

BULLETIN

of the

AMERICAN

ROCK GARDEN SOCIETY

Vol. 23

April, 1965

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HEUCHERA—OLD AND NEW

GEORGE SCHENK, *Bothell, Washington*

Heucheras are exclusively North American plants, leafy members of the Saxifrage family. Of the more than thirty species, one, *Heuchera sanguinea* (Coral Bells), has received the lion's share of attention. *H. sanguinea* has long been one of the most planted border perennials in all but the coldest sections of the United States and Europe, but the other species are grown almost entirely in botanical gardens and collectors' gardens.

The group as a whole deserves a better reception. Many heucheras are beautiful foliage plants (two of them have marbled leaves). Several have tall, architectonic panicles which hold a thousand flowers at once. (One of these open-panicled species has been crossed with *H. sanguinea* to produce *Heuchera* 'Santa Ana Cardinal', one of the most promising garden plants ever developed from Western American wild flowers).

Heucheras are delightful material for the hybridizer. Any of the species will cross if given the slightest chance. Where the ranges of the species overlap, intermediate forms are found in abundance. In cultivation this natural willingness can be aided by simply planting different species close together and letting the bees exchange the pollen, or they can be hand pollinated. You aren't apt to get a plant as good as *H.* 'Santa Ana Cardinal', but after sowing crossed seed, it's fascinating to see a new plant emerge which resembles both parents. If seed of this first generation cross is sown the second generation of plants will divide up in Mendelian fashion into an astonishing variety of heucheras, large and small.

Heucheras are tough. You can grow and flower them in sun or shade almost anywhere in the garden—in the border, woodland, or rock garden; but they all appreciate shade in varying amounts. The woodland species enjoy cool, ferny places. The alpine heucheras prefer a mostly sunny spot in the rock garden, where they receive fast drainage and no more shade than that cast by the stones.

Heuchera Species

Heuchera sanguinea has seniority in any discussion of the genus. Not many Western American wild flowers can be called old-fashioned, but coral bells can. The plant came into garden prominence in the Victorian Era and joined feverfew and tansy in grandmother's flower garden.

I like to remember a certain Victorian garden, which for many years, seemed to be the Seattle headquarters for coral bells. (Recently both the house and garden went down before the freeway). The house was a white, three-storied mansion whose colonial columns blossomed with capitols of gingerbread. About

the house was a rich, manicured lawn and bordering the lawn, 100 feet to a side, were the airy panicles of coral bells—nothing else—just armies of coral bells. The gardener developed this display by dividing and redividing a few plants purchased decades before.

About the turn of the century nursery catalogues brought a spate of different coral bells to market to take advantage of a sudden popularity. Some of these old forms are well known today. Others may be extinct. Trying to gather together all these old varieties would make a long-term project for the most zealous plant collector. Some of the most outstanding were: *Heuchera sanguinea alba*, introduced about 1896 by Haage & Schmidt, and *H. s. splendens* with dark crimson flowers, introduced in 1898 by the same nursery; *H. s. robusta* (synonymous with *H. s. grandiflora*), a larger, brighter-flowered form; *H. s. rosea* and *H. s. maxima*, advertised as having dark crimson flowers; *H. s. gracillima*, a more slender form; *H. s. cristata*, "a wonderfully pretty crested variety" introduced by Luther Burbank. In all there were more than a hundred catalogue splits of *Heuchera sanguinea*.

The coral-rose color of *Heuchera sanguinea* and its hybrids, while beautiful in itself, takes careful placement. Coral bells actually upset the color balance of many flower borders in which they are planted. Coral bells chime with peach bells (*Campanula persicifolia*) and any other white flower; with *Azalea mollis* and other salmon-reds. They strike a sour note with bluish-rose and purplish-blue flowers. Coral bells are valuable enough to fill borders by themselves, as in the Victorian garden we recalled. Coral bells (and all other heucheras) produce long-lasting flowers over a long season. Usually the peak of flower comes in May and lasts well into June.

Give coral bells a mostly sunny or half shady position. Divide the clumps in September, October, or March. (Divide all other *Heuchera* species during these same months). Coral bells seed is short-lived. Most of the seed marketed yields few plants or none. You'll get an easier start buying a few plants and dividing them every year.

Heuchera elegans ranks closely behind *H. sanguinea* in showiness. The comparatively large, white, urn-shaped flowers are carried in graceful, slender panicles after the fashion of coral bells. *H. elegans* grows not far from the Mt. Wilson Observatory and elsewhere in the San Gabriel range of California.

Heuchera pilosissima, of the California sea cliffs, is a softly downy plant, densely pelted along the stems, leaves, and calyces. The flowers are pale yellow.

Heuchera brevistaminea with large, dark, rose-purple flowers grows in the Laguna Mountains of Southern California.

I have no report of the frost tolerance of the three Californians just named. These species have not been in the plant trade, and perhaps have never been tested in the North. But any of the southwestern heucheras is worth a hardiness trial wherever *H. sanguinea* can be grown. Coral bells itself comes from Arizona, New Mexico and northern Mexico. The rest of the *Heuchera* species and hybrids discussed in this article are growing in my own Seattle garden, and all have proved as hardy as *H. sanguinea*. Zero cold has damaged them here, but during most winters they haven't turned a leaf.

Heuchera micrantha has crinkled leaves and tall, open panicles of small greeny flowers arranged in stories. The real display is in the panicle structure. Plants sold as *Heuchera* 'Micrantha Rosea' have blush-pink flowers on hairy stems, and are almost certainly hybrids of *H. micrantha* and *H. sanguinea*. The same hybrids are also sold as *H.* 'Brizoides'.

Heuchera maxima from canyon walls of Santa Cruz, Santa Rosa and Anacapa Islands off the coast of California, make large, long-stemmed tufts of leaves,



Heuchera hybrids fill this woodland like a pink surf. These Lenz hybrids were photographed in May at Rancho Santa Ana Botanic Garden.

Don Normark

surmounted by three-foot panicles of little whitish cup flowers. A thousand simultaneous flowers give the panicles a plummy fullness. The flowering season lasts from early spring until midsummer, after which the dried panicles stay firm and upright for additional months, providing interesting material for arrangements. This species has outstanding landscape value in the shady garden, where it combines well with ferns and almost any other woodland plant.

Heuchera americana (Alum Root) has pale green marbling on darker green leaves which turn bronze-red in winter. Some forms show marbling only on the young leaves, others retain it the year around. The flowers are greenish. This *Heuchera* and the next two on the list are eastern American species of striking leaf and modest flower display.

Heuchera pubescens, from southeastern woods, has green leaves marbled with bronze-red.

Heuchera villosa has leaves which are deeply scissored at the edges into a maple leaf pattern. The globed flowers are pinkish or whitish and tiny, but they open in abundance.

Heuchera cylindrica, *H. glabella*, and *H. tenuifolia* come from dry, rocky places east of the Cascade Mountains in British Columbia, Alberta, and the Northwestern states. The first two species have an effective display of pale yellow, bell-shaped flowers in stiff spikes above leathery, glossy leaves. The last named species has spikes of greenish flowers and thin, unglossed leaves.

Higher in the dry mountains of the same territory, where grow the last three mentioned, grows *Heuchera ovalifolia*, sometimes considered an alpine form of *H. cylindrica*, but it has smaller, more rounded leaves and the yellow-flowered

spike is shorter and fewer-flowered. The highest alpine forms of *H. ovalifolia* may be the smallest of heucheras. They grow as lichen-like clumps of tiny, nearly stemless leaves (one quarter to one half inch across) wedged among rocks. The flower stems are often no more than three inches high.

Heuchera bracteata and *H. hallii*, from the Colorado Rockies, are other small-leaved, spike-flowered alpine species.

Heuchera duranii grows among rocks close by the world's oldest living trees, in the *Pinus aristata* groves of the dry White Mountains on the Nevada side of California. A similar species, *H. rubescens*, clings to screes and cliffs in western mountains. Both have small, slender panicles of pink flowers, noticeable mainly to flower-visiting insects.

Heuchera Hybrids

Most of the man made *Heuchera* crosses involve *Heuchera sanguinea*, for brilliant color, and one or another of the large-panicked woodland species for size.

Early hybrids were called *Heuchera* 'Hybrida'. These were anyone's guess. Only the bees knew for certain. *H.* 'Rosy Morn' was one, and another was *H.* 'Zabeliana', a tall plant with pale pink, long-stalked flowers. *H.* 'Brizoides' covered a group of mostly pink or red-flowered hybrids between *H. americana* and *H. sanguinea* and probably *H. micrantha*. The name *H.* 'Brizoides' is still found in several American nursery catalogues, and plants purchased from different sources are often quite distinct. Some of the other hybrids may still be around.

A bigeneric hybrid of *Heuchera* 'Brizoides' and *Tiarella cordifolia* appeared by chance in 1917 in a garden in Nancy, France. The parent *Tiarella* is a saxifrage relative from eastern American woods. It has leaves of maple edge and delicate wands of starry, white or pink flowers. This cross was christened *Heucherella tiarelloides*. It is a stoloniferous plant with four-inch tufts of small and somewhat orbled leaves. The flowers are carmine-colored and bell-shaped in a narrow panicle on tallish stems.

Heucherella tiarelloides alba, with a white-flowered *Heuchera sanguinea* in its blood line, was introduced in 1925. The heucherellas are hardy, easily divided, graceful in flower, and eminently desirable for the woodland garden. Surprisingly, they are almost unknown in American gardens and nursery catalogues. But since both parents are readily available in this country, this cross might be recreated in your own garden.

Heuchera 'May Fair' takes the coin-sized leaves and short panicles of Colorado's *H. hallii* and adds to them the light coral flowers of *H. sanguinea*. This hybrid is by the hand of Marcel Le Piniec.

Heuchera glabella x *sanguinea* was bee-born in my garden a couple of years ago. The plant has soft, coral-rose flowers, individually large and gracefully spaced in a narrow panicle. Mr. Ed Lohbrunner, of Victoria, British Columbia, is the first nurseryman to receive a start of this interesting cross.

Heuchera 'Santa Ana Cardinal' is a new hybrid developed at Rancho Santa Ana Botanic Garden by Dr. Lee Lenz. The child of *Heuchera sanguinea* and *H. maxima*, 'Santa Ana Cardinal', has crowds of deep coral-red flowers on thirty-two-inch stems. The plant is blessed with "hybrid vigor", a phenomenon by which some hybrids seem to be genetically supercharged with life and strength. 'Santa Ana Cardinal' is stronger in growth, larger in flower than either parent. It is the best of all heucheras for flower borders; but its hardiness on the colder fringes of the *H. sanguinea* garden range remains to be tested.

Dr. Lenz has developed white and pink crosses of *H. sanguinea* and *H. maxima* which are nearly as valuable as 'Santa Ana Cardinal'. At Rancho Santa Ana there is an extensive woodland planting of these hybrids. When the thousands upon thousands of these three-foot panicles open their flowers in May, this

woodland becomes a billowing sea of blended pink.

'Santa Ana Cardinal' and the best of the other hybrids have been given to the Deigaard Nurseries near Los Angeles for introduction.



Leaves of Woodland and Alpine Heucheras

Left to Right: Top Row: *H.* 'Brizoides', *H.* *glabella*, *H.* *micrantha*. Second Row: *H.* 'Brizoides' (a different form), *H.* *rubescens* (Division), *H.* *sanguinea* (Division). Third Row: *H.* *cylindrica* (Leaves fanned out), *H.* *americana* (Mottled leaf). Bottom Row: *H.* *duranii*, *H.* *villosa* (Maple-like leaf), *H.* *ovalifolia* (Division with cord-like root), *H.* 'Santa Ana Cardinal.'

Don Normark

VISITORS

ROY ELLIOTT, *Birmingham, England*

Of Courtesy, it is much less
 Than Courage of Heart or Holiness,
 Yet in my walks it seems to me
 That the Grace of God is in Courtesy.

BELLOC.

