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AMERICAN ROCK GARDEN SOCIETY BULLETIN

Albert M. Sutton, Editor

VOL. 28 April, 1970 No. 2

SOME NORTH AMERICAN ROCK PLANTS

T. J. COLE, *Ottawa, Canada*

Many articles in recent years have suggested the use of native North American plants in the rock garden, and indeed some of these plants such as Dodecatheon and Lewisia have become universally known and respected. However, on this continent we have at our command many equally worthy contestants for the title of 'Champion North American Rock Plant' and I would like to propose a few more nominations for this title.

In some reference books *Iris lacustris* is given as a variety of *I. cristata.* However, this charming little plant is given specific rank in Gray's Manual (3) as it is classified in the group of iris known as Evansia in which the central line along the haft of the fall has been developed into a ridge (5). A native of the Great Lakes region, this dwarf iris is found chiefly around the areas of Lake Huron and Lake Superior, in sandy soil both in the open and under trees, where its thin rhizomes run just on the surface.

Flowering takes place in early May with the occasional flower occurring after this. The flowers borne on 1½ inch stems among the newly emerging leaves are ¾ inch in diameter and resemble miniature bearded iris. They are pale violet in color (R.H.S. Colour Chart 88B) with a pale yellow center and a golden haft (14C and 17A respectively). The individual flowers are short lived but a mature clump makes up for this by its floriferousness. When fully grown the foliage stands some four inches tall, forming neat fans which radiate from a central rhizome. At Ottawa it is quite hardy having withstood –20 degrees F on several occasions here with no protection apart from snow cover, nor does it appear to suffer from high summer temperatures, still retaining its pale green colour with no signs of browning.

A native of California that has proved hardy in our winters (with good snow cover at least), is *Arabis blepharophylla.* Not at all like the much better known *A. albida* (now *A. caucasica*) this plant carries its bright rose-pink flowers on upright stalks. It is a somewhat variable species ranging in height from four to twelve inches and in colour from rose to pale pink. As it is usually propagated from seed, enough seedlings should be grown on to enable plants with desirable characteristics to be selected.

Arising from a typically Arabis rosette of leaves, the thin wiry stalk bears a terminal cluster of six to ten buds which open over a period of some

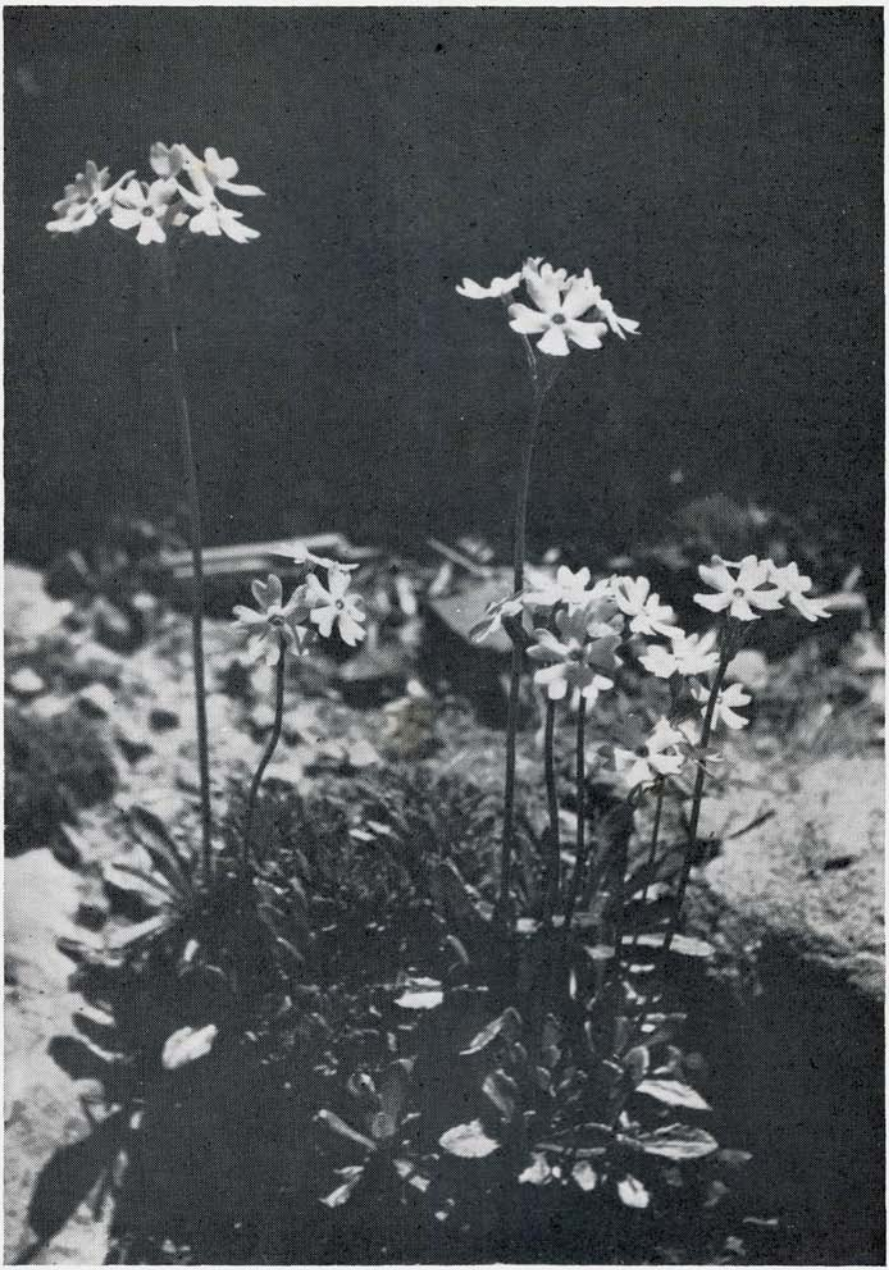
three weeks in late May to early June. These in turn are followed by inch long green seed pods which turn white as they approach ripeness. They should then be collected and placed upside-down in a paper bag where they will soon split. A second flush of flowers will usually appear in late August. These plants are not very long lived and thus a little seed should be saved each year as a precaution. While it is possible to strike cuttings, because seed-set and germination are high, the extra work is not worthwhile unless you have a particularly good colour form. Seed sown in February at 60 degree F nights will germinate in 10-14 days, and will flower that same summer.

