Primroses
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The purpose of this society is to bring the people interested in Primula together in an organization to increase the general knowledge of and interest in the collecting, growing, breeding, showing and using in the landscape and garden the genus Primula in all its forms and to serve as a clearing house for collecting and disseminating information about Primula.

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Cover Photos: Rosetta Jones’ hybridizing journal, her pollen gathering technique, and a semi double juliae in her garden this spring. Robert Tonkin photos.

Back Cover Photo: Primula nutans growing on a riverbed draining into the Donjek River, Yukon Territory, Canada. Robert Tonkin photo.
Number 11
An Interview with Rosetta Jones

The following conversation was tape recorded by me at the home of Rosetta Jones in April

RT: Rosetta, when primrose growers think of primrose hybridizing, your name comes right to the top of the list. I’m hopeful you will share your hybridizing journey with our membership. How did you come to join the American Primrose Society?

ROSETTA: I like flowers. Many years ago I was working as a secretary in downtown Seattle. I saw an article in the Seattle PI that there was going to be a demonstration of primroses at Fredrick and Nelsons, the big department store. So at my lunch break I went up there to see them. It turned out to be Dorothy Dickson, who would turn out to be my best friend. They were showing the California strain of polyanthus. They were gorgeous. Well, at the time I thought I knew something about primroses. I knew a primrose when I saw one. But I never saw primroses that looked like that before! So while there I found out where they would meet. They met out at the University in the Arboretum, in what I think was an old schoolhouse. So I started going to the meetings.

I was living on Beacon Hill at the time. I think the year was 1952, although I don’t remember for sure. There was a big group at the time and they were very enthusiastic. They were at the time really wrapped up in show auricula. I stuck with it. It was kind of lonesome at first by myself, as no one paid much attention to me, but I decided to keep going anyway. So I became interested and involved. I don’t remember the year I joined National. I was a member of the Washington State Chapter for quite a while before joining National. After some time I became Secretary of the group. They would meet once a month and had very good programs at the time. We had show and tell at every meeting. There were usually forty to fifty people at each meeting, quite large for a primrose group. The size of the meetings would depend a lot on the information we were getting out of England at the time. At that time the great florists were still alive. The show auricula was the big thing then.

I’m not sure just when the nursery idea came about. I had been working with the Seattle Fire Dept for a number of years. I remember thinking to myself at the time “Here I sit. I’m now forty and I could work for another twenty years and retire. Oh great!” Well, it wasn’t too long and I was out in the Kent valley with my little old nursery. Alan continued to work and I started up the little nursery. I started with perennials. It didn’t take long to realize perennials are not the best plants to grow. They’re too much work and no money! Of course I never made any money in primroses either. I learned the business the hard way, by making mistakes. I wouldn’t grow primroses to sell because there wasn’t any money in them. I was doing rhodys and azaleas.

I do remember what started me growing doubles. Dorothy Dickson and I were judging a show in Chehalis and we were getting into the doubles tables. They were sad plants with weak stems that would fall over when you picked them up. We were talking with each other about how terrible the plants were. They were probably beautiful in the garden but they simply look bad on the table. When we were finished judging this lady came up to us, she was our clerk, and she wanted to know what was wrong with a plant, so we told her, turned out it was her plant.

We had quite a few doubles in the area from England, but after awhile they all disappeared. All the yellow disappeared too. I remember I was at home, I had a little twelve by twenty greenhouse, a propagating house actually, and I was standing there potting and I thought “I’ll bet you I could grow a yellow double with strong stems that is hardy. I didn’t have any doubles at the time. That’s what started me. I finally got a hold of some seed from a guy in Oregon. He sent his old seed, but I said that was alright, send it anyway. It was horrible stuff. He crossed it with poly’s. It was a wild mess, and I worked with that for years. I kept trying. I kept taking the best of the lot and kept working them.

It was six years later I took one, Number 11, to the show in Tacoma. Number 11 was a strong stem, very pale yellow. I called it pansy face, semi double with pollen, lots of it. That’s the basis for my doubles, Number 11. From then on Number 11 went into everything. That was the pollen! This is what happens in hybridizing. If you see the right plant when it shows up, and it will, don’t say “Geeze, that’s pretty” and go on. See how can you use it. I can think over the years of many different plants that had good potential. The trouble with Number 11 after I used him on everything, and at that time I remember I even put Number 11 on to JayJay, it got more double and more double, but no pollen. It’s just a shame, because that was just a fantastic plant. It produced pollen for about three years, and that was it. It was my basis, my big jump. From then on it just kept getting better and better.

Number 11 was my first bench win. I never named it. There’s no way you can do this work if you’re going to name them. Now some of the auriculas I’ve named, as it is necessary to do that. I never wanted to promote myself. I just wanted to see if I could grow that yellow double with a strong stem, and I did it. Not only did I get yellow, I got all colors. Along the line you learn a lot. For instance, I learned that pale yellow is a soluble pigment and you put that on a hard color you get pastels. That’s why all my doubles are pastels. Cause I used lots of Number 11.

When I first started I may have had some time to pull the petals off the doubles with tweezers and get some of the pollen, but that luxury soon went away. I had to start using semi doubles, which would have the pollen. Actually I think Number 11 was a semi double rather than a double, and obviously the most gorgeous double I’ve ever seen. It was a straw yellow, almost white. It’s there. Anyone can do it. It’s tedious, it’s hard work, but anyone can do it.