We all love visitors! What is the point of having a nice garden, or building up a comprehensive range of mountain plants, if you cannot share your pleasures and disappointments with others like-minded? My wife and I look back upon some fifteen years of happy memories of those who have come to share our garden with us. I am the one who is passionately fond of alpine plants, whilst my wife has other interests to which she is equally devoted. Sometimes our garden visitors

forget that such a division is possible and that the 'gardening talk' which is meat and drink to me can become quite the opposite to her, so when I go visiting other people's gardens, I am always careful to find out just who I am likely to bore to tears.

This article, written at the express request of your Editor, is penned with no feeling of carping criticism, but is rather an attempt to view dispassionately the garden ethics of visiting and being visited. You take visitors as you find them; they range from the expert grower, who soon discloses your abysmal ignorance of the plants you so proudly grow, to those who visit you out of curiosity (and often bring some of their disinterested relatives along for good measure). But one and all, you welcome them, and I can honestly say that I have seldom shown any visitor round the garden without learning something I did not know before.

Just sometimes one finds oneself wishing they would leave their disinterested relatives and children at home. It is one of the hard facts of life that one's unfortunate wife is generally left to look after the camp-followers whilst the dedicated ones troop off together into the rock garden. I have one of the most understanding and tolerant wives a man could wish for, but there is a limit to the details of retrospective confinements and the *bons mots* of children which she can cheerfully accommodate.

And then the children! They are the same the world over; sometimes the children are quite delightful and a pleasure to talk to. But the small minority of wild ones and (horror!) the babes-in-arms that sometimes descend on us, tempts us to wish that we could limit garden visits to those *interested* in gardens and not to (if you will forgive the misquotation) "Their sisters and their cousins whom they reckon up in dozens and their aunts!"

The greatest difficulty which any keen gardener who likes visitors has to face is whether to "open" the garden to groups of people, or whether to let it be noised abroad that any visitor (by appointment, of course) is welcome. We have both, from time to time. We are always pleased to have groups of people wandering round the garden, though we are conscious that we cannot give them much personal attention, nor can we keep up our tradition of always trying to give every visitor a small plant to remember us by. Groups always want the same plant—generally when it is in flower and cannot be disturbed.

The individual visitor is more of a problem and the problem can only be stated with brutal frankness. The expert plantsman is welcome at any time, and nothing gives a gardener more pleasure than to spend several hours showing the expert round. Both parties gain much knowledge and much enjoyment. But the inexperienced visitor and the complete novice take up as much valuable time as the expert, and one wholeheartedly wishes that such good folk would come in groups. Time is a thing a gardener can never have enough of.

Even groups of people occasionally merit our mild disapproval—mild, because their presence gives us every bit as much pleasure as our garden gives them. We forgive them the cigarette ends on the garden (much easier to sweep up on the paths!), we even kid ourselves that their high-heeled shoes across the lawn are good for 'aerating the turf'. But sometimes we entertain the unworthy thought that if our garden is open 'From 2-6 p.m.', the rearguard might leave us to that desperately needed bit of alcoholic refreshment around 6:30 p.m.

What a pleasant crowd gardeners are! Never should one underestimate a fellow gardener. I well recall the day I received a 'phone call from a well-known 'Flower Arrangement' expert. Like most ignorant males I had always associated such experts with green flowers, variegated foliage, leaves upside down, and scattered fruit and lobster claws. We walked round the garden making polite conversation, because I felt that Latin plant names would be wasted on floral-

arty ears. But as we passed a scree bed, she pointed to a microscopic plant that I had tried for years to identify without success, and said, "That is the first time I have ever seen *Cochlearia alpina* in a garden." When I recovered from my shame, I spent a delightful and instructive afternoon with a lady who knew far more about botany than I shall ever learn.

Again, many years ago, I was intensely irritated by a visitor who—entering my alpine house for the first time—paused at the door and said, "Oh dear, red spider!" How, I thought, can this wretched woman see red spider at a range of three feet, when I can hardly see them with a magnifying glass? Now, years later, I can myself spot red spider by the markings on the leaves of plants. I often pause as I enter other people's alpine houses and say, "Oh dear, red spider!" I wonder if I irritate them as much?

I have other appalling habits, and I cannot continue this article on the ethics of garden visiting without a sort of private purging of my horticultural soul. I am always pulling up weeds in other people's gardens; I do it almost without thinking, and then a cold shiver runs down my spine when I recollect how a visitor to the late E. A. Bowles's garden once pulled up a plantain. It was a rare and difficult plantain, the apple of the old gardener's eye.

Last year, again unthinkingly, I was trying to pull out a rosette of a draba which had seeded into a pan of androsace, when the quiet voice of my host mentioned that he needed the draba, and intended to separate it in the spring. I never learn. Yet I grow at least ten species of grasses and three different species of plantain in my rock garden, and I get *furiosus* when my visitors help me by pulling them up. And I am quite certain that I frequently overstay my welcome.

Why cannot our hosts cultivate the lost art of speeding the parting guest? I once had to see my young daughter's headmistress—a genus which scares me stiff. I was told she could give me ten minutes. She gave me a cup of tea for five minutes, and was most charming; for four minutes we talked about my daughter; then, just as I was warming to the discussion I suddenly found myself, coat and hat in hand, outside the door, being bidden goodbye in a friendly, polite and quite disarming manner. I never learnt how it was done.

We addicts of garden visiting all have our faults, and Americans of Scottish ancestry can doubtless still decipher or remember Burns' famous couplet

'O wad some Pow'r the giftie gie us
To see oursel's as others see us.'

So how about making a few good resolutions for garden visiting in 1965? When our hosts are proudly showing us round their gardens, let us not bore them with a running commentary about our own: it is *their* garden we have come to see! When we are asked to admire a certain plant, let us be unstinting in our praise of it. The visitor whose favourite comment is, "Oh, but you should see the plant in Mr. X's garden," deserves a pitchfork in his path. If we possess a plant 'twice the size' at home (and some visitors *always* do), let us hide its light under a bushel. May we never, under any circumstances, filch a cutting or even a half empty seed head without first seeking our host's consent. Such consent is invariably given gladly. Let us arrive punctually at the arranged time, and let us not outstay our welcome nor forget that vital aftermath, the 'thank-you' letter.

As hosts, let us remember that every gardener has an *ego*; sometimes it is a small *ego*, and sometimes a big, big one. All are vulnerable, and the temptation to use a very small pin on the very biggest *ego* is sometimes overwhelming. But not in a garden! Let us resolve never to 'talk down' to the beginner, never to confine our attentions to the most knowledgeable (or attractive!) of a group of

visitors, and never be a bore with specialist information. It is really only a matter of courtesy.

Yet let us not lose sight of the one point of this article. It is directed at us enthusiasts. No discourtesy is ever shown by the neighbors who drop in for a drink and say, 'the garden is looking nice.' People who are not gardeners, never have garden visitors, so the question does not arise. Any band of enthusiasts can be discourteous, quite unwittingly, because of their very enthusiasm. Golfers, bridge players, yachtsmen, gardeners, are all bores—to others. We all have the same faults. We get so wrapped up in our special interests that we forget the common courtesies of everyday life.

Many years ago, when I first started to grow rock plants, a friendly local doctor, a keen botanist, used to visit the garden almost every week. He used to let himself in, and show himself round; he was a brusque, outspoken man, and (like all doctors) he always seemed to arrive at mealtimes. He has been dead many years now, but my wife and I will always recall his visits with pleasure. Gruff and outspoken he might have been, but after half an hour in the garden he always used to spend five minutes with my wife—not talking about gardening or botany, but about the children, holidays, shopping, or the price of eggs. It was his way of being courteous, and as I started off

"Of Courtesy, it is much less
Than Courage of Heart or Holiness"

It is a gentle thing—and where better for it to thrive, than in a garden?

RAMONDA AND HABERLEA—DIFFICULT? NO!

RICHARD LANGFELDER, *Chappaqua, N. Y.*

Friends and visitors to my garden always get excited when they see my ramondas, and even more, when they see them in bloom. They say, "How do you do it? We cannot raise them and we cannot keep them. They are too difficult."

The genus *Ramonda* is not difficult at all, neither is *Haberlea*. What is needed is a large dose of patience and a little understanding of the needs of these plants.

There are three species of *Ramonda*: *R. myconii*, more popularly called *R. pyrenaica*, of which there are *alba* and *rosea* forms, the latter being very pretty with shell pink flowers; *R. nathaliae*, which hails from Serbia and Bulgaria, with flowers of lavender-blue, each decorated with an orange eye; *R. serbica* which has lilac-blue flowers and comes from the Balkans. There exists a hybrid between *R. myconii* and *R. serbica* which is *R. permixta*, that I have not yet seen.

Haberlea rhodopensis and *H. ferdinandi-coburgii* are the two species of *Haberlea*, and there is also *H. r.* var. *virginalis* with beautiful white flowers. *H. rhodopensis* has pale lilac flowers and comes from Thrace in Greece, while *H. ferdinandi-coburgii* is a little larger, also with pale lilac flowers, but with a white, hairy throat, spotted yellow. It comes from the Balkans. The easiest is *Ramonda myconii*. Buy, if you can, good-sized plants and you can enjoy the beautiful flowers sooner.

This is how I grow them: *Ramonda* should be planted on the northeast, north, or northwest side of a rock at least ten to twelve inches high. The rock should be set even deeper in the ground. Dig out the soil to a depth of ten to twelve inches and fill it with a mixture of peaty soil; two parts peat, one part open loam, and one part rough sand. To this I add one part granite chips. Despite the fact that some authorities advise mixing in some lime, I find that they grow

very well without it. A little bonemeal is said to be beneficial, but I do not use it.

All the books say that ramondas should be planted vertically between two rocks. This may be so, but here they grow well flat on the ground. A very good thing to do is to put a smaller rock next to the large one, about one and a half to two inches away, and in this pocket plant the ramonda. They like very good drainage and should never be allowed to dry out. Plant firmly with a mulch of stones around them. If you are unable to buy a plant, it is easy to raise ramondas from seed.

Until now I have never had enough seeds, so I was forced to sow them in pots. The same mixture that I mentioned before is the right thing, but on top I put a finer mix, firm it and sow the seeds on top. I cover them with a little fine sand. I always sterilize the loam and the pot. Next, I stand the pot in a vessel of water and as soon as the water comes to the top, I take the pot out and let the water drain. The next day I put the pot in the refrigerator, or freezer, and let it freeze for a few days.

The pot can also be put out on the north side of the house to freeze. In this case it should be covered with a quarter-inch hardware cloth for it might happen that mice or birds would scratch the surface. After freezing, I put the pot in a cool, dark place and cover it with a pane of glass. Every day I turn the glass and in two to six weeks the first seedling should appear. Sometimes with old seeds it will take a couple of months for germination. I even waited over a year for some really old seeds to germinate.

Whenever the surface gets dry, I put the pot in water again. After the seedlings start to appear, I bring the pot into the light, but not in the sun, and they start to grow, but very slowly. They should not be transplanted until they are as large as a dime. This takes as much as six to twelve months. Then they can be transplanted into either small pots or flats, and can now be watered with a very fine spray. It takes about two years before it is safe to plant them out. Spring or early fall is the best time.

A little quicker method of propagating is by leaf cuttings. June and July are the best months to take them. I quote now from Lawrence Hills' book, *The Propagation of Alpines*, "The leaf cuttings are detached by pulling the leaves firmly downward in order to secure the portion of the leaf that clasps the central stem. It is easiest to get the dormant bud, which may be only a depression between the hairs in the center of the sheath, for if the leaf is removed without the clasping portion, it may root, but will produce no growing point." The leaf cuttings are put in a pot filled with a mixture of three-fourths sand and one-fourth peat, firmed, and the cuttings inserted to one-third their length. Hills says that they should be rooted by the end of August. For three years I rooted them and always they needed a full year before the young plants appeared. Put the pot in a shady coldframe and never let it dry out. Close the frame when it gets very cold and leave the pot there until spring.