Geum schofieldii is a little-known member of the Rosaceae from the Queen Charlotte Islands off the coast of British Columbia. When it becomes more widely known it will be well worth a place in many gardens. It was first collected and named in 1957 by Calder and Taylor and according to them (1) it is the rarest endemic vascular plant of the Queen Charlotte Islands, where it was found only three times during the 1957 and 1964 surveys. They reported it as a species of cliffs, runnels and other rocky exposures at altitudes of 1500 to 2000 ft. which restricts it to the main mountain mass of the Queen Charlotte ranges. Living material gathered from rock crevices along walls of north-facing runnels has been growing for some time in the greenhouses at the Plant Research Institute. In June, 1968, I planted one plant in the rock garden in an area of partial shade with an eastern exposure. Under a good snow cover it came through last winter quite unharmed and has bloomed continuously since the third week in May.

The plant forms a mound some six inches high by one foot in diameter of shiny dark green leaves with silvery green backs. The flowers which are usually borne in pairs, on ten-inch stalks, are an aureolin yellow (R.H.S. Colour Chart 12A) with golden stamens, which, when fully expanded, give the flower a darker center. Successful propagation methods are as yet not fully known; division certainly, but whether seed produced outside is viable is not yet known. All our plants are from a single clone and it may prove to be self-sterile.

A miniature primrose from the shores of the Great Lakes is *Primula intercedens* (Fig. 1). Found chiefly in Southern Ontario, Northern Michigan, and Northern Minnesota, this plant is a denizen of calcareous soils in rocky situations. As the leaves are yellow-farinose, the winter resting crowns have a bright yellow appearance. Although by no means the most showy of indigenous primroses (this title must surely go to *P. parryi*) *Primula intercedens* has a certain charm and grows well in the rock garden. The basal rosettes are some two inches in diameter and the flower scapes which appear in May are four to six inches tall. The flowers which open a pale pink, fade to bluish white and make a pleasing picture against gray rock. I have given it a north-east exposure to shade it from the mid-summer sun and in a leafy soil the plants have thrived.

Two native stonecrops which are rapidly gaining in popularity are *Sedum spathulifolium* and *S. divergens*. The purple-leaved form of *S. spathulifolium* has long been appreciated in gardens but to my mind the type is equally worth growing. Although it does not have the bright colour of the former, in its own way it is just as attractive. The young foliage is a pale gray, while the old leaves have a reddish tinge. The individual leaves are, as its name



Primula intercedens (Fig. 1)

T. J. Cole

implies, spatula- or paddle-shaped, and although at Ottawa it is not free-flowering, the yellow heads contrast nicely against the multicoloured foliage. Although it is thought to be of doubtful hardiness in exposed locations (4) it has survived the last two winters outside here.

Senecio resedifolius (Fig. 2)

T. J. Cole

Both of these Sedums are found on the western side of the Rocky Mountains, and our specimens were collected in 1966 growing in the crevice of a rocky bluff overlooking the Pacific at Otter Point, British Columbia. *Sedum divergens* is also yellow flowered, but its leaves are much more fleshy; almost kidney-shaped in cross section. It differs from the better known *S. oreganum* in that its leaves are somewhat pointed at the apex instead of flattened. In addition the leaves are much closer together on the stem, sessile, opposite and alternate so that viewed from above they appear x-shaped. The whole plant is suffused with a red tinge, which intensifies with the onset of cold weather. In common with many stonecrops both of these species are more brilliant if grown in full sun and greener when grown in the shade.

The dwarf groundsel, *Senecio resedifolius* (Fig. 2) can be found growing in the wild from the Gaspé Peninsula of Quebec, north into Labrador and around the arctic regions of Canada into Alaska. It received the specific epithet *resedifolius* because its leaves are similar to those of Mignonette *(Reseda).* It has a tidy habit even when not in flower. The leaves are a smooth bright green, almost circular with a toothed margin, and with the leaf-blade running down the stalk to give a flanged appearance. The flowers which are borne singly on four-inch stems are a bright yellow and up to ¾ inch in diameter. The conspicuous ray florets give them the look of large yellow daisies. In mid-May the first flowers open, and produce an initial flush when the plants are full of bloom. Only a few scattered flowers are produced throughout the rest of the summer.

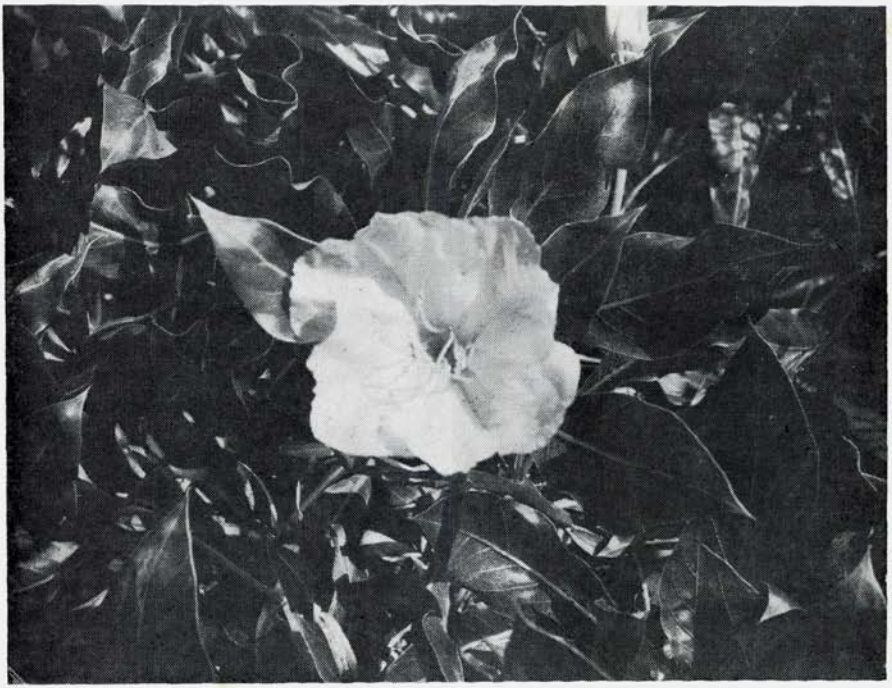
Propagation is best done from seed which is freely produced, though

quickly blown away if one is not careful. It will also root from soft cuttings taken in July and put into a sandy mix in a shady cold frame. Because of its natural latitude *Senecio resedifolius* grows best in slight shade during the hottest part of the day, although it will grow in full sun. It is a plant of calcareous mountain regions so an overly acid soil should be avoided. We have it growing and thriving in a light sandy loam.