In the late 70’s I started selling the seed. It wasn’t even ten cents a seed to start
with. It was 50 seeds for five bucks, or something like that. I sold seed that way for quite a while. It took awhile. I now know I was doing this twenty years too soon. I was selling to England as well as the rest of the world. Then I got an order one day from William Holt for thirty dollars. That's a pretty good order. So I sent it to him. About three months later here comes an order for three hundred dollars from William Holt. Every one of his previous seeds came up and they were healthy robust looking plants and he wanted some more. Well, the next spring he sent me six hundred dollars. That was six thousand seeds. From then on every year Holt ordered six thousand seeds. Apparently he sold all the doubles.

A while later Herb Dickson wrote an article for Horticulture Magazine and a principal buyer from Thompson and Morgan read it. Well, he spent three years trying to talk me into supplying him seed. But after a while I had a twenty by forty house, so I decided to fill his order. I finally got three ounces. That's about twenty eight thousand seeds. It was a huge effort for one person. I had to pollinate hundreds of plants to get that seed. I had a nice place to work and it was fun, but it was work. The only trouble was it took six months to get paid. Not too long after that the buyer quit T&M and went into business for himself as a broker so I went to work for him. I sold to him for several years, but after a while I knew what the hell they were talking about. When I was fifty two I went back to school to get my botany degree. I went to school in the afternoon, ran the nursery in the afternoon, and studied at night. I remember one stretch of sixty nine days I did that nonstop. I don't know how I survived. Anyway, I was a senior at the University when I got colon cancer, had an operation, and never finished. I got the knowledge I went for in the first place, and that's what's important. There were some classes I couldn't get because I couldn't go to school in the afternoons. I took every science course they had. It's fascinating. I got so interested in it. I had this nursery, I was growing all these things, both from propagation or seed, but I didn't know what the hell was going on in there.

I had a good time going, but I hated the University. They don't care two cents for you unless you're a graduate student. The graduate students could come back into your class to improve their grades, so you're competing with someone who had already taken the class. Yeah, I hated the place. I guess I learned a lot. At that time I belonged to the International Propagators, which is a wonderful outfit. The growers and the Universities finally got together after years, because lots of things will work in the lab that won't work in the field, and lots of things are done in the field that the lab should know. Dorothy Dickson put my name in and I was accepted to be a member. I was going to these symposiums and could only understand half of what was being said. I never finished. I got the knowledge I went for in the first place, and that's what's important. There were some classes I couldn't get because I couldn't go to school in the afternoons. I took every science course they had. It's fascinating. I got so interested in it. I had this nursery, I was growing all these things, both from propagation or seed, but I didn't know what the hell was going on in there.

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I didn't retire wealthy. You have to get big to do that. I didn't promote my business that much, and I know I didn't charge enough. Micro propagation has changed a lot. It took them awhile to learn how to do it with primroses. Like I said, I was doing this twenty years too soon. I have Dorothy to thank for a lot of it. We were such very good friends. The kind of friend you don't have to say anything to, you know what they're talking about. You don't get many of those. Anyway, I was doing it on my own and the place was beginning to fall apart. It was the wettest year ever and four big trees fell across the property. I was seventy and I thought it best to sell the place so I moved up here to Shelton. I thought I could play around up here, but it's harder. I just want to get another greenhouse and do it again. This is so much fun.

Lately I've hit a snag with my work on double julies. I have to go back to JayJay. I got the doubling on the plant, but I can't get the little leaves and little roots, I keep losing them. So I have to take one of the plants and reintroduce JayJay back into the Julie body. I'm not just trying to make just a double plant, I'm trying to make another plant with a double top, keep the body... it's a whole new thing. Anyway, I thought I was so smart... I didn't do it so fast! I wrote an article on this for the quarterly, my experiments with JayJay, I can't tell you what year it was. I talked about introducing Number 11 pollen to JayJay. It was way back, because Number 11 was my first break through (Winter 1980, Vol 38, No. 1...Ed) The article is there if anyone wants to look for it. I have hit a snag though. I've played with them all through the years. Once I got part way with Number 11 back then. Gosh, I wish I had Number 11 again!

Anyway, so I really accomplished what I set out to do. They're all over the world. Anyone else can do it if they have my seed. And they did, believe me. Most of the plants that are being micro propagated, those have my line in them. They are from my seed. Not probably directly seed from me, but from my line. Dawn Ansell I'm sure. One way you can tell is that it has the Julie root system. I didn't notice this until a few years later when I got a note from a lady friend in England that knew William Holt and she
said he was saying to her “I wonder why there are so many yellows”. So I told her why. She said he was describing to her how most of them separated so easy. Mr. Holt told her that most of the yellows had Julie roots. Well, since I don’t grow them in the ground I don’t notice, they don’t do it in the pot much. They don’t last too long in the pot either. You see, the roots don’t run around out there like a Julie, but they separate, they have a short little stolon, so the plant comes apart real easily, cause they aren’t hooked to the crown. So if I see plants that have that, I know they are from my line. Maybe somebody else did something like that, but I don’t think so.

I’ve grown so many doubles now. I stop and think of some of the gorgeous doubles over the years. Micro propagation wasn’t around then. They have come and gone. I would let them die if I didn’t sell them because they wouldn’t produce any pollen so they wouldn’t make any seed. I didn’t have time to deal with them as I was running a nursery. Anyway, that’s the story. I had a great time doing it. They are all over the world. I know I’ve carried at least ten thousand flats of plants into and out of shows over the years. I’ve made some wonderful friends over the years too.