Plants that make more than one crown can be easily divided. Spring and fall are the times to do this. I use a one-sided razor blade; hold the crowns apart and cut a little way in, then carefully pull the plant apart. Sometimes there may be several crowns with no roots at all. These should be put in a pot with a mix of three-fourths sand and one-fourth peat, and stood in a cool, shady place. They will be rooted in a very short time. If moss bothers, I turn to another Hills suggestion: "The ideal covering for alpine seeds is two parts of coal dust to one of fine sand. The coal dust should be sifted first through a fine sieve and stirred in a pail of water to remove the finest powder. Spread one-eighth inch coal dust over the surface of the pot and sow the seeds over it." I don't do this anymore, as I sterilize not only the loam but the pot, too, and I am no more troubled with moss.

Haberleas like to be planted in deep, stony crevices; otherwise they can be treated the same as ramondas. Again, patience is the biggest part in raising ramondas and haberleas, and in keeping them.

Are they difficult??? NO!!!

OBSERVATIONS OF A NEW ZEALAND AMATEUR

T. M. LAURENSEN, *Christchurch, New Zealand*

It is almost seven years since I started growing alpiners from seed. Is it really only seven years? What did I do with my time before that? I cannot imagine how the days and the years filled in their quota of excitements without seedlings to look for.

I could quite easily write half a dozen pages on the various methods I have tried, and the varying degrees of success with each. It seems to me, however, that this has all been written somewhere before. My own impression is that each species has perhaps one essential that it demands, or it may be two. For some it is just an even dampness, for some warmth, for some cold, or dark, or light, or varying temperatures; but given this one essential, whatever it may be, most alpine seeds are well-nigh determined to grow.

Some merely ask patience, and the passage of time, as *Aquilegia jonesii*. No programme of three weeks in a refrigerator, three out and three in again seems to fool it. After two long whole winters, up it comes, and this despite the fact that an impatient human has subjected it to several artificial winters in between. I suspect, although experience is not yet conclusive, that our own New Zealand *Ranunculus haastii* makes a similar requirement.

What I should like to read about seed raising is all the lessons that one can learn from handling a plant right from infancy. Many of us are, alas, so slow to learn, even from our own eyes. When we are growing something that has been cultivated long before, we can usually look up the record of others' experience, and can probably suit our plants reasonably well without much personal experimenting. One of the most exciting and challenging aspects of our hobby, however, comes when we receive seed of some plant unheard of before. It may be from an exchange, or from a collecting expedition, but if even Mr. Clay doesn't say anything about one's acquisition, then one is really in the dark.

A year or so ago, I acquired ten seeds of *Mutisia subulata* with no information other than that they were collected in the Andes at about 6,000 feet. Nine seedlings soon appeared. One damped off, but the other eight grew rapidly. When the largest had several pairs of leaves, I pricked them out carefully. Their roots were then already at the bottom of a four-inch pot, so I put them individually into the largest pots I could spare, about six-inch, in a very open, sandy mixture. In a half-shady frame they still grew apace, and before long the problem of permanent situations arose.

I reasoned that 6,000 feet is not, comparatively, so very high in the Andes, so I put one in a fairly sunny scree, concentrating on a deep root-run. Here it looked quite happy for some weeks, and I congratulated myself, until I found its lower leaves browning. I was still hoping as long as the last tip remained green, but it died, inevitably and slowly, from the bottom up. Too much sun, I thought. How silly of me. Our sun is so much hotter near sea-level. So I tried again in shade. The result was almost exactly the same. The plant looked well for several weeks and then died slowly from the bottom up.

By this time friends were casting desirous eyes on the other seedlings and I let several of them go to more expert hands. One enthusiast was sure that at

6,000 feet in the Andes it would be scrub country. He planted his on the shady side of a small shrub, and rang me with enthusiastic reports of its healthy progress for several weeks. Then his plant, too, died from the bottom up. When all eight plants had finally succumbed to our well-meaning mismanagement, the donor of the seed provided the clue.

This plant will not tolerate root disturbance. It doesn't even like interference from the roots of other plants growing nearby. (Is this, perhaps, the botanical equivalent of a haemophilic?) Somehow the seedlings had survived their first pricking-out but were doomed by their second shift.

Next time I see a plant dying from the root up, I'll suspect intolerance of root damage. Alas, it is too late for *Mutisia subulata*, but I am comforted by the fact that its kindred from 9,000 feet, an unnamed *Mutisia* species that looks rather like a soft trailing holly, has stayed happily with me for over a year now. Evidently the rigors of 9,000 feet have bred a less fussy constitution. I had only one seedling, so this is just as well.

When one buys a plant from a nursery, one doesn't wash it clean to view its root system in detail. Nor does one uncover seedling roots any more than one can help, but in the course of pricking out a potful, well dampened beforehand, one inevitably sees their pattern fairly clearly. Some seedlings, by the time they have their first true leaves, have roots that reach the bottom of a three-inch pot. Others, including many primula and rhododendron species, when they have a nice bunch of leaves half-an-inch high and across, have roots only half-an-inch deep. *Primula mooreana* and *P. cavdoriana* are two of this type I have handled recently. These won't stand drying out, we know, and consider in how little time a hot wind can dry out the first inch or so on the surface. Of course, drought resistance depends on many other factors, but root formation of seedlings must at least give us an indication of the depth of soil required.

Perhaps when I am quite old, I shall have learned to read some of the signs aright. Since I have only one lifespan, however, be it long or short, and since I am so "slow on the uptake", I must hope that other seed-growers will share with me the fruits of their experience.

JOHN HECKNER

LAWRENCE CROCKER, *Medford, Ore.*

Perhaps the name, John Heckner, means nothing to most of the younger plantsmen. It was my pleasure to have known this fine botanist and man of mystery as a friend, and I was fortunate to have had him as my first guide into the mountains of Southern Oregon, where so many rare plant species grow. Since I am one of the few who know his story, I would like to pass it on before it is forgotten.

Mr. Heckner, who had the manner of a well-educated gentleman, presented a striking appearance with his tall, slim figure and well-trimmed goatee. His appearance was further enhanced by the ranger hat and leather puttees, part of the uniform that he wore as a government surveyor.

He was strangely quiet concerning the earlier years of his life, which were spent in Australia. His departure from that country was sudden, and he indicated that certain authorities were interested in his return there.

Never a man to hide his light under a bushel, he was the picture of self-assurance. Perhaps he was a bit intolerant of others and looked with disdain on the views of our nice little lady botanists. He was a regular contributor to various flower magazines, including *Horticulture*, in the early 1930's. Also, he often contributed to the local paper with his 'Letters to the Editor.' These letters were

timely and written in an interesting manner. A small brochure with a description of his plants was sent to his customers throughout the nation.

His work brought him in contact with the many fine floral rarities of Southern Oregon and Northern California. Naturally he selected many of the finest to be planted in the secluded spot that he called his home, miles from the nearest neighbor. The garden was located in an unlikely spot where the soil was 'sticky' and water not readily available. Two of his best selections were *Silene hookeri* var. *heckneri*, a large white-flowered silene with deeply lacinated corolla; and *Lewisia cotyledon* var. *heckneri*. This plant is still remembered by rock gardeners, although the true form is seldom seen. It has needle-like points around the leaf border. Incidentally, I might mention here that *Lewisia finchae*, *L. howellii*, and *L. heckneri* are merely selected forms of *L. cotyledon*. Each station reporting *L. cotyledon* seems to present a variation of forms, differing from its nearest neighbor.

In later years, John Heckner and his wonderful wife moved to the old mining town of Jacksonville, Oregon, where he established his nursery. Just before the final curtain he was raising seedlings of native lilies and other bulbs by the thousands. At that time the future for his nursery business appeared bright. But one sad day his wife was rushed to the hospital with a ruptured appendix and soon she passed away. For days John Heckner was distraught, pacing by the hour around her grave. Then, still the showman, he sent his final letter to the editor. This letter, which appeared on the front page of our local newspaper, said that he planned to do away with himself, and that it would be useless to look for his body. Years later his remains were found in the Siskiyou Mountains, near the area that I had suggested as a likely place to search.

In the years following I often hiked close to the old Heckner gardens, in search of the lovely agates found there. But it was only this year that I re-discovered in the old garden the rare white silene in bloom. I hope eventually to introduce this plant again to gardeners, so that John Heckner's name will be further remembered.

MINIATURE ROCK GARDENS

PAULINE CROXTON, *Folsom, California*

Making new gardens and landscaping them is a lot of work. The weeding, spading, hauling in soil or rock, when you are a "do it yourself" gardener, take their toll in sore muscles and fatigue, not to mention expenses.

To garden on a miniature scale can be most interesting. They are a rather personal thing, these tiny garden landscapes. What one person likes, may not please another, but to each his own.

On our patio are two bonsai trays containing miniature rock gardens which were made up last year. A description of how they are made and planted may give other rock garden friends similar ideas, or inspire some of them to send in articles about their own favorite miniature gardens.

GARDEN NO. 1

An odd shaped piece of lava rock had caught my fancy. It had a saddle-like depression in the middle with a hole coming out of the bottom. It seemed to be wonderfully suited for the planting of a little tree, so I selected a small Mugho pine seedling we had bought for about thirty-five cents at one of the many nurseries offering "Seedling trees for bonsai." Its little trunk was already assuming a gnarled appearance. Its root system was small enough to fit easily in place and in case pruning was necessary later I thought the whole rock could be lifted and the roots coming through the hole could be shortened.



Miniature Rock Garden (No. 2 of text)

D. S. Croxton

Most miniature gardens have to be turned around periodically to encourage even growth. I decided to be different and to make a shady side and a sunny side in this case. The tree was planted so that the saddle was filled and pieces of a gray-green moss that grows in our sunny rock garden were planted around the tree. This was to keep the soil from washing down and also because we like the velvety carpet the moss makes under the planting. The spore cases that can sometimes make moss look unsightly and in need of a scissor haircut do not seem obvious with this type. In fact, we have noticed that this moss will propagate from tiny pieces that wash or break off.

The rock was sunk in the bonsai pot and there was room for enough soil around the bottom for planting. The pine is intended to grow toward the light, and on the sunny side of the rock along the bottom some *Draba incerta* seedlings were planted. On each narrow side of the rock and the smallest side of the oval container, some plants were put that were intended to help shade the "shady" side. On one side I used *Draba athera* and on the other a seedling of *Sideranthus spinulosus* which is supposed to be an autumn bloomer (seeds from Claude Barr).

The shady side has planted against the bottom edge of the rock an interplanting of *Gentiana ornata*, Drake's strain (hybrid), with *Viola blanda*. The gentians have rather richer soil than the rest. This has caused *Draba athera* to grow more lax, but this is not too disturbing. The little gentians seem to be coming along well and I will be very curious to see if they bloom this year. The contrast between the tiny, round violet leaves and the grass-like gentians is particularly pleasing. I have been playing with the idea of trying to raise *Gentiana*

verna some day. It would combine with the little white violet and if they should bloom at the same time, can you imagine the picture of blue and white?

GARDEN NO. 2

A number of pieces of lava rock were fitted together to form a flat-topped arrangement with some ledges on both sides of the container and a *Chamaecyparis lawsoniana lutea nana* (I can't vouch for the name) placed on top. It was my intention to have it flanked on both sides by slow-growing dwarf spruces, but a rooted cutting planted between the rocks on one side did not make it.

On the ledges of the front side small thyme-leaved cotoneasters were planted. These are all being trained by pruning and pinching to control the growth. *Sempervivum arachnoideum minimum* was used to plant various crevices and by now quite an area has been covered. Cuttings of *Hypericum yakusimense* were stuck in under the rock pieces on one side of the bottom. They took hold without any trouble and now cover that section. When they reach too far it is easy to pinch them back to their proper place. This summer and fall the numerous yellow, star-like flowers were lovely and later on the reddish seed capsules looked good, too. With the colder weather the yellow tip growth of the cypress is turning reddish and so the foliage has emerald green, yellow, and red tones, looking quite healthy and interesting.