Another plant native to the western coasts is the genus *Eriogonum*. We have two species of this planted in the rock garden here; *E. subalpinum* and *E. umbellatum*. In many respects they are very similar, in fact *E. subalpinum* used to be called *E. umbellatum major* (2) (6). Both species have leaves with glossy upper surfaces and tomentose lower, both are low subshrubs about six inches high pushing up crowded umbels of small flowers. The difference lies in the height of the flower spikes and the colour of the blooms. In *E. umbellatum* the spikes are from 9-12 inches tall with creamy yellow flowers, while in *E. subalpinum* the flowers are white turning pink with age and carried on 12-15 inch stems.

Propagation is by seed and the seedlings should be pot grown until planting out time as they form a tap root and do not take kindly to being transplanted. For this reason, the plastic pots with several small drainage holes are preferable to clay pots which allow the roots to go straight out of the bottom. Soil should be on the acid side with peat worked into the planting area, and our plants are growing well in conditions of light afternoon shade.

The plant growing here as *Oenothera missouriensis incana* was raised from seed obtained from Claude Barr. I can find no reference to this name



Oenothera missouriensis **(Fig. 3)**

T. J. Cole

in modern plant literature and all the books I have consulted do not acknowledge the varietal form. One source (7) however gives it as a synonym of *Megapterium argophyllum,* but most books include *Megapterium* in the genus *Oenothera.* Whether we have variety *incana* or not, it is still a plant well worth growing (Fig. 3) with its smooth green leaves with silvery hairs, and its huge flowers three inches across in bright yellow. The flowers which open in the afternoon are on long stems which bring them up above the foliage, and the plant is in bloom for most of the summer.

Due to its long tap root which makes it impossible to transplant, care should be taken in choosing its planting site. It will grow in most conditions and situations but has a trailing habit and so I would suggest a fall of at least 18″ with perhaps crocus or other spring bulbs below.

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CANTERBURY ALPINE GARDEN SOCIETY OF CHRISTCHURCH, NEW ZEALAND—In a letter from Mr. Brian Halliwell, of England, whose article on some New Zealand plants appears in this issue, he writes, "Nothing is more frustrating to Alpine enthusiasts than to read about rare plants only to find that they are unobtainable. My article mentions that seed is available on exchange lists. Certainly, the Alpine Garden Society occasionally offers some, but this seed is available on the exchange list of the Canterbury Alpine Garden Society of Christchurch, New Zealand. This is a small and enthusiastic society which is beginning to attract overseas members. Their seed list is extensive and offers many rarities due in part to its overseas contacts. However, there is a section devoted to its own native alpines which are eagerly sought after in other countries. The membership fee is very modest and I think I am correct in saying it is only $3.00 a year. Membership entitles one to a number of free packets of seed each year, but with a charge to cover the cost of postage. Further details may be had from the Secretary, Mrs. J. Hannan, 157 Hackthorne Road, Cashmere Hills, Christchurch, New Zealand."

THE VIRGINIA SHALE BARRENS

DONALD W. HUMPHREY, *Falls Church, Virginia*

The spring field trip of the Potomac Valley Group of the American Rock Garden Society centered around Clifton Forge in the counties of Bath, Botetort, Craig, and Allegheny. This area is part of the Valley and Ridge physiographic province stretching from New York to Alabama. Except for some very rare occurrences of basalt, the rocks are folded sedimentary strata composed of limestone, sandstone, quartzite, and shale. The limestone is found mostly in the valleys and represents the best agricultural land. Consequently, the natural vegetation of these areas has been altered and largely replaced. The sandstones form the higher ridges and both white and red sandstones or quartzites occur. Shales are found mainly in valleys, on low hills, or on the intermediate slopes of the higher ridges.

Because of the characteristic erosional pattern on the shales, they are easy to recognize, even from a distance. The slopes are steep and the drainage pattern is dendritic and intricate. Because of the steepness of the slopes and the loose, unconsolidated nature of the shale soils, these shale areas are commonly referred to as "shale barrens." To the botanist, they are remarkable for having characteristic flora, a number of species being endemic to the barrens.

I had been asked by Ralph Bennett, chairman of our local group, to lay out the spring trip and act as leader; which I did. But in so doing, I relied upon the expert advice of Drs. John and Marie Wurdack, who must be reckoned as our local authorities on the shale barrens and many other unique botanical habitats in the southeastern United States. Both are botanists and have introduced me to a number of interesting native plants that had hitherto been only names.

The trip coincided with the three-day Memorial Day weekend, May 30 to June 1. We met at the Park Motel in Clifton Forge at 2 p.m. on the 30th. Clifton Forge lies in the valley of the Jackson River in a spectacular mountain setting. All of western Virginia contains superb mountain scenery and our enjoyment of it was marred only by unusually hot daytime temperatures in the high 80's and low 90's.

The primary goal of the trip was to view the shale barrens and become acquainted with their endemic species. At the same time we planned to view the scenery, visit some natural curiosities, and other plant environments.

Our group of eleven adults and four children got underway shortly after 2 p.m., heading south along U.S. 220, following the Jackson River to where it is joined by the Cowpasture River to form the James, one of Virginia's largest rivers. We followed the general course of the James to the wild and scenic white sandstone cliffs of Eagle Rock. Here we turned northwest along Craig Creek and encountered our first shale barren. Four conspicuous plants were shale barren endemics: *Clematis albicoma, C. albicoma* var. *coactilis* (considered as *C. coactilis* by some), *Erigeron allenii,* and *Senecio antennariifolius.*

The two Clematis form neat, erect clumps about a foot high and a foot or more across. The opposite leaves are simple in *C. albicoma,* and in the variety *coactilis* considerably more hirsute. Also the variety's small, thick-sepalled, nodding flowers, looking like upside down vases, are greenish yellow, whereas those of *C. albicoma* tend toward lavender-purple.

Erigeron allenii is an eastern representative of a largely western genus, some species of which are choice rock garden plants. The same can hardly be said of *E. allenii,* however, for it is a large, coarse plant growing upwards to 2 feet high. Its basal leaves are large and oblong, smooth above, densely hairy below. *Senecio antennariifolius* is an excellent rock garden foliage plant. The ovate leaves form a compact basal clump up to 8 inches across and are one to 1½ inches long and densely white-hairy, especially below. In May, it bears typical yellow Senecio flowers on stems about a foot high.

One of the plants I collected from this barren (and I saw it at no other site) was *Commelina erecta* or its variety *angustifolia.* As one who has often pulled the weedy annual *Commelina communis* from the garden, I am skeptical of any of them. These perennial plants were, however, less than 4 inches high in dense clumps. I planted them in both a moist and a dry site. Those in the moist site bloomed abundantly for three weeks and their clear blue flowers, over an inch across, had an ephemeral loveliness until the noon sun shrivelled them. Those in the sunny dry spot stayed low and bloomed sparsely. This species is widely distributed in the eastern United States but is considered, nonetheless, a characteristic shale barren plant.