It’s so important to keep good records. Here’s my bible (see cover). It might last as long as I do. There is the history. That’s where I began (Rosetta points to the very first entry.) I numbered every plant I used and every plant had a label. It looks like I dated them in the early days. This is just one book of the records I keep. I wrote down the number of seeds I took off of every plant, I record everything. I number each plant I use as well as the crosses. It’s important because if something good shows up you need to know where you got it.

Once in awhile I would have an auricula. I was always told they like it dry and what not, so I dried them up, and they died of course. I had almost nothing to do with auriculas and then one day at the Tacoma show Earl Welsh, an interesting fellow that could grow most anything, including beautiful double auriculas, had some plants in a show that I took home with me, as he didn’t go to the show because he would have to go into the city on a Sunday and that was something he didn’t like doing. Anyway, two weeks later he came to down to my place to pick them up and he had some seedlings of double auriculas. So I grew them on and started working with them. Brownie was the result. I didn’t get into them right away. I did more auriculas here in Shelton now than I’ve ever done.

I need another ten years to do this double Julie work. Come outside, I’ll show you.

### Primulas & Spring Wildflowers
**Along the AK Highway**
by Ed Buyarski

Springtime in Interior Alaska brings visions of clouds of mosquitoes, moose in the ponds and flowers everywhere. Though Robert Tonkin’s vision may have been clouded with mosquitoes, we did find wild Primulas that were present in several memorable areas.

I was invited to present a talk on ‘Primulas for Rock Gardens and Troughs’ at the NARGS 2002 Annual Meeting, “Tundra Magic” in Anchorage, Alaska in June. The Alaska Rock Garden Society organized the event and did a wonderful job with all the talks, tours and open gardens to be seen. Robert Tonkin came along to share driving and photography duties and to maintain the APS booth at the conference. He and I loaded my Subaru with 15 flats of plants plus primrose books and quarterlies, camping and fishing gear and two large drybags on the roof with our clothes and sleeping bags. We drove onto the Alaska Ferry from Juneau to Haines and then drove through the Yukon to Anchorage during a beautiful stretch of dry weather as spring came to the mountains and tundra. I had contacted Sylvia ‘Tass’ Kelso before this trip to get some of the locations of the wild Primulas along the highway that we might search for. She wrote her Doctoral thesis “Systematics and Biogeography of the Arctic and Boreal Species of Primula” in 1987 at the University of Alaska-Fairbanks and was very helpful.

Knowing that we were going to be carrying plants through Canada back into Alaska, we had made a list to show the US customs outside Haines who gave it an official looking stamp to show to the Canadian officials across the border. They added their own stamps to the list so we could show the next US Border station officials that we had not sold or purchased plants along the way. Coming back from Anchorage we did the same with our newly purchased plants; luckily a lot fewer than we started with.

On our first morning in the Yukon after a pleasant though brief stay at a B&B on Kluane Lake; it took us a half hour to drive three miles back to the highway as we found lots of wildflowers to photograph. Blue flax, *Anemone multifida, Dryas octopetala* and *D. drummondii* were beginning to bloom in the dry gravel roadsides. Our first search for *Primula incana* in a damp meadow near the lake was unsuccessful but we vowed to stop again on our return trip in a week in hopes of finding flowers. A brief stop at Sheep Mountain to watch Dall sheep high on the south slopes and we were off to Destruction Bay. At the edge of wooded areas we found *Mertensia paniculata* and some beautiful clusters of purple flowers on *Rhododendron lapponicum* while Lupines were blooming everywhere. One of the bays on the lake was still packed with wind blown ice as spring was a bit late coming here.

Our next stop at the Donjek River was a location recommended by Kelso for *Primula nutans*. A muddy side road
along the river got us out to visit some moist meadows and Robert's shout of 'here they are!' brought me over to see these precious gems. The small plants that were blooming were only 4-6cm across with one or two 10-20cm flower stems. These held from one to four blooms each. There were also some of last year's seed capsules present so we collected some seed and spread some more in the area. On our walk back to the car, a fisherman's trail lured us astray through the woods. We broke out onto a small side channel where we found hundreds of the blooming primroses on each small silty, gravelly island! These were certainly flooded during high water flows which must help spread the plants or seeds downstream. *P. nutans* also grew on the streambanks but were competing with *Rubus, Cornus*, and other herbaceous plants and were less plentiful. Again there were still large chunks of ice on the river here.

Kelso mentioned a location near the White River for *Primula mistassinica*, but due to new bridge and road construction, we were unable to find them. We did enjoy the time out to stretch our legs and the sunny weather was a nice change from the wet spring we had been having in Juneau. I was pleasantly surprised that there were so few mosquitoes around but the season was later than usual. Robert didn't share my impressions of the scarcity of bugs however.

Driving the Alaska Highway has changed tremendously since I first hitchhiked on it in 1977. Construction has straightened, paved, and shortened it which is good for drivers but has resulted in the closing and abandonment of many old road houses that once provided food, gas, and lodging to tired, dusty travelers. It is interesting to see how the old road beds have grown up in trees and other vegetation over the years. Every year there is construction and repair of sections of it due to the severe weather and areas of permafrost which help to crack and heave the road way.