The sempervivums, as they often do in winter, are becoming red, too. Incidentally, the back side of this rock planting has the sempervivum planted here and there. This planting does get turned 180 degrees about every two weeks so that each side will face the sun periodically.

NOTES FROM H. L. F.

Two rather remotely related subjects have prompted a train of thought that brings me back again to the topic I wrote about recently. The two subjects are *Mitchella repens* and the Native Plant Society of Portland, Oregon. They are not really unrelated, except in the context in which each arose.

Mitchella repens, at this time of year (November), asserts its excellence as I walk about the garden. There on the north slope, across the stream, it has made magnificent mats along the paths. It grows in either the deepest shade of hemlocks where little else will thrive, or in openings between rhododendrons where it gets plenty of light. In the latter location it is denser and more abundantly decked with the scarlet "two-eyed" fruit. But even in dense shade, the oval evergreen leaves form a pleasing mat. Most of the sizeable carpets have developed of their own free will, have spread and become more compact by being weeded of competing herbage; or they have self sowed into new sites where seed beds have been accidentally provided as rhododendrons and other plants have been set out.

What an ideal plant this is! It will grow in acid or neutral soil. It is evergreen. It is dwarf. Its united twin trumpets are deliciously fragrant. Its brilliant berries are long-lasting. It is easy to propagate from division, cuttings, or seed. It has no insect or fungus enemies and is absolutely hardy. Once established, it will endure prolonged drought. (I must remember to try it as a pot plant for the alpine house).

I do not claim that this is the choicest American native plant, but I do suggest that it is one of those natives of outstanding garden quality which is neglected just because it does not present a difficult challenge to the grower. It is not a plant in imminent danger of extermination in the wild; merely a neglected plant. And it is one of many neglected American native plants, not without honor, like the prophet, save in his own country.

Though the American Rock Garden Society does not declare among its four

primary purposes any zeal in protecting, propagating, or popularizing native plants suited to the rock garden and its related woodland garden, surely there is no conflict of interest between such a zeal and the defined purposes.

A recent letter from Portland, Oregon, suggests the possibility of an affiliation between the local Native Plant Society and the ARGs. Another recent letter suggested very much the same sort of relationship between our group and the Wildflower Preservation Society. Aside from questions of organizational mechanics, I would think that affiliation would not only further a cursory common interest between our several groups, but would provide a real benefit to each. Many members of the ARGs, I know quite directly, are interested in our native flora and are concerned about its preservation. And I also know, quite specifically, that wild flower groups are interested in the cultivation of our native plants as one positive method of their preservation.

In fact, if it were not so cumbersome, I would like to propose an amalgamation under the name "The American Rock Garden and Native Plant Society." That we have been struggling to choose as our emblem a typically American plant indicates something of the nature of our interests. I suspect that by default better than 70% of the plants in the average American rock garden are of foreign origin. I do not mean chauvinistically to propose that we rid ourselves of these "aliens"; I merely emphasize again that it is high time we gave more attention to the natives.

If affiliation or amalgamation with societies devoted to our native flora will advance this aspect of American rock gardening, I am all for it.

What do our members think?

GREAT LAKES REGION ACTIVITY

BETTY H. BLAKE, *Detroit, Mich.*

On June 6 and 7, 1964, Mr. and Mrs. Frederick W. Case II of Saginaw, Michigan, entertained a group of (mostly) American Rock Garden Society members from the Great Lakes region. Their house guests, Mr. and Mrs. David Schmidt of Saron, Wisconsin, had expressed a wish to meet others from this area and the following delighted gardeners attended: Mrs. W. R. Sassaman, Rochester, N. Y., and from Michigan, Mrs. Harry Armiger of Southfield, Mrs. David Blake of Detroit, Mrs. Walter Boydston of Niles, Mr. G. L. Burrows, IV of Saginaw, Mr. Harry Elkins of Grosse Pointe Park, Mr. and Mrs. Robert Goplerud of Livonia, Mr. Henry Grefe of Saginaw, Mr. and Mrs. George Laking and son Bill of Mt. Clemens, and Mr. James Walla of Detroit.

Members of the group arrived at various times during the morning. (Mrs. Armiger flew in from Cleveland, where she had been visiting, and returned there the next day. That is how important it was to her). Everyone got the grand tour. First, the rock garden just below the house got its "ohs" and "ahs". Most of the bloom had passed, but there was a *Primula secundiflora* and several interesting asarums still to be seen. Under the trees near the house were all the Michigan trilliums, including a number of very scarce varieties and hybrids, some with a bit of faded bloom.

The scree was sporting an apricot *Papaver alpinum* and a number of *Penstemon peckii*. Dryas in variety, *Lewisia* and *Claytonia*, and many others were doing exceptionally well after the driest spring within memory. In the nearby field, penstemons predominated. *P. whippleanus* was very dark purple—nearly black, and *P. ovatus* a bright, clear blue. Tucked away in selected spots in an extensive wild section were so many different native Michigan orchids that we lost count. One greenhouse was filled with exotic orchids, all behaving beau-

tifully, and another contained a complete collection of American pitcher plants, some tender Mexican penstemons and various potted seedlings. The cold frames I won't mention, as it would only make you envious.

After lunch, topped off by the best strawberry shortcake ever (the berries grown on the place, of course), part of the group went in to Saginaw with Mr. Grefe to see his garden. Outstanding in memory were the many small campanulas, cotoneasters, and a thirty-year old blue spruce one foot high but covering a large area. It was most impressive. The cold frames were full of beautifully tended rarities.

After their return the plant exchange was held, marked by the exaggerated courtesy, diffidence and poorly concealed covetousness usual at such affairs. Everyone looked pleased with his share when it was all over, however.

An excellent dinner, supplied jointly by Mr. and Mrs. G. L. Burrows III and the Cases, was followed by a showing of slides of American alpinists taken by the Cases. We all saw a great many plants that were entirely new to us. Mr. Case showed a preference for small yellow composites, so when a slide was prefaced by a favorable comment, we knew what to expect. Mr. G. L. Burrows IV showed his slide program on desert plants of the Southwest, and Mrs. Sassaman and Mr. Grefe showed slides from their gardens.

On Sunday, there were more notes taken, pictures snapped, and goodbyes said. It was a most successful meeting. Everyone enjoyed talking with gardeners he had heard about but never before met, and it was agreed the Cases not only lived up to their reputations as gardeners, but gained a reputation as hosts.

NOTES FROM THE NORTHWEST

SALLIE D. ALLEN, *Seattle, Wash.*

LOST WORLD PLATEAU:—An intriguing name! An equally intriguing location in the wilds of the Wenatchee Mountains, north and east of the Stuart Range. A program of pictures by the members of trips to distant places abroad and at home is always a delightful evening's entertainment. The faraway places beckon us but somehow the writer found herself greatly impressed with a bit of wilderness close at hand in our native state of Washington. The Lost World Plateau, so called by the old-timers (although officially without name), is the highest plateau in the state; 7000 to 8000 feet. No roads or trails penetrate the area; its inaccessibility has prevented all but the most stalwart hikers from entering.

From the Icicle Creek road, one must hike by Forest Service trail for seven miles to reach the Snow Lakes, elevation 5490 feet. Here the trail ends. One must make his own way for about three miles to the Enchantment Lakes, an absolute wonderland of perhaps thirty tiny lakes, nestled like uncut jewels in deep basins of granite. Dashing waterfalls and capricious streams connect one lake to another. Contorted trees prevail; small rocky islands support dwarfed trees, twisted and gnarled by the elements. To add to the enchantment, the picturesque lakes bear such names as Leprechaun, Gnome and Sprite. The fragile beauty of this bewitching landscape brought to mind lines from a delighting fantasy of childhood, "The Fairies", by William Allingham:

Up the airy mountain, down the rushy glen,
We daren't go a-hunting for fear of little men;
Wee folk, good folk, trooping all together;
Green jacket, red cap and white owl's feather!

The imagination can further run riot in the presence of fantastic pinnacles

and crags with the fanciful names of The Knitting Needle and Cashmere Crag, and other geological curiosities, some named and some not. The flora apparently is in no way different from that of the surrounding Wenatchee Mountains, but this factor is relatively unimportant, so impressive the scene. Many of us will never see the elfin beauty of this bit of paradise, a few will venture that far, but it is a comforting thought to know that it exists, "unimproved" and unspoiled by the hand of man.

THE ART OF BONSAI:—Many of our members have specialized interests, giving our Northwest Regional Unit a wealth of subjects to draw upon for each year's programming. Although some of these specialties are not strictly rock gardening in scope, they are, none the less, interesting and appealing. An increasingly popular gardening form in our area is the "Art of Bonsai", the title of a program presented to us by Mrs. Horace Raphael, whose enthusiasm for her subject is contagious and inspiring.

Bonsai is the art of capturing a landscape in miniature, by dwarfing trees or shrubs, and growing them in shallow containers in a restricted amount of soil. This is a visual art. The necessary qualities required for the creation of Bonsai are knowledge of technique and plant material, a natural artistic sense and—patience.

The selection of plant material is of extreme importance. Some trees and shrubs will retain their characteristic leaf size or needle length, despite the given conditions of restricted root growth, meager soil, pinching of terminal buds, pruning and wiring. Others, given the same treatment will reduce their leaf size and other parts in proportion to become, gradually over the years, truly dwarfed. Several conifers that will reduce their needle size in time are the spruces and alpine hemlocks.

To create the image of a true miniature, an impression of age and maturity, one can begin with such small-foliaged plants as Japanese elm (*Ulmus davidiana* var. *japonica*), Japanese larch (*Larix leptolepis*), Arctic birch (*Betula nana*), or the extremely interesting *Nothofagus fusca*. In the selection of flowering trees or shrubs, the flowering and fruiting size must be considered, as they will never reduce their size. Some of the most exciting plant material may be found among the naturally dwarf rhododendrons and conifers found in our own rock gardens.

SLIDE-TAPE PROGRAM—POSTSCRIPT:—Unfortunately, it is impossible to publish all of the warm appreciative letters received from our friends in the Alpine Garden Society in response to the slides and tape sent to them by our Northwest Unit in November. We would, however, like to include the following letter from Mr. F. H. Fisher, President of the Alpine Garden Society:

Prior to the Society's Annual General Meeting, the Committee learnt of the novel and very generous gift from your Unit, and I was asked by the Committee to convey to you, and the other members of your Society who helped to make the slides, our most grateful thanks. You have laid the foundation for a happy evening for many of our members with a greater knowledge of alpine and rock garden plants.

It is the kindly and understanding actions such as yours that bring closer together the two Societies.

Since we in the Northwest Unit have known the generous co-operative spirit of the Alpine Garden Society, it has been our pleasure to respond in this manner.

BOOK REVIEW

Orchids of the Western Great Lakes Region. By Frederick W. Case, Jr. 147 pages, illustrated. Cranbrook Institute of Science, Bloomfield Hills, Michigan, 1964. \$7.00.

"This book, intended for the amateur field botanist, has been prepared as a field guide, with identification keys, diagrams, descriptions and ecological notes." So states the preface. To accomplish all this in such an attractive and interesting presentation of the many and varied species of orchids native to a fairly large geographic area is truly remarkable.

Mr. Case presents the orchid family clearly and as simply as is possible with such a complex and necessarily technical subject. He is a teacher of biology and natural science in Saginaw, Michigan, but his interests go beyond the classroom and scientific papers, and he has a good rock garden and a wide variety of penstemons. We proudly add this book to the list of those authored by Members of the American Rock Garden Society.

There are colored photographs of sixteen species. Forty-two plants are shown in black and white. All but two of the excellent flower portraits are by the author.

The plants are indexed by both their common and Latin names. Distribution maps will be of great assistance in identification. For the serious student there is an extensive bibliography.