An annual *Phacelia,* probably *dubia,* had already bloomed and died on this steep, south slope. I tried to collect seeds, but most of the capsules had already burst. According to the Wurdacks, this plant hazes the spring barrens with a delicate blue. Here, also, I collected a plant of *Ruellia pedunculata (purshiana)* which grew to some 10 inches tall and produced several blue-purple flowers daily for two weeks, then proceeded to produce large numbers of cleistogamous flowers.

Our second stop was above the barrens of Craig Creek and here we found a different flora in the acid woodland of oak and other deciduous trees. We found *Iris verna* in relative abundance, likewise the largest we encountered on the trip. Leaves were in excess of a foot high and an inch wide. Two days later on Bald Knob in Bath County at an elevation of over 4,000 feet, I collected a very diminutive *Iris verna* from the peaty soils in the rocky quartzite talus. These two plants join others of the species collected in West Virginia, the South Carolina sandhills and the North Carolina piedmont. This Iris is quite variable in its flowers, not only in size but in general form, depth of color, and size of the orange blotch on the falls.

Also at this stop we found several clumps of *Galax rotundifolia,** a marvelous plant for the shady wild garden. It is much more common southward. The real find at this stop was *Polygala polygama.* Listed as a biennial, mine is nonetheless acting as a perennial. It is a delicate rock garden plant with several wand-like stems to 6 inches high, set along the upper inch or two with a number of small pink flowers. This plant also sets cleistogamous flowers from stems at or just below the surface of the soil. Not uncommon throughout this region is the well-known *Polygala paucifolia,* a lovely plant that is unfortunately difficult to grow well.

Clematis viticaulis, similar to *C. albicoma*

John Wurdack

Later on in a moist, shady section along Craig Creek we came upon our first stand of *Phlox ovata* in full bloom. This is an excellent Phlox for either rock garden or border. The specific name describes the basal, evergreen leaves, 2 to 5 inches long on somewhat woody stems. The flowering stems are upward of 15 inches high and the inflorescence is generally flat-topped in the form of a corymb carrying dark pink flowers an inch or more across. It blooms for well over a month in the garden.

Without in any way deprecating the value of *P. ovata,* it must be confessed that we were looking for a much rarer, local endemic, *Phlox buckleyi.* This unique Phlox has flowers of much the same color and height as *P. ovata,* but its four-inch basal leaves are narrow and grass-like and hardly over ¼ inch wide. Its cauline leaves are narrowly lance-shaped. Its basal foliage is evergreen. For another 15 miles as we ascended Craig Creek we saw *Phlox ovata,* but no *Phlox buckleyi.*

After arriving at Newcastle, Virginia, we started back to Clifton Forge on a forest road parallel to Craig Creek but about five miles north of it. It was here that we found *Phlox buckleyi* in a large colony along the road, growing in a sandy soil derived from decomposed sandstone. It was here, also, that Russell Kirk, one of the wider ranging members of our group, came across a colony of *Chamaelirium luteum* in full bloom. The day was getting late and we were all tired, so we headed back to Clifton Forge through some of the most charming jumbled mountain scenery imaginable.

Saturday was a complete change of pace. Our course lay west along the Jackson River to the pulpmill town of Covington, Virginia, which advertises its presence well in advance with its noxious fumes. From Covington we turned northeast on U.S. 220, climbing rapidly by a series of switchbacks affording us superb views of the Jackson River valley and some tantalizing

but apparently inaccessible shale barrens along the west side of the river.

Our first objective was Falling Springs where a large, spring-fed stream plunges over a sixty-foot cliff. A most interesting feature was the travertine deposits all along the stream and particularly on the face of the cliff where the deposits had built an overhang on the cliff and coated its walls with thick deposits creating a couple of shallow caves.

The occurrence of the travertine showed that the stream had vacillated over time past leaving widespread deposits on both sides of its present course. We later stopped at the base of a cliff a good quarter of a mile from the stream and at a higher elevation and found large amounts of travertine here as well. We found it to be light weight and rather porous so we collected a number of dislodged large pieces for the purpose of creating miniature gardens on them.

Time was slipping away and we had a long way to travel before day's end. We dropped down into the Jackson River valley again, followed it upstream awhile, leaving it on the Bath County line. Our next stop was a shale barren familiar to the Wurdacks. We were looking in particular for another endemic, *Trifolium virginicum,* a rare clover with nearly white flower heads suitable for the rock garden. We didn't find it, but we did find *Allium oxyphyllum,* a shale barren endemic considered by some to be a variety of *A. cernuum.* I have both in my garden and *A. oxyphyllum* appears to differ from *A. cernuum* in having yellow-green foliage rather than the bright green of the latter. Its flowers are pure white without any of the pink of *A. cernuum,* and the tepals open wider making the flowers appear larger and more finely cut.

Another plant common throughout the barrens but not strictly endemic is *Draba ramosissima,* a small perennial with neat rosettes of dark green, toothed leaves and bearing small white flowers on stems a few inches high. In the loose shale what I take to be the stem becomes prostrate and largely covered with sliding shale. It is consequently difficult to find the roots and it does not transplant well. We also found a good colony of *Phlox buckleyi* at this location.

It was now past lunch time and we pressed on to Blowing Springs recreation area for a picnic lunch. Enroute we left the dry shales and passed through rich deciduous forest, seeing many fine Azaleas, *Rhododendron calendulaceum,* in bloom, varying from pale yellow to red-orange in color.

Following lunch, we retraced our route for a few miles, then drove through the old spa towns of Warm Springs and Hot Springs in the lovely, domestic Warm Springs valley with its brilliant green golf courses and fine old homes. The huge Homestead Hotel at Hot Springs is still a favorite vacation retreat for many. The Homestead Corporation owns 12,000 acres of land extending to the crest of Bald Knob. A large modern airport has been carved out of the top of the ridge to serve the hotels and towns, obliterating acres and acres of *Rhododendron catawbiense* and the beautiful pink Azalea, *Rhododendron roseum.* This sweet-smelling Azalea was in full bloom, but apart from a few plants, *R. catawbiense* was a week or more away from blooming. It was along this linear crestline that we found the small *Iris verna,* previously mentioned, as well as other typical "bald" vegetation including *Clintonia umbellata* and *Menziesia pilosa.*

Retracing our way southward, we came across one of the possible haz-

ards to be contended with in exploring along these rock-strewn, quartzite ridges. An airport employee, who had left the airport just before our party, had shot a large timber rattlesnake on the road. Both this and its venomous cousin, the copperhead, add a little zest to exploring in our eastern mountains.