We were fortunate to spot a black wolf briefly walking on the edge of the old road in the Yukon, before an uneventful border crossing. Near our fueling stop at Northway, our search for another Kelso Primula location was very successful. Muddy roadside flats with silty soil revealed many more *P. nutans* growing among Equisetum and *Budweiser* *sp*. Again, this was a seasonally flooded area near the Chisana River that is regularly mowed by the highway department to enable drivers to see and avoid moose nearby. On the nearby muskeg areas were blooming *Ledum groenlandicum*, *Andromeda polifolia* and Cloudberry, *Rubus chaemaemorus*. Back on the highway, we had to make a photo stop for a yellow patch of *Arnica alpina* lit up by the sun in another gravelly spot. Our camping place this evening was the Tok RV Park where the *Dodecaetheon, Polemonium*, lupines, and wild roses were in bloom in a nearby meadow.

The next morning after a hearty breakfast and Robert's coffee fix, we drove up to Delta Junction to connect to the Richardson Highway and drive south. A stiff southerly wind slowed us as the big drybags on the roof of my overloaded Subaru acted like a sail. Clouds of dust were being blown off the Delta River flats and our plant hunting stops were brief in the brisk wind until we reached Donnelly Creek to search for *P. egalikensis*. Our first impressions were not good when we saw that beavers had dams along the creek flooding the area. We spent an hour looking in the dryer areas and saw a few orchids, *Saxifraga oppositofolia*, and *Pinguicula vulgaris*, an insect eating plant that should be well fed here. Robert and I both had to chase our hats blown off by the wind, but finally, just before we were ready to leave, I walked to the edge of a road ditch and found a few tiny pink flowers deserving a "Eureka!". Growing among grass and moss, the leaf rosettes were only 1-2cm across with a single pink flower or two on 5-8cm stems whipping in the breeze. We each served as wind breaks for the other's photographic attempts between gusts.

Driving south over Isabel Pass at 3000' in the Alaska Range, we saw Summit Lake still ice covered. The Trans-Alaska Pipeline parallels the highway here and is easily visible since there are few trees in this windy area. Dall sheep were again seen on the south slopes of some of the mountains. As we dropped in elevation the weather warmed and trees and vegetation increased. That evening we stayed in a campground on Tolsona Creek where I must confess I had to use my head net while quickly pitching the tent. The grayling fishing proved to be an enjoyable yet fruitless endeavor.

The highway to Anchorage took us through some incredible scenery with the Matanuska Glacier and peaks of the Chugach Mountains to the south of us. At a State Park and other roadside areas we saw *Corydalis aurea* and a very dwarf *Amelanchier* in bloom with white and blue flax (*Linum*) on the dry hillsides and *Pyrola* and a primrose relative *Trientalis borealis* in cooler wooded areas. There was also a beautiful *Stellaria* (chickweed) that we were told makes a nice rock garden plant! It was a very warm day and was near 80 F by the time we reached Anchorage.

Mary Jo Burns graciously put up with us for the duration of the NARGS conference. We tried to help by identifying some of her plants and weeding her garden. I even got to prune an apricot tree in her yard! We could also see how many different plants, shrubs, and trees are tasted and enjoyed by the urban moose that are the worst pest in Anchorage. The city has a six foot height limit for fences which is no barrier to these critters. We had a nice gathering that evening of people interested in primroses where we talked about the benefits of the APS, picked up some new members, and sold some books and 60th Edition Quarterlies. The folks decided to start an informal group to learn more about primroses and perhaps rent some of the Society's slide shows this winter. We also enjoyed a tour of Mary Jo's gardens.

On Tuesday June 11th, we hauled our plants and APS display to the Hotel for the conference and checked out the
competition in the Trade Show area. Of course that meant that we looked at the plants at the other booths and hoped that we could sell or swap all of ours to make room for new ones to take home with us. Luckily, most everyone was interested in trading for Primulas, even the T shirt and garden art sellers. Unfortunately the bookstore did require real money. Pam Eveleigh contributed a wonderful group of photos for our display and everyone wanted those varieties of course. It was also fun to reconnect with some of the ARGs China Team members that I had spent a month with in the fall of 2000. We were comparing notes on the successes and failures of some of the choice seeds that we had collected.

Sally Arant’s garden and nursery was another nice visit and she was growing beautiful Primula marginata varieties without any protection along with lots of auriculas in her garden beds. P. veris and vulgaris varieties and other early species were also thriving in her partially shaded site. She even had a few P. sieboldii coming into bloom! Sally and other Anchorage gardeners had to keep reminding us that they do have to water regularly unlike those of us in SE Alaska who are always wishing for sun and working to improve drainage to keep our plants dryer.

On Wednesday morning, we began the conference with a hearty breakfast and loaded buses for hikes into the nearby mountains to see the alpine flora. I chose a trip to Arctic Valley and was fortunate to find that Jacques Mommens was on the same hike. What an interesting character to finally meet in person after having corresponded via email about APS Seed Exchange matters. We had a bit of friendly competition to spot and name plants though I have to say that he had an unfair advantage in having been in the area already earlier in the week. He was teasing me about having seen this or that choice plant just back there a ways! Gentiana glauca was just showing color in bud but not getting enough sun to open but Loiseleuria procumbens and Diapensia lapponica were colorful mats of flowers. Bright yellow Geum rossoii caught our eye and the pink and white bells of Cassiope were quite attractive. We had several guides along to keep us informed and safe who had been well trained by Verna Pratt. Mary Jo Burns was one of the guides and she mentioned that Primula cuneifolia var. saxifragifolia was ahead in the saddle at 3700’. The pink flowers of Oxytropis nigrescens first fooled me until finally the small Primula was found, just beginning to bloom in very similar conditions as near Juneau but earlier and at higher elevation. Nearly bare silty soil with plenty of rocks is the typical habitat and several hundred plants were in the area. I was also fascinated by the gnarled arctic willow on the exposed slopes with their upright male and female catkins resembling small fuzzy candles. One of our hikers had done research in the Canadian Arctic and had aged some of the plants; finding an incredible 500 or more years of growth rings in their prostrate trunks sprawled on the tundra. It is amazing to compare these 2-4 cm ancient woody plants to our 200 foot tall Sitka spruce of similar age, the Alaska State tree.