While not designed for the casual observer, still it can be enjoyed and understood without a degree in botany. The excellent glossary of terms used, to me, indicates the author's consideration of his readers. The chapter on garden cultivation lists the most desirable species. Those of us interested in growing our native orchids will find the detailed habitat descriptions helpful in understanding the cultural requirements. Thus we are more likely to make them happy in our own gardens, and shall be rewarded with their wondrous beauty.

DORIS K. MANRING

GAULTHERIA AND PERNETTYA

PAT BALLARD, *Seattle, Washington*

(Editor's Note) This article, written for our *Bulletin* by the late Pat Ballard, was found among her writings and kindly sent to us by her husband, Page Ballard.

When the Ericaceae Study Group, of the University of Washington Arboretum Foundation, began investigating the Heath family, the difference between gaultherias and pernettias seemed very apparent. Now, after about eleven years of almost weekly sessions, we realize that knowledge does not always bring the ability to make a positive identification. With study, we have found that there is so much to be learned and comparatively little authoritative information for the amateur.

These two genera are so closely related botanically that even the experts sometimes err in the generic placement of certain species, and the more confusing have been shifted from *Andromeda*, *Diplycosia*, *Brossaea*, or *Arbutus* to one or the other of the two genera with which we are concerned at the moment.

These species which are at the two extremes of this combined group (*Gaultheria*-*Pernettya*) are so different from each other as to make us wonder just what the fuss is all about—but, if we could gather together a representative collection of all the known species, we would be aware of the very slight gradation in characteristics from one to the other. Are these gaultherias and those pernettias? Or, should these two groups of species be combined in one genera?

Dr. Herman Sleumer, a European botanist, has said that in the genus *Pernettya* it is very difficult to set up specific limitations because of the lack of really constant characteristics. He says the distinctions between the species are very minor and that there is more or less variation (within the species), as is usually the case when considering purely vegetative characteristics. I would hesitate to make a direct quotation since Dr. Sleumer's very interesting and authoritative article has never been published in English. With my son doing most of the work, we had great fun trying to put it into understandable English, but I am afraid that the good doctor might not always agree with our interpretation of the German idiom.

What Dr. Sleumer has said of the pernettyas could apply equally to the gaultherias and to the combined Gaultheria-Pernettya group. Botanically speaking, the only real distinction between the genus *Gaultheria* and the genus *Pernettya* is in the form of the fruit, so it is often impossible to make an absolute identification before the fruits are formed or after they have disappeared.

Perhaps this is the opportune time to stop and consider this seemingly obvious difference—for certainly one should be able to differentiate between *Pernettya* with its "fruit, a berry" and *Gaultheria* with its "fruit, a dry capsule." The main problem is that the dry capsule of *Gaultheria* is usually covered by a fleshy calyx that, to the passing glance, could certainly be called "berry-like." Many botanists segregate gaultherias from pernettyas by this fleshy calyx and describe the calyx of *Pernettya* as small and dry, at the base of its fruit which is usually described as a true berry.

This immediately brings on a state of confusion since, according to other botanists, some gaultherias have a calyx that is dry and unaltered in fruit, and some of the pernettyas differ from others of their kind by having a fruiting calyx that is fleshy.

So it seems that the only way to tell a pernettya from a gaultheria is to open its berry-like, or seemingly berry-like, fruit and see if there is a true capsule hidden in there somewhere. We have a picture of *P. tasmanica* in fruit with one side of the fruit removed to expose what looked to us like a capsule. The purist, we find, describes this as "a membranous separation between the seed-chamber and the fleshy structure of the berry." I may be a quibbler, but the seeds are *not* in actual contact with the pulp as we would expect in a well-behaved berry.

No wonder the botanists have a rough time telling us which is a gaultheria and which is a pernettya.

The earliest description of *Gaultheria*, as such, may be found in Linnaeus *Genera Plantarum* and the type specimen of the genus is *G. procumbens* (the original source of the familiar wintergreen of our toothpaste and chewing gum). It was named for Dr. Gaultier, a Canadian physician in Quebec, about 1750.

Pernettya first appeared in botanical literature about 1825. Linnaeus had described the type as *Arbutus mucronata*. Charles Gaudichaud, a French botanist, named it after A. J. Pernetty, who had accompanied Bougainville and documented a voyage to the Falkland Islands.

It is generally conceded that *Gaultheria* is the older, in evolutionary chronology, and *G. codonantha* is said to be most like the prototype of the genus. This species is thought to have rather primitive characteristics that have made little or no adaptation to special conditions. It is interesting that this species is found at much lower elevations than others of the Asian gaultherias.

P. ciliata has been described as retaining certain remnants of *Gaultheria* heredity that are thought to have been acquired before the genus *Pernettya* was separated from the "ancestral Gaultherioid stock."

According to some authorities, the flower form of *Pernettya* is variable.

Those species with the fleshy calyx (i.e. *P. macrostigma*, *P. nana*, *P. tasmanica*, and *P. lanceolata*) are said to have perfect flowers (both stamens and pistils), while those with a dry membranous calyx function either as pollenizers (with pistils reduced to sterility) or as females when the stamens are under-developed. This would answer the question of why we need pollenizers to have fruit on some of our garden pernettyas. Now it will be interesting to learn whether or not gaultherias with a dry calyx follow this same pattern of having imperfect flowers.

It is impossible, in one short article, even to nibble at the feast of facts about these two groups of delightful garden treasures. Here in the Pacific Northwest we are able to grow many of them and we are looking forward to the time when we can get seeds of the many unfamiliar (to us) species in Asia and in the Southern Hemisphere.

As is so often the case with any research in any area of study of the natural world, we have learned just enough to realize that nothing we have done up to the present moment has much validity. Each new bit of information makes it imperative to re-evaluate everything we have thought we knew about gaultherias and pernettyas and make a new beginning. We have learned that one lifetime is not half long enough.

So, after all is said and done, we have to ask the same question that Kingdon-Ward asked in *Berried Treasure*—WHAT IS A BERRY???? is it a fictional berry—such as we find in *Gaultheria Shallon*? a problematical berry—such as we see in *Pernettya macrostigma* or *P. tasmanica*? or is it an honest-to-goodness berry—like a banana???

If you know the answer to this then you may be the one to tell us just which is *Pernettya* and which is *Gaultheria*.

WELCOME! NEW MEMBERS

- Mrs. R. H. Allen, Box 260, Route 1, Kernersville, N. C. 27284
 Mr. Ralph Babaian, 3221 Balch Ave., Fresno, Calif. 93702
 Mrs. R. D. Beals, 15 Old Sleepy Hollow Road, Briarcliff Manor, N. Y. 10510
 Mr. W. D. Berryman, R.D. 1, Sleepy Hollow Farm Nursery, Baden, Pa. 15005
 Mr. R. F. Bills, 35 Upton Crescent, Shirley, Solihuth, Warwickshire, England.
 Mrs. Joan E. Bonner-Matthews, Broome Close, Leek Wooton, Warwick, England.
 Mrs. Charlie Burch, 560 North Main St., Independence, Ore. 97351
 Mrs. Robert Chrismon, 407 Muirs Chapel Road, Greensboro, N. C. 27410
 Mrs. Andrew J. Cooper, 14440 Manuella Ave., Los Altos Hills, Calif. 94022
 Mrs. Olga Severova Duchacova, Na Trebesine No. 52, Prague 10, Czechoslovakia.
 Mrs. W. J. Gill, P.O. Box 203, Indianola, Wash. 98342
 Mrs. Eugene Haniquet, 15 Buena Vista Drive, Glenville, Conn. 06833
 Dr. Carl A. Heller, 110 Nimitz, China Lake, Calif. 93555
 Mrs. Donald F. Hill, 3619 N.E. 134th, Portland, Ore. 97200
 Mrs. F. M. Hopkin, Blue Haze, Oxtan, Newark, Notts., England.
 H. V. Lawrence Inc. The Cape Cod Nurseries, Falmouth, Mass. 02540
 Mr. Fairman Rogers Jayne, Box 202, Wallingford, Penna. 19086
 Mr. Christian Jensen, 8412 Hamilton St., Omaha, Nebr. 68114
 Dr. H. P. Kirber, 9 Waterman Ave., Philadelphia, Penna. 19118
 Mr. Russell D. Kirk, 5707 Second St. S.E., Washington, D. C. 20031
 Mr. Jerome Kohlberg, 300 Wilmot Road, New Rochelle, N. Y. 10800
 Mr. and Mrs. Clifford G. Lewis, 4725 119th Ave. S.E., Bellevue, Wash. 98004
 Mr. and Mrs. Edward H. Larsen, 2330 Keystone Drive, Omaha, Nebr. 68134
 Mr. John Lewis, 3016 Laurel Road, Longview, Wash. 98632

- Mrs. H. Alvin Manring, 122 N. Argyle Place, Seattle, Wash. 98103
 Mrs. Willard L. Martin, 310 W. Fairchild, Topeka, Kansas 66608
 Mrs. Tage Nielsen, P.O. Box 565, New Canaan, Conn. 06840
 Mr. Don Normark, 3204 N.E. 94th St., Seattle, Wash. 98115
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 Box 305, Valley City, Ohio 44280
 Mr. John M. Patek, 434 Mt. Airy Drive, Rochester, N. Y. 14600
 Mr. Ejnar Person, 3:e Kyrkvagsgrand, Stadsaga 94A, Norrkoping, Sweden.
 Mr. R. E. Pieters, Leidsekade 88, Amsterdam, Netherlands.
 Mrs. Esther G. Powell, 3632 Alaska Ave., Ketchikan, Alaska 99901
 Miss Elizabeth Preble, 138 East 36th St., New York, N. Y. 10016
 Mrs. Fred S. Ramsay, 3209 Lakeshore Drive, Old Hickory, Tenn. 37138
 Mrs. Lindsay A. Sagar, 322 Hartshorn Drive, Short Hills, N. J. 07087
 Mrs. Vikki Karcher Siegel, The Art Colony, 743 Northfield Ave., West Orange,
 N. J. 07052
 Mr. Jos. Starek, c/o Embassy of India, Valdstedjnska 6, Prague 1, Czecho-
 slovakia.
 Mrs. Paul Stenzel, 14110 N.E. Glisan St., Portland 30, Oregon.
 Mrs. George E. Taylor, 1734 N.E. 55th Place, Seattle, Wash. 98105
 Mr. L. E. Van Horsen, 9445 Arkansas St., Bellflower, Calif. 90706
 Mr. Louis R. Visco, 1150 Main St., South Weymouth, Mass. 02190
 Mrs. Bishop von Wettberg, Rockhouse Hill, Oxford, Conn. 06483
 Wargold Gardens, Rt. 1, Box 169C, Center Ave., San Martin, Calif. 95046
 Mrs. Pauline Weaver, 2249 N. Sheffield Ave., Chicago, Ill. 60614
 Mrs. Diana W. Wolfhagen, Auburn, Ross, Tasmania, Australia.
 Mr. Edsal A. Wood, 819 N.E. 122nd Ave., Portland, Ore. 97230

NEW MEMBERS FROM AUSTRALIA

(Editor's Note) We are happy to welcome four new members from Australia to our Society. The ARGS membership list published in 1962 did not disclose a single member living in that great island continent. Now, within a few months, we have four. The latest to join is Mrs. Diana W. Wolfhagen, whose address is Auburn, Ross, Tasmania. The others are Miss A. G. Scott, 174 Canterbury Road, Blackburn South, Victoria; Mrs. G. N. Meyer, 36 Dalrymple St., Red Hill, A. C. T.; and Mr. John William Mawer, 37 Ferndale Road, Upper Fern Tree Gully, Victoria (what a delightful address).

Mrs. Wolfhagen writes that she lives with her husband and three young sons on a six thousand acre sheep and cattle property on the island of Tasmania; that she and her husband are both keen gardeners and that in their garden they have dwarf rhododendrons, gentians, dwarf bulbs of many kinds, particularly fritillarias and erythroniums. She says that they live fairly close to the Cradle Mountain Reserve, where they sometimes go to become better acquainted with the Tasmanian native plants. She reports that the only book available at present on these plants is *The Student's Flora of Tasmania*, by Winifred M. Curtis. Only two of three parts have been published, and the publisher is L. G. Shea, Government Printer, Tasmania.