Leaving the ridge, our route now lay down a narrow paved road in a series of switchbacks offering superb views of the forested country to the east of us. This road, Route 606, leads to Clifton Forge. On the numerous cut-slopes bordering the road were great numbers of bird's-foot violets, *Viola pedata.* A month before, passing along this same road when the flowers were in bloom, we had noted the predominance of the bi-colored form over the solid-colored. In a number of these the two upper petals were distinctly reddish rather than purple. And here my wife spotted, and we collected, a plant with pure albino flowers. Our group stopped in two places to admire these road-cut gardens where among other plants we found a *Liatris,* either *scariosa* or *spicata.* We were now nearly back to Clifton Forge and were hot, tired, and ready for dinner.

Sunday was to be a short day: we were to work northward so as to be closer to home when we finally disbanded. Along the road north of Douthat State Park we found *Oenothera tetragona* in bloom, its fresh, clear yellow blooms brightening the road shoulders. Collected plants have the larger hairy foliage of *O. tetragona* rather than the nearly glabrous *O. fruticosa,* both of which grow in my garden, but these plants are smaller than either, the flowering stems rising hardly a foot above the basal rosettes. This may be due partly to a dry southern exposure in well-drained, sandy soil, but it seems to be a distinct form.

A little further on we found *Chrysogonum virginianum* also blooming. The few ray flowers of this composite give it an appearance quite unlike most of its relatives. Its neat, spreading growth makes it desirable for the wild or rock garden.

We were now following a northward-flowing stream, tributary to the Cowpasture River. Eventually, shale outcrops began to appear along the road shoulders. It was in this environment that we found *Asclepias quadrifolia* in bloom. This pale pink-flowered milkweed is deliciously scented and though it grows upward of 1½ feet high, the sparsely-foliaged single stem would seem to allow it a place in the rock garden, particularly where low-growing or prostrate plants could carpet the ground beneath it. Nearby, in a meadow, we found numerous *Hypoxis hirsuta* blooming abundantly, their yellow flowers starring the grass-like foliage.

Where the stream we were following began to cut steeply to the lower elevation of the Cowpasture River, we found a marvelous shale barren. Here on a steep, almost cliff, we found *Clematis albicoma* still in bloom. The pure white funnel flowers of *Convolvulus spithamaeus* made an attractive display on foot-high upright stems covered with simple, gray-hairy leaves. *Senecio antennariifolius* was abundant as was *Erigeron allenii. Sedum glaucophyllum* clothed rocky outcrops, and numerous other plants common to the shale barrens made the spot an interesting natural rock garden.

One species common here was *Oenothera argillicola.* This remarkable biennial is a shale barren endemic. Its growth form is low and bushy, spreading to two feet or more. Its bright yellow flowers are as much as 4 inches

across, though on some plants they may be only an inch or so. It is a charming and worthwhile garden plant, that if started early from seed indoors, may be grown as an annual. Two plants in my dry wall began blooming in late August, continuing through September.

We were to have stopped at a 100-foot high shale cliff called Ratcliffe Hill along the Cowpasture River. However, we made a wrong turn and missed it. Since the homing instinct was getting strong, we did not go back. The interesting feature of this outcrop is the presence of *Dicentra eximia* growing among typical shale barren plants. This species is often common at higher elevations of the Appalachians, but its occurrence in the shale barrens is unusual. A month earlier, I had collected one of these plants, placing it at the upper edge of my rock garden where to date it is still smaller and more compact than other plants of *Dicentra eximia* in my garden.

Along the upper reaches of the Cowpasture, we stopped to visit a large colony of *Phlox stolonifera.* Blooming was past, but the bright green rosettes were scattered widely among the grass and other low-growing plants. It was compact and sparse in full sun, but larger and more luxuriant in half shade. *Phlox stolonifera* is but one of five species of Phlox common in this part of Virginia. *P. ovata* and *P. buckleyi* have already been mentioned. *Phlox divaricata* may be found in large colonies in rich alluvial soil, sheeting the ground with blue.

Undoubtedly the most common Phlox throughout the shale barrens is *P. subulata.* For miles and miles along Great North Mountain in Highland County, this plant is uniformly a very pale bluish-white varying to almost, but not quite, white. This is probably the plant referred to as variety *brittonii.* Along the Cowpasture River various shades of pink predominate.

Our last stop was to view a colony of *Opuntia compressa.* This prickly pear is the only cactus commonly found in the southeastern United States, occurring on sterile soils of pine and shale barrens and rocky places. The greenish yellow flowers are attractive, but do not last long. The trip was then officially disbanded and we headed into the streams of homeward bound traffic with new plants for the rock garden and the hope that we could soon introduce them through the seed exchange to other members of the American Rock Garden Society.*

*(Ed. *Galax aphylla?*)

* * * * *

FRANK H. ROSE

Frank H. Rose, one of the first of our ARGS members to receive the Society's Award of Merit, died at his home in Missoula, Montana, shortly after Christmas, 1969. Mr. Rose, as was noted in the award citation, for many years was intensely interested in the flora of the Rocky Mountains, especially their ranges and high uplands in Montana and Wyoming. As rock gardeners, we are greatly indebted to Mr. Rose for passing on to us the results of his extensive explorations in these areas and his intimate knowledge of the successful culture of many of the native plants of Montana and neighboring states. It is understood that Mr. Rose spent a very happy Christmas with his family and for this we may be grateful. The Society mourns the loss of another of its dedicated members.

ENGLERIA – Part II

HANS HONCIK, *Wels, Austria*

In the October, 1969 issue of the *Bulletin* the species and varieties of the Subsection Engleria of this noble genus have been introduced. Now may I further acquaint you with the hybrids of the Saxifrage group. As natural hybrids are listed:

SAXIFRAGA x *PAXII* ENGL. & IRM.

It resulted from the following cross:
Saxifraga aizoon x *Saxifraga corymbosa* var. *luteo-viridis*, so that one observes that the parents come from two different Saxifrage sections (Euaizoonia and Kabschia).

It was found in the east Carpathians. Its habit is also tufted, its inflorescence is cymoid-umbelliferous-paniculate and it is up to 12 cm high. All characteristics of the Media group, such as glandular hairs and strap-shape, revolute-margined leaves furnished with small pits are also found in it. Its flowering period in the lowland lies in May-June, its flower color is bright yellow.

