation. I had a plant in West Kelowna, no idea how I got it. It was about 70 cm tall so it must have been from a southern US source. It did not mature seed which suggested a winterhardiness

risk in the Okanagan, so I did not dare cut it back, and I could not persuade cuttings to root. A problem child.

Creeping Rush-Pea (*Hoffmannseggia repens*)

I got this as *Caesalpinia repens* from Alplains some years ago, planted it and completely forgot about it. It grew about 15-20 cm tall underneath some penstemons and returned every year. In 2019 I realized it was there and I had some seed. So I germinated some and planted out 5 seedlings alongside a path at the side of the house. Then the roofers came and did a general massacre and mashup in that area with their equipment. So I never did succeed in getting to know it better. Basically it grows about 15-20 cm long but flops over. Leaves are bipinnate which is an interesting feature of such a small plant. The flowers are yellow. I don't recall seed pods.



Curl-leaf Mountain Mahogany



Four-Wing Saltbush



Winterfat



Creeping Rush-pea