Gradually we worked our way back down the slopes to the buses and watched a few ground squirrels below us. As we descended, I saw an opportunity not to be missed. On the north side of the ridge was still enough snow that I put on my rain pants and slid down several hundred feet, avoiding much of the wet and muddy trail. Some of the other hikers accused me of cheating; I thought I was merely taking advantage of the conditions!

Each night after dinner, we had presentations on the geology, geography and plant associations of arctic and subarctic areas from Norway and Iceland through Canada and Alaska to Siberia. For Thursday’s hike, we had a gentle, well groomed trail in the Glen Alps that brought us some fine specimens of Pedicularis lanata and P. capitata, woolly and capitate housewort. Gorgeous cushions of Silene acaulis were photographed and larger yellow mounds of Potentilla uniflora opened and closed their flowers as the clouds uncovered the sun. Saxifraga bronchialis bloomed in clumps among the rocks and on the gravelly slopes. The yellow oxtrope, Oxytropis campestris was common at the lower elevations and I found a few Primula cuneifolia again just beginning to show color at the edge of a snow bank. As we came down the trail, we were buzzed by a helicopter overhead and found a group practicing their alpine rescue and EMT techniques on a snow field just off the trail.

On Friday morning, after my Primula talk, we gave away some primrose plants and an APS membership to the crowd and thanked all the people from the Alaska Rock Garden Society who had made this great conference possible. Some last minute swapping and trading and we were off to visit a few more gardens on our way out of Anchorage.

Carmel Tysver and her husband have hauled tons of rock (he’s a geologist) and tufa from Canada to build some large and small scree beds and displays. A special plant that she showed us was a white Primula cuneifolia in bloom that came from a mining claim north of Anchorage. She also had a large patch of a golden brown auricula (christened ‘Carmel’ by us on the spot) and was kind enough to share starts of it and a few seeds from last year’s capsules that we hope we can share with others. Sally Karabelnikoff’s gardens included some nice sunny and shady woodland garden areas and an orchid greenhouse to visit (a new hobby of mine). Rhonda Williams ‘Rechuse Gardens’ in Wasilla had impressive rock gardens built by her husband (one year he gave her 10 tons of rock for her birthday!) and a new alpine house rapidly filling with plants.

From our buggy campsite on Tolsona Creek the next morning, we drove northeast up the Tok cutoff in the sunshine. Mount Drum and Mount Sanford in the Wrangel-St. Elias Range were our southerly companions for several hours as we approached Mentasta Summit at 2434’. In some dry gravelly road banks we found beautiful pale yellow Papaver alaskanum
bloomed. Kelso correctly described the tiny plants held their secret until they very same area a week earlier but the blooming! We had walked across the Primula incana had just begun again at the site on Kluane Lake where of last years' seeds for the NARGS Seed Exchange along with some flowers and Penstemon. We stopped near a dry rocky slope and were looking for a few pictures and we found wild chives growing at the edge of the woods with several fine clumps of Pyrola also. We could not pass up the patch of P. nutans at the Donjek River either before finally camping for the night.

The Duke River seemed another possible place to search for Primulas but we found dryer sandy conditions, perfect for Arnica alpina, wild strawberries, and silverberry, Eleagnus commutata in bloom; it's tiny green flowers having the fragrance of Gardenia. Just before reaching the Sheep Mountain viewing area, we stopped near a dry rocky slope and were quite mealy but their rosette was only 2-3 cm across. We were really pleased to have added this fourth species of northern primrose to our trip log! The last leg of our drive contrasted the dry Interior of the Yukon and the lush green forest and meadows of the Coastal zone at Haines. We put 2000 miles on the car during our 9 day trip and now want to try another next year to some other northern Primula locations.

Bibliography:


Pratt, Verna. Wildflowers along the Alaska Highway. (borrowed from the Editor and well used along the way...RT)

Color Genes in Primroses: Hybridizing Ideas of Carl Heimburger in Victoria by Maedythe Martin

I first met Carl Heimburger when he had been retired for some years. He was a small, slight man, a bit stooped, with a round gnomish face and wisps of white hair. He seemed to have an endless supply of energy and also talked very fast. He had a heavy accent that made it a bit difficult to understand what he was saying. At this point, in 1979, I was living in Toronto, and he whirled into town, phoned me out of the blue, said he had my name from APS, and did I want to go and see the Speyside cowslips, in the countryside of Ontario, outside Georgetown? Taking a deep breath, I agreed.

We did go and see the escaped cowslips — they must have been from a garden at an old homestead site. There were hundreds of plants, in all colors, from yellow through buff to a rusty orange. They had no trouble with the snowy, cold Ontario winters. Later in the summer I went back myself and (fighting mosquitoes all the way) collected seed — tablespoons of it. I didn’t have a place to plant them in Toronto and brought the seed back to Victoria when I returned, but they never did much at the west coast.