SAXIFRAGA x *BENTHAMII* ENGL. & IRM.
(*S. aretioides* > x *S. media*)[1]

Rosettes of the sterile shoots ca. 1 cm diameter, thus larger than those of *S. aretioides*, 3-5 flowered, flowers arranged in crowded umbel-like racemes, flower color yellow to orange, flower stalk 7 cm high. Suendermann differentiated the following forms:

f. *grandiflora* SUEND.
Petals larger, pale yellow.

f. *parviflora* SUEND.
Petals smaller, rosette leaves more acute, somewhat lower (5-6 cm), looser tufted than *S. aretioides*.

f. *aurantiaca* SUEND.
Petals orange-colored.

f. *flavescens* SUEND.
Rosette leaves larger, petals clear yellow.

Saxifraga x *benthamii* and the four mentioned forms are found in the central Pyrenees.

SAXIFRAGA x *LUTEO-PURPUREA* LAP[2]
(*S. aretioides* x *S. media*)

Eight cm high, 6-10 flowered, pale yellow above muddy yellow to rose-colored flowers, inflorescence fuller than with *S. benthamii*. Suendermann differentiated:

f. *luteo-purpurea* (LAP) SUEND.
Leaves ca. 1 cm long, 2 mm broad, flowers muddy yellow, seldom somewhat reddish.

f. *erubescens* SUEND. (= *S. ambigua* hort.).
Petals rose or muddy red.
f. *lapeyrousii* SUEND.
Leaves 1-1.5 cm long, 2 mm broad, pale yellow flowers.
All these are found in the central Pyrenees.

[1]The position of the angle with its broad side directed to *S. aretioides* indicates that the characteristics of *S. aretioides* predominate in this hybrid.
[2]LAP = de la Peyrouse, French botanist 1744-1818.

SAXIFRAGA x *AMBIGUA* DC.[1]
(*S. aretioides* x < *media*)

Very similar to *Saxifraga media*, but larger and also often with broader petals and smaller spatulate leaves. The flower stalks become up to 10 cm high and are 6-12 flowered. Inflorescences run to purple or reddish. Blooms yellowish, muddy red or pale rose. Suendermann differentiated:
f. *ambigua* (DC) SUEND.
Leaves 2 mm broad, somewhat acute, petals 1-1.5 mm longer than the sepals, yellowish or muddy red.
f. *racemiflora* SUEND.[2]
Leaves 2.5 mm broad, acute, petals scarcely longer than the sepals, yellow below, pale rose at the margins.
f. *grenieri* SUEND.[3]
Leaves to 2.5 mm broad, very acute, petals 1-1.5 mm longer than the sepals, deep yellow, somewhat pouched.
f. *godroniana* SUEND.[4]
Petals somewhat longer than the sepals, pale yellow or muddy rose. All in the central Pyrenees.

Naturally people have also taken a hand and crossed the Saxifrages, which because of their distant habitats could not do it themselves. Thus there resulted, in distinction to the spontaneous hybrids, artificial hybrids, now called cultivars (cv.). The names of these cultivars are written with capital initials and placed between single quotes. For example *Saxifraga* 'Heinrichii'.

The already mentioned gardener, plant collector and plant breeder, F. Suendermann, was among the first who at the beginning of our century bred such Saxifrage cultivars and brought them into the trade. His selections have retained their popularity up to the present time and one meets them in every garden in which Saxifrages are cultivated and finds their names in every rock garden book. Engler included and described several such cultivars in his Saxifrage monograph.

Naturally Suendermann was not the only one who bred artificial hybrids. More and more gardeners and enthusiasts, among them very many Englishmen, have concerned themselves with this. Thus the number of Saxifrage cultivars has become greater and greater and is today incomprehensible. Of many of these hybrids no one knows the parents, because they occurred spontaneously in a garden. There are very beautiful forms among them, naturally also such as are of limited garden value. Especially among enthusiasts the wish is often expressed that these cultivars be collected in one book. Very many have applied themselves to this task, but must soon recognize that it is an impossibility because of the enormous mass of material and also because of the in-

surmountable difficulties of identification. Scientific study gardens have now been laid out for identification and determination of the ornamental trees and shrubs in order to establish the plants worthy of cultivation. The same process should be followed with the Saxifrage hybrids.

[1] ambiguus = doubtful, DC = De Candolle, August, Swiss botanist 1778-1841.
[2] racemiflorus = raceme-flowered.
[3] J.C.M. Grenier, French botanist 1808-1875.
[4] D.A. Godron, French botanist 1807-1872.

I now add here several of these artificially developed hybrids and am selecting for this purpose the oldest forms which originated around the turn of the century and which were included by A. Engler in his Saxifrage monograph, and were also botanically described. It is amazing that these "classic" selections will soon be able to celebrate their 70th birthday without having lost their popularity.

SAXIFRAGA 'Bertolonii' SUEND.
(*S. porophylla* var. *sibthorpiana* f. *thessalica* x *S. stribrnyi*)

In appearance it stands just between its parents. Its purple flowers are somewhat nodding. It becomes 8-12 cm high.
Artificially bred by F. Suendermann.

SAXIFRAGA 'Biasolettii' SUEND.
(*S. grisebachii* x *S. porophylla* var. *sibthorpiana* f. *thessalica*)

It differs from *S. grisebachii* in its more narrowly acute leaves, from f. *thessalica* in its purple flowers. It grows to 15 cm high and is valuable because highly floriferous.
It appeared in the Suendermann garden.

SAXIFRAGA 'Boeckeleri' SUEND.
(*S. ferdinandi-coburgii* x *S. stribrnyi*)

Silver-gray rosettes with a diameter of 2 cm. Flower stalk 8 cm high, calyx purple, petals orange-colored. The petals are shorter than in *S. ferdinandi-coburgii* but longer than in *S. stribrnyi.*
Artificially bred by Suendermann.

SAXIFRAGA 'Clarkei' SUEND.
(*S. media* x *S. vandellii*)

Diameter of the rosettes nearly 3 cm, height of the flower stalk 10 cm, with rose flowers, calyx purple-flushed. Leaves not prickly as in *S. vandellii.* The petals surpass the sepals.
Artificially bred by Suendermann.

SAXIFRAGA 'Doerfleri' SUEND.
(*S. grisebachii* x *S. stribrnyi*)

Gray-green rosettes, flower stalks 10-12 cm high with bright purple flowers.
Artificially bred by Suendermann.

SAXIFRAGA 'Edithae' SUEND.
(*S. marginata* var. *rocheliana* x *S. stribrnyi*)

It seems quite similar to *Saxifraga marginata* var. *rocheliana*, but its leaves are somewhat larger. It forms compact gray-green rosettes. Flower stalk 5-8 cm high with bright rose-colored flowers. Many-flowered. It belongs among the latest flowering Saxifrages of this group.
Artificially bred by Suendermann.