Mrs. Meyer wrote at length and excerpts from her letter, dated August 18, 1964, follow:

"I would like to become a member of the American Rock Garden Society. Naturally, as an overseas member, my main interest will be in the *Bulletin* and the Seed Exchange. I am keen to see catalogues and nursery lists from the U.S.A., and would welcome any that members might care to send me. We hear but little about horticulture in the U.S.A. here. I realize that I am asking a lot of favors,

but on the other hand, should any members like seed, catalogues, etc. from Australia, I would welcome the opportunity to co-operate.

"I understand that you in the U.S.A. suffer from stringent plant quarantine restrictions on plants, as we do here in Australia, and raising plants from seed seems to be the easiest, if the longest, way of obtaining new inhabitants for my garden.

"You may not realize from my address that I live in Canberra, the capital city of Australia, which is close to our real alpine region. Mt. Kosciusko (7305 feet) is about forty miles away, and is the center of our alpine flower reserve. I think Canberra might well be the most garden conscious city of Australia. Of course, it is a new city, about forty years old, and planned as a prestige city by your wonderful architect, Walter Burley Griffin. It is the seat of government. All of the diplomatic representatives and heads of missions, both home and overseas, are assembled here. Despite this, it is a beautiful, small country town, with all the advantages of country life and none of its disadvantages. We have lived in most of the capital cities of Australia, but we have decided that we will never move from here.

"The American plants that I am interested in are those listed by T. C. Mansfield as native to the U.S.A. They include *Calochortus* (*C. lilacinus* is the only one I have), *Erythronium*, *Fritillaria*, *Lewisia*, *Houstonia*, *Aquilegia*, *Dodecatheon*, *Douglasia*, *Erigeron*, *Gentiana*, *Iris*, *Lupinus*, *Mertensia*, *Phlox*, and *Viola*.

"I enjoyed Sallie Allen's article in the June *Bulletin* of the Alpine Garden Society; we must follow her lead out here for there are so many wonderful plants we haven't seen. I will arrange to have the publication, *The Alpine Flowers of Kosciusko State Park*, sent to your club for its library. It may interest some of the members. I look forward to receiving my first *Bulletin* of the American Rock Garden Society."

PHYLLODOCE EMPETRIFORMIS

SALLIE D. ALLEN, *Seattle, Washington*

It seems a pity that an extremely desirable rock garden shrub should acquire a reputation of being "difficult", "miffy", or unworthy of cultivation because of its apparent lack of responsiveness to our garden conditions. Usually *Phyllodoce empetriformis* must be obtained by our own collecting from the wild, as it is not often offered in the nursery trade, so could it have acquired this reputation because we have not really had the opportunity of working with these wildlings and of fully understanding their horticultural needs? And when we do collect wildlings, I often wonder if we don't kill them with kindness by giving them the same rich, friable soil that we would give nursery grown plants, which have been grown under conditions completely foreign to plants collected in the wild.

In nature *Phyllodoce empetriformis* may be found in sub-alpine and alpine meadows from Alaska south through British Columbia, Washington, and Oregon, and I have found it in the Panther Meadows on Mt. Shasta in northern California. It ranges as far east as Alberta in Canada, and in the United States may also be found in Montana, Wyoming, and Idaho. It often grows in association with *Cassiope mertensiana* in our area and with *Luetkea pectinata*. At its upper limits in the alpine meadows, *Phyllodoce glanduliflora* may be found as a companion plant. In such situations a wide range of hybrids may occur in the wild. I have seen pictures of beautiful hybrids found in British Columbia of excellent deep color, and the shape of the corolla closely resembling *P. caerulea*.

In collecting members of the Ericaceae in the wild, one must first of all have



Phyllocladus empetrifolius

Brian O. Mulligan

a great deal of patience, because such plants take years before they will honor one with a flower. I no longer bother with seed of the heaths, as I have consistently poor luck with them. If one takes cuttings of unflowered portions of a blooming size plant of *Phyllodoce* one can select cutting material from good flower forms in both size and color.

To collect actual plants in the wild, it is often quite difficult to find one small enough to dig, and it certainly would not be wise to attempt to transplant large clumps which are obviously many years old. Sometimes seedlings may be found at the edge of a stand or behind a rock that has constricted the root growth.

My best plant of the typical *Phyllodoce empetriformis* was collected as a very small seedling (the only one I could find) in mid-summer, seven years ago. It was planted at the foot of a rock in my Heather Garden in a rather poor but gritty, well-drained acid soil into which I had mixed some wet peat at the time of planting. The soil was made quite firm and the only attention the plant has had was to be given plenty of water, for, of course, the Heather Garden is never allowed to dry out. The situation is open although it does not receive sun all day. The soil has become very firm since I constantly step beside it to reach into the upper part of the garden.

The plant has grown well, now about ten inches in height and sixteen inches across. The needle-like fresh green foliage is densely arranged along the many stiffly upright branches. The second April after planting each branch tip displayed an umbel of attractive deep rosy-pink campanulate flowers with recurved corolla lobes. Each spring since, the flower display has outdone that of the previous year. The bloom is so profuse that I would say that it compares favorably with any of the cultivated species of European heaths.

If a plant becomes leggy it will benefit from a severe pruning after flowering, which encourages dense new growth from the roots. *Phyllodoce empetriformis* has always been one of my favorite shrubs in the wild where it forms extensive carpets, sweeping from beneath lovely alpine firs (*Abies lasiocarpa*) across picturesque little meadows. The masses of deep rosy-pink bells are a sight to see after the snow has melted, often lasting three or four weeks. It is well known in our mountains by its common name of "red mountain heather", but almost unknown in cultivation. It has now proved to be a favorite in my garden for the only care that it requires is never to be allowed to dry out. So it is with many members of the ericaceous family where drying out proves fatal.

An albino form of *Phyllodoce empetriformis* has been reportedly seen in our mountains, however, to my knowledge, such a plant has never been cultivated. I have long entertained the hope of finding this treasure, but if found, such a rarity in nature must be left alone—only a cutting or two taken instead.

Twelve years ago, on one of our first trips to the Bird Creek Meadows on Mt. Adams, in Washington (which has since become one of our favorite haunts), I took five cuttings of *Phyllodoce empetriformis*. We were there in late summer, the flowers were long since gone, so I had no idea whether I had a good color or flower form. As a matter of fact, in those early collecting attempts I was little concerned with careful selection. I only knew that I wanted to try the *Phyllodoce* in my garden.

Since this was the early part of a two-week vacation, my cuttings needed to be planted at once. A one-pound coffee can was used, drainage holes were made with a can opener, a layer of rocks covered the bottom of the can. It was then filled nearly to the top with gritty soil from the edge of Bird Lake. After removing the needle-like foliage from the lower third of each cutting, the five were inserted and the soil made firm around them.

When we returned from our vacation the can was placed in the shade of a

large shrub and kept moist. I'm afraid that I'm one of those gardeners who must pull out cuttings from time to time to see how they are doing. When they are as small as these (about one inch below ground, two inches above) one can assume a cutting is rooting if it resists a gentle pull, and if roots are not in evidence, the cutting does not seem to suffer from such treatment—and it does satisfy the curiosity.

The following spring when the cuttings had formed good, strong root systems, they were transplanted to a wooden apple box filled with a mixture of peat, sand, and leaf mold. They grew into fine small plants, remaining in the box until the fateful freeze of 1955 which claimed the lives of four of them. The lone survivor was planted out into the garden in an open, partially shady situation the next spring. The first year that flower buds formed I watched with great interest as they were white; when they opened they remained white, only faintly tinted pink where the corolla rolls back. Each year since, it has bloomed well, and the flower color remains the same, the size a bit larger than the type.

Sometimes I wonder if this plant is ill-fated because the cats and dogs are constantly breaking out branches. Strangely, cuttings are very difficult, perhaps one out of ten roots. Once rooted there is no noticeable growth for over a year. One unrooted cutting from this year's attempt bloomed—pure white. If I succeed with this one it will be interesting to see if this tendency will persist.

We have returned to the Bird Creek Meadows a number of times when the heather was in bloom, but we have never found the parent plant. Some might consider it just a "washed out" form, but to me, my "almost white" *Phyllodoce empetrifolia* is a rare treasure indeed.

INTERCHANGE

Crocus scharojanii and *C. vallicola*—Mrs. C. J. O'Connor, 8 North Kuethe Road, Glen Burnie, Md. 21061, wishes to know where she can obtain corms or seeds of these two crocuses, having read of them in E. A. Bowles' book, *A Handbook of Crocus and Colchicum*. Can someone help her? She wishes to grow them in Vermont.

Meconopsis and *Pinckneya*—What is the subtle difference between *Meconopsis betonicifolia* and *M. baileyi*? Who can answer this question for our puzzled Scottish friend, Maj. Gen. D. M. Murray-Lyon? He asks another question, "Can anyone tell me about *Pinckneya pubens*? I have some seedlings from ARGS seed, but can find nothing about the plant in any book."

While many think that the pronunciation of botanical names is a serious matter (witness our struggle over *Dodecatheon*), and rightly so, there are times when the subject is treated in a lighter vein. The Major General writes, "I remember once asking R. E. Cooper, at the time Curator of the Royal Botanic Garden, Edinburgh, how to pronounce some plant name or other. His advice was, 'accent no syllable, make them all the same value and at least you will be understood.' He also told me that there were three ways of pronouncing every botanical name: (1) The international way, used by everyone except English speaking people; (2) English speaking peoples' way; (3) Your own way, which, of course, is the correct way!"

One further comment, "You really are a friendly, helpful lot in the ARGS. Mrs. Ronald S. Gray sent me a charming and helpful letter as a result of your appeal for help re *Moneses uniflora*." (Interchange, October, 1964 *Bulletin*).

Aquilegia pseudo-glandulosa—To those who wondered about this columbine that appeared in the Supplemental Seed List as a donation from Mrs. F. Barron Freeman, 604 Cayuga Heights Road, Ithaca, N. Y. 14850, here is her

explanation: "Dr. Worth gave me small seedlings as *Aquilegia glandulosa* in 1962 with the expressed hope that they turn out to be the real thing. This summer they blossomed for the first time. The plant was dwarf, the foliage delicate and lacy, and the blue and white blossoms on eight- to ten-inch stems, are about the size of a twenty-five cent piece. Hardly Farrer's 'true-blue, star-faced *A. glandulosa*,' also hardly the stalwart, vigorous, tall *A. jucunda*, Fisch and Meyer, which he describes as 'the pretender which so gloriously bears aloft the name in lucky gardens.' Yet in itself this is a charming little columbine, an asset in the rock garden, and so, labeling it *pseudo*, as a 'caveat', I send it along."

Pyxidantha barbulate—For some time there has been considerable discussion among rock gardeners concerning this plant, the impression being that its successful cultivation is tricky, and that the plant is particular as to how it is treated and who grows it. Yet there is evidence that it is not difficult, at all. Should you be fortunate enough to have access to a book with the flowing title of *Window Gardening Devoted Specially to the Culture of Flowers and Ornamental Plants, for Indoor Use and Parlor Decoration*, you will note that the book was first published in 1871, nearly a hundred years ago. Mr. Louis B. Myers, 40 Veranda Place, Brooklyn, N. Y. 11201, owns a copy of the 13th edition, published in 1877, and has thoughtfully sent the editor some page duplications with several passages underlined. On page 226 is Chapter XXIV, on Alpine Plants, which ends on page 229 with a "List of Alpine Plants for Window Gardening. Only such species which are easily cultivated, and are to be had in American nurseries." In this list the plants are numbered and No. 41 is *Pyxidantha barbulate*, with the comment that "it is a very interesting plant growing in the pine barrens of New Jersey and Carolina, of a moss-like habit, with beautiful white flowers, which are in not opened buds of a fine rosy tint; a very pretty species; requires sandy peat soil." Some of the companion plants in this list are *Alyssum saxatile*, *Arabis albida*, *Armeria vulgaris*, *Bellis perennis*, *Cerastium tomentosum*. One wonders how a plant docile enough to have been considered "easy" for window gardens in 1871 could be considered in this day and age as difficult!