When I got back to Victoria in 1980, Carl was deep into his hybridizing program. He had gone to some trouble to get seed for a number of Primula species, and some of the old forms of 'Wanda' — such as the hose-in-hose. I didn’t understand then, but the old forms that are vegetatively propagated have old genes. These were of interest to him in his hybridizing.

Over the next six to eight years, Carl tried to impart to a few of us interested in primroses the sense of what he was doing. He had been a botanist all his working life, and I am not botanically inclined, by any stretch of the imagination. Some of his ideas are interesting though, even to a neophyte like me. I’ll try and describe some of his studies.

Sadly Carl suffered more and more from dementia as time went on, and when his wife died suddenly, he had to go to a care facility. His plants and records were lost in the closing of his home by family in the mid 1980s, and all we have are a few of his plants and some notes from his talks. He died in 1990.

The Julie Color Intensifier

One of the things that Carl wanted to explain was why Cowichans have such deep colors. This issue is discussed in an article in the APS quarterly Primroses, Fall 1980, V. 38 no. 4, p. 13 – 15 written by Carl Heimburger. The article is densely written, a whole concept in a sentence, sentence after sentence. He explains that the deep Cowichan red “is purple minus the blue gene.” (p.13) He cites a German source to support this. He continued to mull over the chemistry of the color genes in primroses, but reached no conclusions about Cowichan red, saying it needs to be investigated further.

But he was convinced that there are...
two color genes in *P. juliae*. One is a gene for anthrocyanin, which determines color, and the other intensifies the first. Both are dominant, and the result is bright, strong colors. (Carl, in his article p. 14, cites Huskins, 1929, as the source for this information.) Carl had determined that *Juliae* species has the two genes, but ‘Wanda’ has only one. The Cowichan also has the two color genes, and this probably determines the depth of color. Carl’s hybridizing program also determined that crossing *P. veris* (cowslip) with Cowichan results in bright scarlet colored plants, and crossing *P. veris* with ‘Wanda’ results in a rusty or Bloody Mary type color. One little plant we have had around is a tidy rust polyanthus, probably from this latter cross.

Carl’s genetic observations are now 25 years old, and no doubt there have been developments in color theory in primroses, but his ideas are still interesting.

**Creeping Rootstalk versus Tufted Plants**

Carl’s other main concern was to incorporate the gene for creeping rootstalk in as many Primula as possible. If you have a good plant and want to reproduce it vegetatively, how much easier this would be, if the plant has a creeping rootstalk, which can be cut into pieces, and each will grow. Also, Carl felt the plant was a better survivor if it had a creeping rootstalk, for if one growing point rotted off, there would be others that might not. In a tufted plant, if the center growing point rots— that’s the end of that plant.

Carl discovered that *P. pallassii* has no dominant gene for a tufted plant, although it is tufted (has one main growing source or crown.) A cross with ‘Wanda’ produced some tufted and some creeping plants. He insisted that if you kept crossing the offspring that showed a tendency to creep, you would eventually get 100% of plants with the creeping habit. (As an aside, Carl said some cowslips can be reproduced from leaf cuttings. I haven’t tried this— had anyone? Curious idea, and worth a go.)

Primula elatior also came under Carl’s scrutiny and he had some observations to make. In the Julianas, there are ‘Lady Greer’ and ‘Dorothy’, both pale yellow Julie crosses. Carl surmised that they were *P. juliae* crossed with cowslips. But the true difference was that ‘Lady Greer’ was at base a white flower, while ‘Dorothy’ was a yellow flower. This would make a difference if you were making crosses to get a white Juliana. It also must reflect the character inherited from the original cross— *P. juliae* and what else beside cowslips? Carl maintained that *P. elatior* had hidden qualities and was an interesting specimen with which to make further crosses.

**More on Color**

Having identified the color intensifier gene, and the dimensions of the red in Cowichans, Carl decided it would not be hard to get black primroses. This is not as far fetched as it sounds, for indeed, the gold-laced polyanthus in the most traditional form has a black petal background— with gold, or yellow lacing.

Here’s how it goes. Take a yellow primrose, and cross it with a blue primrose. This could be acaulis or polyanthus. (Please don’t cross polys and acaulis— you get what are called poly-acaulis, some short flowers and some stalked like polyanthus. I think this is an abomination and SHOULD NOT be done.) From this cross, you will get wine-colored offspring.

Now you need a second strain to cross with this first strain. So start with a yellow primrose, perhaps a brighter yellow than used in the first cross and a different strain of blue. From this you will get red-orange offspring. If you cross your wine-colored hybrids with the red-orange plants, you should get some black flowers in the second generation. With some experimentation, you should be able to get French grey flowers, as Peter Atkinson referred to them, and mahogany (like the Barnhaven ‘Spice’ strain) and perhaps some black or dark mahogany with wire-edged lacing, not the full lacing of gold-laced polyanthus. Wouldn’t that be striking?

And, the ultimate to be aimed for, in Carl’s opinion, was a gold-laced polyanthus with creeping root-stalk. Just think, you could have dozens of perfectly laced plants in no time, if this creeping rootstalk gene could be captured in a GLP. This is truly something for the hybridizer to try for.

It’s a shame we don’t have more of Carl’s work left to us, but his ideas are here, and worth following up. Now if I can just get my hands on two different blue primroses and two different yellow primroses....