SAXIFRAGA 'Fleischeri' SUEND.
(*S. corymbosa* var. *luteo-viridis* x *S. grisebachii*)

6-8 cm high, flowers cinnabar-red to orange-colored. The more terminal flowers usually sessile, the lower ones longer pedicelled.
Artificially bred by Suendermann.

SAXIFRAGA 'Gusmusii' SUEND.
(*S. corymbosa* var. *luteo-viridis* x *S. porophylla* var. *sibthorpiana* f. *thessalica*)

It grows up to 11 cm high, its inflorescence is frequently suffused purple and has orange-colored flowers. A hybrid artificially bred by Suendermann, which manifests certain variations indicated as follows:
S. corymbosa var. *luteo-viridis* x < *S. porophylla* var. *sibthorpiana* f. *thessalica,* or
S. corymbosa var. *luteo-viridis* > x *S. porophylla* var. *sibthorpiana* f. *thessalica.*

SAXIFRAGA 'Heinrichii' SUEND.
(*S. aretioides* x *S. stribrnyi*)

This hybrid has all the appearance of a medium between its parents. It becomes 7-9 cm high. The nearly bell-shaped flowers vary in color between yellowish, rose, and purple.
Artificially bred by E. Heinrich at Planegg (near Munich).

SAXIFRAGA 'Hoerhammeri' SUEND.
(*S. grisebachii* x *S. marginata* var. *coriophylla*)

Compact rosettes. Flower stalks to 10 cm high with little pale rose flowers. Prettiest when in bud.
Artificially bred by Dr. Hoerhammer (M.D.) in Landshut, Bavaria.

SAXIFRAGA 'Hofmannii' SUEND.
(*S. burseriana* x *S. porophylla* var. *sibthorpiana* f. *thessalica*)

No longer mentioned in the recent literature apparently because of the not very attractive muddy red flowers.
Artificially bred by Suendermann.

SAXIFRAGA 'Kellereri'
(*S. burseriana* x < *S. stribrnyi*)

As the angle has already shown, the hybrid strongly resembles *S. stribrnyi.* Gray rosettes, flower stalks up to 8 cm high, with peach-pink flowers. A desirable, very free-flowering plant.
Artificially grown by Kellerer in the royal garden at Sofia.

SAXIFRAGA kewensis hort.
(*S. burseriana* f. *macrantha* x *S. porophylla* var. *euporophylla*)

Seems similar to *S. burseriana*, but has broader basal leaves. The plant grows 8 cm high and has rose flowers which towards the base are tinged purple.
Appeared in Kew Garden. (England).

SAXIFRAGA 'Maria Theresia' SUEND.
(*S. burseriana* var. *major* x *S. grisebachii*)

The diameter of the rosettes reach 2 cm, the height of the flower stalk 8 cm. The proportionately large flowers are grouped together in small heads. Flower color bright rose. The entire plant is fine. It flowers very early.
Artificially bred by Suendermann.

SAXIFRAGA 'Stuartii' SUEND.
(*S. (aretioides* x *S. media)* x *S. stribrnyi*)

The parent on one side is itself a hybrid. Diameter of the rosettes 2.5 cm, height of the flower stalk to 10 cm. The flowers are proportionately large and colored from pale green to purplish red (usually yellow-rose).
Artificially bred by Suendermann.

SAXIFRAGA 'Suendermannii' KELLERER
(*S. burseriana* x *S. stribrnyi*)

In appearance this hybrid stands in the middle between its parents. Its small gray-green rosettes form thick cushions. Height of the flower stalk 10 cm. The flowers are large, rose, nearly sessile. (Only after flowering does it grow up to 10 cm). A very free-flowering plant.
Artificially bred by Suendermann.

Concerning the culture of all Saxifrages discussed here, it must be said that all can be safely brought along if the hints given for *Saxifraga media* are adhered to.

In conclusion one more summary of the entire Kabschia Section.

SECTION KABSCHIA
to which belong

Group	Species	Varieties	Forms	Sub-forms	Total
1. Mediae	7	6	3	–	16
2. Juniperifoliae	8	13	2	–	23
3. Kotschyanae	2	–	–	–	2
4. Marginatae	19	9	6	2	36
5. Squarrosae	2	8	–	–	10
6. Rigidae	5	2	3	–	10
7. Aretioideae	2	–	–	–	2

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PONTRESINA

MAJ. GEN. D. M. MURRAY-LYON, *Pitlochry, Scotland*

The editor has asked me to let him have an article about Switzerland and the alpine plants to be found there. I have decided to write about Pontresina. I have stayed there four times and I think it is one of the best places I have been to in Switzerland for alpine flowers. It is also very well provided with means of transport by mountain railway, cable car (minibus on a string), funicular, and chair lift. At one time I suppose I was rather snooty about such 'aids,' and now, 'at an advanced age,' I have more sense and have no scruples about using them, and so reserving my energies for plant hunting 'on the tops.' Of course, those still full of energy can do all the climbing and tramping they like.