Propagation by seed of native American plants—This subject was brought up for discussion in Interchange in the January *Bulletin*, and answers are beginning to come in. Mrs. Doretta Klaber, of Pennsylvania, expressed astonishment. She wrote, "Aren't most of the rock garden plants we raise from seed wild flowers? Is there any basic difference between raising American wild flowers, or Himalayan, or European ones? Given fully ripe seed, stored at a cool temperature in air-tight containers; planted outdoors in winter, or as close to it as the climate allows, so that if they need freezing and thawing, they get it; planted in a loose, well-drained soil; kept moist; covered from the elements and animals; and watched carefully, what is there to prevent them from coming up?"

Both Mrs. Margaret Williams, of Nevada, and Mrs. D. S. Croxton, of California, wrote in to report that the Santa Barbara (Calif.) Botanic Garden has published a sixteen-page pamphlet, Vol. 1 No. 10 of its *Leaflets*, on Seed Propagation of Native California Plants, by Dara Emery, and Mrs. Croxton was kind enough to send the editor a copy. Mr. Emery is a new member of the ARGs and certainly he will be pleased to know that his pamphlet is being used by our members. It can be obtained from the Santa Barbara Botanic Garden, Santa Barbara, Calif., for 50¢. Mrs. Croxton listed other books, as well, but had this to say: "The books are interesting,

but what is needed for practical application is a list of plants showing the ones whose seeds are light sensitive; or germinate only in darkness; or need freezing, with explanations of how often, how much, and how long; or need cold temperatures to germinate; or will only germinate after the ground has warmed; or need double dormancy, with alternate room temperature and cool stratification; or have other peculiarities." All of this adds up to a challenge for someone, perhaps a member of the ARGS, perhaps Miss Alida Livingston, as Mr. Fuller suggested.

Southern rock gardening—Mr. Leonard J. Uttal, Madison Heights, Va., writes, "I note with great interest Mr. Senior's contribution in the October issue (ARGS *Bulletin*) on Southern rock gardening. Naturally, I am glad to see that some other person shares my admonitions." In effect, Mr. Uttal says that Southern gardeners would be doing themselves and their gardens a service if they would learn about the many almost unknown and unused plants native to their area, insist on including them in their gardens by overcoming their somewhat lethargic dependence on such overused plants as camellias, magnolias, boxwoods, irises, crotons, pentas, and ixoras. Some of the plants mentioned by Mr. Senior in his article were *Jacquemontia reclinata*, *Rhacomia ilicifolia*, *Befaria racemosa*, *Helianthus debilis*, *Vaccinium nitidum*, *Cooperia drummondii*, *Zephranthes texana*, *Nemastylis acuta*, and *Eustoma russellianum*.

THE NAILWORTS

H. LINCOLN FOSTER, *Falls Village, Conn.*

Like some stalwart friends, there are plants that win our lasting affection by an unpretentious and reliable serviceability. One such is the genus *Paronychia*. They win our affection also by their quiet historical significance, an ancient coat-of-arms never flamboyantly displayed, and discovered only by dint of accident.

The common name of the family is whitlow-wort. A whitlow is any inflammation of the finger, a malady not so common as apparently it once was. The Greeks knew it and had a name for it. Two genera of plants were thought to be curative when made into a poultice to ease the bursting pain and to provoke cure: *Draba*=whitlow grass; *Paronychia*=whitlow-wort. The Greeks knew this inflammation of the finger as "paronychia." When the botanist, Philip Mills, assigned the name to the genus, he may have been aware of the already existent pharmaceutical myth or, in accordance with the doctrine of signatures, assigned the name because of the conspicuous white bracts in most species of the genus, bracts which suggest a pale papery fingernail (one of the symptoms accompanying a whitlow or felon). The whitlow-wort may be called, in common parlance, nailwort. (May the fingers that hold this pencil, by any inadvertent slighting of the ancient disease, or early botanists, not invoke a visitation of the whitlows tonight, or tomorrow, or ever!)

If such an untoward visitation should occur, I shall be quite willing to steep a few stems of *P. argentea* or *P. canadensis*, both of which we have growing here. We grow them, not for pharmaceutical purposes, but because they are winsome plants.

P. argentea is a carpeter. The growth pattern is that of a rather tenuous thyme, small-leaved and never smothering. At the tips of the widely ramifying branches and in the leaf axils are compact clusters of small golden flowers without petals. These are embraced by conspicuous, white, papery stipules or bracts which last all summer and, diminishing in brilliance, into the winter. The effect is like a soft dusting of glistening snow over an open-weave tawny carpet. Though

native to the Mediterranean, it is resolutely hardy.

It is a plant most admirably adapted to lace a rock, or with its tracery, to cover dwarf bulbs. The species we have, which is tentatively given the name *argentea*, I originally grew from seed labeled *P. nivea*. This latter, as described in *Hortus*, is more erect, from a woody base, and having larger bracts. The picture in Farrer, labeled *P. argentea*, is more like the word description of *P. nivea*. But whatever it is, that we have, it is a delight. It may even be *P. serpyllifolia* of nurseries.

This nailwort will grow in the hottest and driest site or in partial shade, so long as it has good drainage and preferably a rocky surface to sprawl upon. Increase is simple by lifting rooted pieces at almost any season.

There is an Eastern American species, *P. argyrocoma*, with which I have just recently become acquainted. A plant was presented to me in October by a friend who had collected it on Pilot Knob in North Carolina. It was a tufty little cushion on the order of a western bun phlox. There was something about the white, scarious tips of the awl-shaped leaves that was not phlox-like. But in the absence of blossoms I had no clues. So I sent a sprig to Dr. Wherry in Philadelphia.

Though he was still confined after an attack of pneumonia, and without reference books or herbarium material, Dr. Wherry made a tentative identification:

The plant you sent looks more like the Silverling, *Paronychia argyrocoma*, than anything else familiar to me. That plant is rather common on North Carolina peaks, and makes such magnificent mats on the bare rocks that it is a perennial source of wonder that it has not been introduced to rock gardening. (Maybe it has, in England). The flowers, to be sure, are incredibly invisible, but after all, silvery foliage has ornamental value. This plant is manifestly winter hardy, the N. C. peaks not being winter-resorts, and moreover a variant of it was once found in New Hampshire and adjacent Maine. If it gets written up, however, one point must be mentioned—it needs really acid soil, and cannot be expected to thrive in limestone rock gardens.

How fortunate we are to have great men like Dr. Wherry, full of knowledge and lore of plants, modest withal and always willing to assist.

The tiny tuft of *P. argyrocoma* is perched in a pot in the alpine house for the winter, with a few shoots rooting in acid sand. This should be another quiet but utterly pleasing little plant in an acid, rocky scree. I look forward to seeing the papery blossoms, and someday I hope to locate *P. pulvinata*, from Colorado, Wyoming, and Utah, which sounds rather like it.

The other whitlow-wort which we have grown for many years in the shady rock garden is even less pretentious, but equally serviceable. This is *Paronychia canadensis*. This is an annual, one of the few annuals admitted to our garden, aside from the dandelions and the like that sneak in until their presence is discovered by my wife, the weeder. This one was invited in, and we look forward to it year after year as it self sows among the primroses and other early bloomers. It shows not a vestige until early June. Then, like magic, the lazy seeds sprout and in a brief period a delicate sea of green has risen six to eight inches above the ground.

On wire-fine stems, which divide and divide like an arterial system, are thickly set the small, elliptical leaves which diminish in size up the stems. Though thin and entire, the emerald greenness of the tiny leaves is a shimmer of sea light as they move in the slightest breeze, or appear to shimmer even in the stillest air.

The minute, petalless flowers are like tiny, green beads, turning, as fall approaches, to a dusky brown before the whole plant collapses and evaporates with the first frost, as suddenly as it has sprung. Never so heavy as to be smothering even among the most delicate of woodland flowers, the plant is so lightly rooted that it can be easily twitched out where not wanted.

P. canadensis is native to acid, rocky woods in Eastern North America, but will self sow in any garden site not open to full sun. In fact, it is probably better suited to growing among primroses and other cultivated plants in shady or semi-shaded sites in the garden than among the rough and tumble of weedy competition in the wild. Never flamboyant, never greedy, self-sufficient and demurely lovely, *P. canadensis* will be reborn here in our garden year after year, we pray.

MUCH TO THINK ABOUT

(Editor's Note) When a member of the ARGs gives as much thought to the problems of the Society as is evidenced in a letter written by Shirlee Hutmire (Mrs. Edward W. Hutmire), 21 Columbia Avenue, Takoma Park, Md., 20012, it is with pleasure that the editor presents excerpts from it to the readers of the *Bulletin*. An abridged version of her letter follows:

"I have been thinking about problems in the Seed Exchange ever since reading the October *Bulletin*. I imagine the January one will have more on the subject, too. I have suffered from the same type of mislabeling, but not such flagrant examples as Mr. Zollinger's. It took three tries to get *Hypericum coris*—but I did get good hypericums under the name, at least; *Hypericum balearicum* and what I think is *H. polyphyllum*. *Papaver trinifolium* is never true, but at least has brought poppies.

"As to what to do about it, I don't really know. Very likely the trouble starts as a case of mixed labels and can go on from there. I know of no key to the various species of rock garden plants, so it is hard to verify names. I have botanical training in taxonomy, a decent library, and some years of experience in growing these plants, yet can seldom be absolutely positive of the names of the many species in my garden. Where, oh where can one find a key to the various drabas, for example? Who can positively identify the many composites grown in rock gardens? I have trouble with the local species with keys and hand lens! Gardeners should be able to learn the characteristics of families and not send out gentian seed labeled as campanula, etc. One complete seed capsule included with the rest of the seed in a packet might prevent such mistakes from appearing in the seed lists.

"One suggestion I do have to improve the Seed Exchange's usefulness—please give collectors' numbers for wild seed not identified by species name. I have in my garden several drabas, a potentilla, and an *erysimum* sp. grown from seed from the exchange; the first was collected in Alaska, the *erysimum* was from Dr. Worth's seed. For these I have no names and no way of labeling the seed if I send them to the exchange. They are good plants and easy ones, and many gardeners would very likely like to grow them, but how to send them around?

"While I am making suggestions, here is another: how about follow up articles or notes on stories in the *Bulletin*? Ever since I read "The Gardener's Patience", by H. Lincoln Foster in the April 1962 *Bulletin* I have wondered about those meconopsis—did they ever bloom? And in the July issue of the same year, Mr. Harkness speaks of an *Arisarum* from Portugal—was it hardy? Over the years there have been many such unanswered questions which have made me wonder. This is why I especially enjoy Interchange—the answers *do* appear in the *Bulletin*.

"And still another suggestion—will our authors *please* give descriptions of the plants they see on their trips to the mountains! And, if possible, notes on where the plants are growing; north slope, south slope, shade or sun, wet or dry, etc. Here is a fine example of what I like to read, taken from Mr. Kline's article in the October *Bulletin*. "On our left, facing upstream, was a large rounded ledge covered with plants of *Lewisia cotyledon*, the blossoms an unusual apricot with pink stripes. At the base of the ledge we found a gem that left us quite breathless. It was *Dicentra pauciflora*, a delicate little plant of exquisite beauty. Spreading in mats of grayish-green, finely cut foliage, topped with flesh-colored 'steer's head' blossoms, the whole plant was about three to four inches high." What I don't like to read is something like this, "Along the trail many plants familiar to us began to appear, such as," followed by a long string of botanical names likely familiar to the author, but not one of which I had ever seen in my life! In this same issue Mr. Foster asks if the membership would support collectors and growers of these western alpine. Well, I would certainly give a lot to try for *Dicentra pauciflora* or *Lewisia*, having read about them. But not those long string of names without any idea of what they look like or how to grow them.