**Bibliography**


Carl was born in St. Petersburg, Russia in 1899. He studied forestry in Denmark, and following graduation worked in Finland and Sweden, and then immigrated to Canada in 1925. Carl graduated from the University of Toronto with another degree in Forestry in 1928 and went on to do his Doctorate at Cornell University, receiving it in 1933. At the height of the depression he moved to a job in B.C. with a lumber company, but in the next year, he joined the Dominion Forestry Service and worked in Ontario where he was at last able to follow his first interest, plant breeding. He spent 22 years researching forest genetics.

In 1953 Carl was elected a Fellow of the Royal Society of Canada, the first and only forester to be so honored. Following his retirement, he moved to Victoria. Here he found the mild climate allowed him up to three generations of poppies (his next interest) a year. Carldied in Victoria in 1990. He is survived by the several hundred thousand plant genes in the trees and flowers that have benefited from his work.
Root Aphid
by April Botteger

I am past tired of having things in piles I should read, I mean to read, I will read, but not today. So I had just decided to discontinue my subscription to GPN, when Fred says “Did you see this article on root aphid”. Well anyone growing Primula auricula soon meets these nasty beasts, so of course I right away had to read it. In the past there had been little written about this pest, because it did not affect major money crops, or so I had been told. The only information I had been able to find was from primula books, APS quarterlies, and other auricula addict sources. Many of the pesticides they referred to were from the UK, and not available here, or they have been banned. Needless to say I was quite surprised, but grateful to find this article.

The article was written by Stanton Gill and printed in the November GPN, a commercial magazine for nurseries. The research was done through the University of Maryland Cooperative Extension Service. GPN can be found on the NET at www.onhort.com. This article contained much more information then I included here; so it would be well worth your time to read the entire article. A few of the other things it touched on were insect growth regulators, predators, and parasites. It also contains additional information on other insecticides. In response to this article Stanton Gill was sent an email suggesting that Hypoaspis miles, a soil mite, may also be of assistance in eliminating root aphids.

The research was done between two nurseries that were having problems with root aphids in their gaillardia, aster, and Boltonia. They had already tried Talstar (bifenthrin) and Marathon (imidacloprid) with poor results.

Ray Cloyd, an entomology specialist, suggested they try Orthene and Dycarb as soil drenches. They also decided to try BotaniGuard (Beauveria bassiana), an entomopathogenic. The tests were done using 1 gallon plants by drenching the soil with the pesticides (on different plants—not together). They also removed some plants from the pots and dipped the rootballs in M-Pede insecticidal soap for 30, 60, 90, & 120 seconds.

The results: Orthene was almost 100% effective. Dycarb was 85%. BotaniGuard was 96% when soaked for at least 90 seconds—good news for the more organically inclined folks. The BotaniGuard also removed the white wax, while with the Orthene and Dycarb treated plants it was still present 2 weeks later.

Typically February and August are the most effective months for treating these pests. The February treatment may need to be delayed a bit if freezing weather persists. It may be advisable to check with your local extension agent about your best timing. In any case regularly check your plants and any time root aphids are seen, immediate action should be taken.

Root aphid, like regular aphid, will produce winged adults late summer into fall, hence the August treatment which can be monitored with yellow sticky cards. The article said the winged adults
Ed’s Chariot packed for the 2000 mile road trip to the annual NARGS convention. RT photo

Left P. incana Kluane Lake Yukon right P. egaliksensis Donnelly Creek, AK E.Buyarski photos

Primula cuneifolia wild in Anchorage Alaska. Robert Tonkin photo

Sally Arant’s Primula garden in Anchorage Alaska RT photo
P. nutans, Donjek River, Ed B. photo

Dodecatheon pulchellum, Ed. B. photo

Marginata bed, Sally Arant's garden

Wild fox along the Alaskan Highway, Yukon Territory. Ed Buyarski photo

P. nutans Donjek River tributary, RT photo

Donnelly Creek, P. egalikensis habitat. RT photo
P. reidii in Ed Buyarski's garden. RT photo

Trientalis borealis, also known as the "Starflower" Ed Buyarski photo

P. vialii in Ed Buyarski's garden. RT photo

P. edelbergii and P. malacoides grown and photo by RT
are the result of high levels of infestation on individual plants. With wings they are then ready to travel to new plants and will soon establish new colonies. Needless to say, seeing winged aphids is a serious sign of large populations and severe problems. Of course growing in heated greenhouses makes all this worse, since it lets them continue breeding without letup through the cooler seasons.

Here are a few things to help prevent the aphid in the 1st place. Keep all weeds cleaned out of and around your greenhouse. Use microscreens on intake vents or open windows. Check all new plants for pests before bringing them in your greenhouse, because this pest is being found in more and more perennials too. Additionally watch for ants, which are often harbingers of aphid problems.

Auricula growers in general are finding that Isopropyl alcohol (often referred to as rubbing alcohol) is another effective way to eradicate root aphid, including the wax they produce. When buying your alcohol find a sprayer bottle of the same height and lid size. Screw the sprayer nozzle onto the alcohol bottle, so that it is kept labeled. In general when the aphid is noticed, water well and let your plant drain a bit. Carefully remove it from the pot and spray any areas that look infested. At transplanting time wash the bugs and old soil off the roots. It would be a good idea to destroy that soil. Trim the roots as desired and give a good spray with the alcohol. Some folks use this at full strength; others mix it half and half with water. I have used it full strength on seedling auricula, with no harm, but did not monitor it to see how effective it was. Likely a follow up spray should have been used to kill any eggs that may have survived and hatched.