"On the same general subject—why do we have so many articles on collecting trips to the Western mountains and so few on how the plants mentioned in these articles grow in the members' gardens? Will these plants grow in the West in gardens? If not, there seems not much sense trying them in the East, where conditions are so much more unlike their natural habitats. I love to read about the trips to the mountains, please don't misunderstand, but I would like to see more descriptions of plants and habitats as to growing conditions for it would make the articles of far more use to the members since seed of these plants sometimes do reach the Seed Exchange, and some nurseries do carry some of the plants. And I do wish our Western members would write about how they handle these plants in their gardens."

KURT BAASCH—1891-1964

With the passing of Kurt Baasch, one of our charter members and a director, the American Rock Garden Society suffered a great loss. In addition to his active interest and participation, he was a contributor to the *Bulletin* of articles on his garden in the early days of the Society. His last article on the growing of saxifrage in an alpine frame appeared in 1957.

Every gardener leaves his impression on his surroundings. After forty years of meticulous and discriminating effort, Kurt has left a lesson for us all to learn. How anyone could create a rock garden and achieve such a high peak of perfection and finesse despite the handicap of huge, strangling Norway maples is indeed a wonder and an envy. In this garden we find a theme of neatness and of peace, artistry and beauty, seclusion and maturity.

As one came to better know Kurt, he was impressed with his deep love for his plants and surprised at his amazing quality of being able to remove anything that was growing too large for its spot, no matter how precious the plant might appear to be. One such item that left the Baaschs' garden a few years back was a fine specimen of weeping Norway spruce. This plant now is eight by ten feet in area with a wonderful undulating symmetry nowhere as high as three feet. Is one to say that the removal of this one specimen after twenty years would, or could, make this garden less interesting? Perhaps so, but no one could fail to admit that after twice that time this garden is still full of choice and rare material, subtly blended and not over-crowded as one might expect such an old garden to become.

It would take pages to enumerate the many plants of interest in this fine old

garden, but one must mention the two Japanese white pines, one of which is the form *Pinus parviflora* 'Nana', a smaller type with shorter needles. Also there are the many fine variations and hybrids of the Japanese painted fern, *Athyrium goeringianum pictum*.

Kurt Baasch's staunch support and enthusiasm will be missed by all those who knew him. He was a wonderful person, as well as a splendid and generous rock gardener

A. J. S.

OMNIUM-GATHERUM

Director Bernard Harkness of our Seed Exchange is to be congratulated on the 1965 seed list. It is clear-cut, attractive, and includes notes on some of the interesting seeds sent in. While the number of contributors does not equal that of 1964, it is still above the yearly average of the last seven years. The same is true of the number of items listed.

The decline from the peak year of 1964 may have been due to a certain reluctance of some members to contribute as a result of the "Impostor" furor in recent Bulletins. This may be bad, or good—bad if those members who refrained were discouraged or annoyed, and intend to remain that way—good if they are in the process of increasing their knowledge of plants, seeds, and nomenclature so that next year they may resume their contributing with the assurance that the level of seed list authenticity has been raised, as far as they are concerned.

The beneficial effects of our little "tempest in a seed pot" may not be apparent for some time. Nevertheless we have confidence in the sincere desire of our members to do their utmost to bring improvement to all phases of our Society's activities, the Seed Exchange and the *Bulletin* particularly.

When Mr. Roy Elliott, Hon. Editor of the *Quarterly Bulletin of the Alpine Garden Society*, was asked to contribute an article to our own *Bulletin*, his response was so immediate and so gracious that one wonders why such a request was so long delayed. He closed his acceptance with these words, "I would like to see much closer co-operation between our two Societies, and will always help in this respect in any way that I can."

The North Atlantic Regional Unit of the ARGS held its winter meeting on January 23 at the Snuff Mill in the New York Botanical Gardens. Miss Elizabeth Preble, secretary of the Unit, reports that in spite of snow and ice there was a good representation present. The guest speaker was Mr. Walter Singer, Staff Photographer for the New York Botanical Gardens, whose talk was on horticultural photography. Through the use of perfect and imperfect slides of flowers he gave an enlightening lecture on cameras, lenses, lighting, focus and distance.

One highlight of the meeting was the showing of slides by Mr. H. Lincoln Foster, ARGS National President, of his trip to the Western mountains last summer where he went to collect specimens and seeds of native wild flowers. Mr. Foster expressed the hope that more and more Easterners would try to grow these fascinating western plants in their rock gardens.

Mrs. Foster spoke of the plans for the ARGS exhibit at the International Flower Show to be held in New York City the week of March 6, 1965, and Mr. Cornelius Haas, Regional Chairman, told of the possibility of exhibiting at the competitive flower show in Fairfield County to be held, for three days, at the Montgomery Pinetum, Greenwich, Conn., late in June.

If I were called upon to talk on the subject of man's acceptance of his environment, I would chose my text from a letter written by Mr. Leonard J.

Uttal, of Virginia. When writing of a possible visit to the Western mountains, a visit reserved for some future time, Mr. Uttal said, "I am confident I have made the most of the country that is handy to me, and in the perhaps juvenile longing for far horizons, I try not to be blind to the beautiful things close at hand."

How beautifully this is expressed, and how simply! I urge each one who reads this short passage, to read it again. Let these few words sink into his consciousness. Perhaps, in this way, the unrest that seethes in most of us may be soothed; perhaps our eyes, too long focused on far places, may yet again find that beauty has not strayed too far; perhaps—but why go on—Mr. Uttal has said all that is necessary.

A word or two on the "Favorite Plant Lists." To those members who find no inspiration in these lists, or who doubt their value, I suggest that a re-reading of the last full paragraph of page 94 and most of 95 in the July 1964 *Bulletin* will refresh their memories and re-establish in their minds the reasons which caused the editor to institute this listing of favorite plants. Obviously, plants that are liked well enough to be placed on these lists are, or possibly could become, desirable garden plants. We need new plants in our rock and woodland gardens and there is no reason why more of America's abundance of suitable natives should not be used. How to make the choicest of them available is the problem. Certain logical steps seem indicated:

- 1—Pinpoint such desirable plants. (The plant lists help do this).
- 2—Publish plant and habitat descriptions. (In the *Bulletin*).
- 3—Collect such plants and their seeds from the wild.
- 4—Make determined and conscientious efforts to grow these plants, in gardens close to their habitat, and in more distant gardens.
- 5—Determine garden potentiality and suitability by trial and error.
- 6—Publicize the results, good and bad, giving full particulars.
- 7—Propagate the plants that prove garden-worthy.
- 8—Discuss with Mr. John Osborne's committee the methods for the extensive propagation and later distribution of such plants and seeds to members.
- 9—Remember that our gardens need plants and America has them!

Step 1 may be further activated by the publishing of the lists below.

Step 2 can be carried forward if the members who have sent in these and previously printed lists will each select one or two of his prime favorites that are not now in common garden use, and write, for the *Bulletin*, a description of them—a botanist's description, a gardener's, or a poet's—one that will stimulate interest. Then describe the conditions under which the plant grows in the wild (situation, soil, exposure, moisture, etc.), with a short description of the area surrounding the habitat. (It is never necessary or desirable to pinpoint the area geographically). Then give your experience with the plant, or plants, in your own garden, if any, or the experience of others known to you. Give cultural directions if any have been established. These fairly short individual plant descriptions will make excellent reading for the members, and should result in an increased knowledge of our American natives and their use in our gardens.

Step 3 should be carried out in the most *ethical* manner.

Lists appearing below are from Mr. Dara Emery, 517 W. Junipero St. #2, Santa Barbara, Calif.; Mr. Lawrence Crocker, 3355 Jacksonville, Hy., Medford, Oregon; Mrs. Herbert Brinckerhoff, Georgetown, Conn. 06829; Mr. Wellington F. Barto, 3600 North 27th St., Arlington, Va.; Mr. Claude E. Barr, Smith-

*Phlox diffusa*

Albert M. Sutton

wich, S. D.; Mrs. Peter H. Gourley, Prosser, Wash.; Mrs. Nevada E. Schmidt, Rt. 1, Sarona, Wisc. 54870; and Mrs. T. M. Laurenson, 79 Valley Road, Cashmere Hills, Christchurch, New Zealand. Mrs. Laurenson's list contains no American natives, of course, but some of the plants are already in our gardens, and undoubtedly the rest should be.

Mr. Emery (California)

Artemisia pycnocephala
Bloomeria crocea
Ceanothus maritimus
Eriogonum ovalifolium
Heuchera micrantha
Iris innominata
Lupinus confertus
L. excubitus var. *johnstonii*
Polypodium scolieri
Penstemon azureus

Mrs. Brinckerhoff (Conn.)

Aquilegia canadensis
Sanguinaria canadensis
Cypripedium acaule
C. parviflorum

Monotropa uniflora
Asplenium platyneuron
Mitchella repens
Cornus florida
Lobelia cardinalis
Trillium grandiflorum

Mr. Crocker (Oregon)

Phlox diffusa
P. adsurgens
Lewisia cotyledon
L. tweedyi
Lilium bolanderi
Fritillaria recurva
Kalmiopsis leachiana
Silene hookeri
Cheilanthes gracillima
Polystichum lemmonii

Mr. Barto (Virginia)

Cornus canadensis
Lupinus perennis
Aquilegia canadensis
Iris cristata
Shortia galacifolia
Hepatica americana (triloba)
Clintonia borealis
Sanguinaria canadensis
Anemonella thalictroides
Epigaea repens

Mr. Barr (South Dakota)

Nemastylis acuta
Phlox alyssifolia
Erigeron scribneri
Clematis tenuiloba
Dodecatheon pulchellum
Echinocereus triglochidiatus
Oenothera fremontii
Antennaria aprica
Stenotus armerioides
Penstemon angustifolius

Mrs. Schmidt (Wisconsin)

Anemone patens var. *wolfgangiana*
Erythronium americanum
Geum triflorum
Iris lacustris
Cypripedium parviflorum

Uvularia grandiflora
Viola pedata var. *lineariloba*
Trillium nivale
Dodecatheon meadia
Pyrola rotundifolia var. *americana*

Mrs. Gourley (Washington)

Calochortus macrocarpus
Erythronium oregonum
Oenothera speciosa rosea
Eriophyllum lanatum
Mimulus longiflorus
Penstemon heterophyllus
P. crandallii ssp. *glabrescens*
Lilium humboldtii
Zauschneria etteri
Mertensia longiflora

Mrs. Laurenson (New Zealand)

Celmisia incana
C. coriacea
Clematis afoliata
Gaultheria rupestris
Hebe cheesemanii
Leucogenes grandiceps
Myosotis uniflora
Ranunculus haastii
Raoulia grandiflora
R. X hogani?

A FEW NATIVE WOODLAND SAXIFRAGES

Tiarella cordifolia, foamflower, will increase in a spreading manner. It has small white flowers arranged cylindrically around a stalk eight to ten inches high. These plants have a foamy appearance when viewed in a mass from a distance. *Mitella diphylla*, bishop's cap or miterwort, has basal leaves almost identical to foamflower. Its tiny flowers are arranged singly and are scattered along stems a foot high. This stem also has a pair of opposite leaves about midway up its length. It is more of a solitary plant rather than a creeper. *Heuchera americana*, alumroot, also has leaves similar to the two previous species. The very small flowers, arranged in a compound raceme, are greenish-yellow, which makes it less attractive.

A note from Miss Esther Shaffer, Fostoria, Ohio proves that *Omnium-Gatherum* was read by one member, at least. Here is the note:

"Wasn't it William Cullen Bryant who gave us blue-blue? His *To a Fringed Gentian* declared,

'Blue-blue, as if that sky let fall
 A flower from its cerulean wall.'

"However, I believe color repetition was quite common among the Scottish poets. But, offhand, I remember only the Bobby Burns' lines,

'My luvie is like a red, red rose
 That's newly sprung in June . . .'"

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