Clare Cockcroft, a former APS editor, said that alcohol will also kill botrytis and passed along these tips. Clean out any rotting foliage and spray the area with the alcohol. Also if you have auricula seed almost ripe and the stem starts to get soft, hit it with a spray of the alcohol—the seed should finish ripening. She also said she had used it on many other kinds of plants without any problems except ferns. Teetotalers I guess!

I emailed Stanton Gill with a Thank You and this information. Maybe in the future we will see another article on these pests that includes research using alcohol. I hope all this provides some newer solutions for dealing with this hideous pest.

Finally some DON'TS: Don’t reuse old soil; don’t dump old soil anywhere near your plants; don’t mix pesticides without knowing that it’s OK for you and your plants to do so; and don’t use the same pesticides over and over, the PESTS build up an immunity.

Do remember: use the recommended protective gear when using pesticides. Pesticides kill beneficial creatures too, so be careful when and how it is applied. Always thoroughly water your plants before applying insecticides (unless the directions say otherwise). And probably most important of all to remember; a little common sense goes a long way.
two species in Kotzebue this September after a caribou hunting trip, possibly P. nutans and borealis in a damp area near a brackish slough. Then while moose hunting near Gustavus, I found still another, probably P. egaliakensis in a seasonally wet area (some were under water). There were plenty of seeds to collect for the Seed Exchange and I want to return next June to try to see them in flower. "Oh yes, the hunting was successful too. Primula capitata is still blooming in mid October as I write, since we've had only one frost so far. Many of the petiolates are putting on a great show and we've had a much better display of fall leaf color than I expected. We just hope for a good snow cover this winter.

Keep thinking and dreaming of those new plants to grow or old ones to grow better and share some in case yours are lost and need to be replaced.

Ed Buyarski
APS Website Growing

Duane Buell brought the APS into the World Wide Web with the creation of the Official APS website in 1999. He has done a tremendous job as our APS Webmaster and I would like to thank him for his vision in creating and hard work in maintaining the site. Duane has passed the Webmaster position on to me and I am looking forward to taking up the challenge.

I plan to take the APS website through a number of renovations in the near future. A fresh, new look will appear and a reorganization of the extensive material will follow. The most exciting addition will be made in conjunction with the APS seed exchange. Plans are underway to post the seed list on the APS website approximately 2 weeks after the paper copy of the seed list has been mailed to APS members. Those members whose copies are held up in the mail or who misplace their copies can then look for the list on-line. The seed list will be regularly updated on the APS website to reflect seeds which are sold out.

Eventually the posted list will turn into the surplus seed list. Questions on this project can be directed to the Seed Exchange Committee Chair, Jacques Mommens, at mommcns@advinc.com.

I would welcome any ideas from APS members about what they would like to see on our website. Don’t miss all the fun at www.americanprimrosesoc.org!

Your new Webmaster,
Pam Eveleigh
eveleigh@shaw.ca

Respectfully,
Robert Tonkin,
APS Secretary

APS Board Minutes

Our meeting was held August 24th. It was a combination of a Juneau meeting, a telephone conference, and online communication. Present were Judy S., Mary K., Pam E., Phyllis P., Terry M., Ed B., Julia H., Cheri F., Mary I., Cy H., Thea O., Candy S., and Rosetta J.

The treasurer’s report revealed that as of 6/30/2002 the Society had $11,072.52 in cash and $13,342.53 in our investment account. For the previous 12 months we had $14,809.27 in income offset by $16,202.98 in expenses. As of 8/22/02 the Society had a membership of 524, an increase of 55 new members.

A motion passed to itemize any expense exceeding $250 on the income statement. Clarification of old business affirmed only overseas members receive their seeds without cost. There was unanimous consent, without vote, affirming the 2003 National Show will be held in Juneau May 16th. There was discussion of judging held at the 2001 Tacoma Show. An explanation of events and an apology was offered by the Chairperson and was accepted by the Board.

There was discussion and direction given to the Judging Committee to propose changes to Show Rules to avoid similar occurrences. A nominating committee was formed for the upcoming spring election. A vote to hold the next Board meeting by phone passed.

Respectfully,
Robert Tonkin.
APS Secretary

Get Involved in the APS

The coming winter issue of Primroses will include your ballot for our 2003 National APS elections, offering every member the privilege of voting and the opportunity to run for office. Become involved in our exciting society! The Nominating Committee is looking for enthusiastic volunteers so we may have a full slate of Officers and Directors on the ballot. The ballot will include APS President, Vice President, Secretary, and Treasurer, as well as two seats on the Board of Directors (three year terms). For more information or to volunteer, please contact (as soon as possible) Judith Sellers, 300 Frank Youngs Rd., Unadilla, NY 13849 Email jsellers@mkl.com or Candy Strickland, 6911-104th St. E., Puyallup, WA 98373.

Helpful support will be provided for new officers, so don’t be shy!

Want More Primroses?

Back issues of the A.P.S. quarterly, Primroses, are available from the A.P.S. Quarterly Librarian. Prices depend on the issue date:

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The purpose of this society is to bring the people interested in Primula together in an organization to increase the general knowledge of and the interest in the collecting, growing, breeding, showing and using in the landscape and garden the genus Primula in all its forms and to serve as a clearing house for collecting and disseminating information about Primula.

Membership in the Society includes a subscription to the quarterly publication *Primroses*, Seed Exchange privileges, Slide Library, and the opportunity to join a Round Robin. Membership renewals are due November 15th and are delinquent at the first of the year.

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