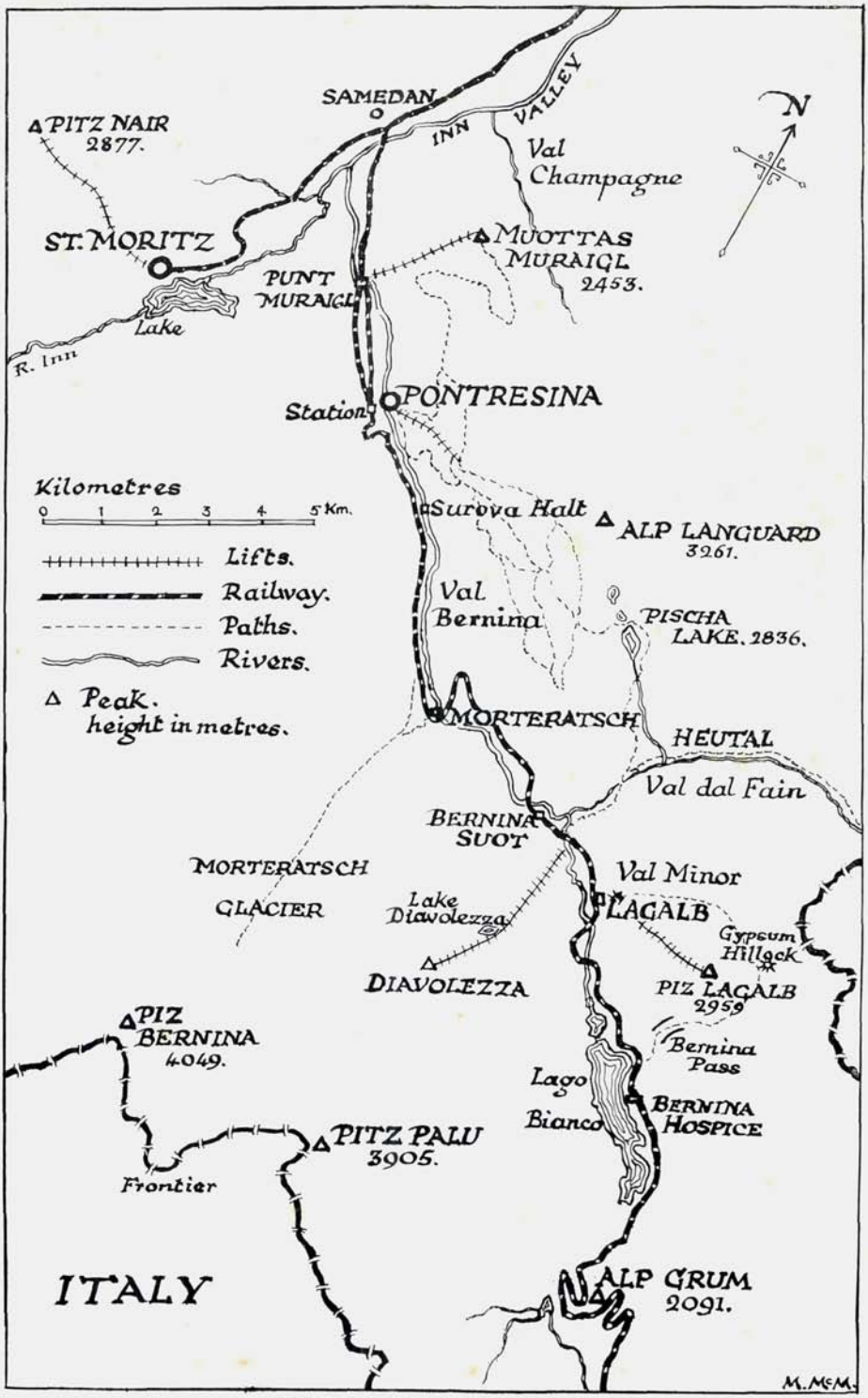
Pontresina is in the Upper Engadine at 6000 feet in the Bernina Valley. Up the valley runs the Rhaetian mountain railway with frequent stations at the foot of various mountains and valleys. At many of these stations start the various lifts up to the tops, or else they are the starting points for walks up one or another of the valleys.

The railway crosses over the top into Italy, but I have never gone there myself. I don't go to Switzerland for shops! In any case, Pontresina itself is well provided with excellent shops as well as many good hotels.

Getting to Pontresina is easy. Probably the best way is to fly from London to Zurich. From there you go by train to Chur where you change over to the mountain railway. This runs up the valley of the River Inn to Samedan where the line splits. The western branch goes to St. Moritz, the eastern one is the line up the Bernina Valley which I have already described. The views from the train are wonderful, and if it is your first visit, quite breath-taking.

For the first day a visit to Muottas Muraigl (pronounced Moorai) is a good idea. You go up by funicular railway, one of the first of its kind, I imagine, as a notice tells you that Queen Victoria went up it some time last century. You get wonderful views of the whole area from quite close to the station at the top at about 8000 feet. To the southwest is the Upper Inn Valley with its lakes, and St. Moritz a mere three miles or so away as the crow flies. Facing south let your eyes follow the line of snow covered peaks which mark the Swiss-Italian frontier, till away to the left, or southeast, you come to Piz Palu with its distinctive three peaks, a very wonderful panorama.

Even the 'half-milers' of the party can find lots of interesting plants within a very short distance of the station. There are in fact lots of flowers within a few yards of the station exit. A couple of hundred yards away, by some cow



The Pontresina District in Switzerland Mary McMurtrie

sheds, is a fine stand of *Gagea fistulosa,* an attractive yellow-flowered liliaceous plant with rush-like leaves. 'Cow' is the operative word. 'Paté de Vache' is a great favorite of Gagea. If you follow the line of the ski tow, dismantled at this time of year, you can, without much effort, find *Gentiana clusii* and *G. kochiana* (*G. acaulis* group), *Chrysanthemum alpinum, Primula rubra* and *P. viscosa,* and many other flowers.

For those who do not wish to go back down the funicular, paths wend their way eastwards and downwards back to Pontresina. It is an easy two and a half hour stroll, but that, of course, is not allowing for the inevitable halts to admire and possibly photograph flowers. Among the flowers you are sure to see en route are, in addition to those already mentioned, *Arnica montana* with its orange-yellow daisies, *Campanula barbata* in white, pale or dark blue, *Daphne striata* with the usual lovely fragrance of members of that family. In some of the moister places are *Soldanella pusilla* with its beautiful little violety fringed bells, *Gentiana bavarica,* and *Primula farinosa.*

About half way back to Pontresina the path divides. If you go straight on it brings you to the top of the Alp Langard chair lift which takes you down to Pontresina. If you take the right-hand path down the hill you will see the Swiss flag (white cross on a red ground) flying above a little chalet restaurant where you can get refreshments before continuing down the hill. As you get lower down you may see amongst the trees, clumps of *Lilium croceum,* the well-known 'Orange Lily'.

For your second day, I suggest you take the train right up the Bernina Valley as far as Alp Grum. That is where the railway starts to go steeply down towards Italy. On the way up you will get a good idea of the lie of the land, and you will stop at the stations where you will be getting out for future expeditions. From quite close to Alp Grum station you get a fine view all around. Just a few yards below the station is a small alpine garden in which you can see a collection of the local flowers; in the garden they are labeled. There are two paths down to the Bernina Hospice Station. Both paths bring you down to the dam at the southern end of the lake—Lago Bianco or Lej Azv. Many places around here have at least two names, one German, one Italian, others may have a name in Romansch which is an old language of Latin origin which still persists in these parts.

One path, which goes past the alpine garden I have already mentioned, takes roughly the same line as the railway. The other, and I think the more interesting of the two, goes up the hill from the station past a café. A few hundred yards beyond the café is a bit of hillside with quite a good selection of flowers including a very good form of *Aster alpinus.* Other plants to be seen around here are *Dryas octopetala, Chrysanthemum alpinum, Primula viscosa* and *P. rubra.* If lucky, you might find a hybrid between these two Primulas. It is known as *Primula berninae,* has flowers of a deep rose and is probably better than either of its parents.

Close to the dam at the south end of Lago Bianco there are lots of plants of *Papaver rhaeticum.* This is rather like *Papaver alpinum,* but more hairy and with broader leaf divisions; the flowers are yellow, in some cases orangy yellow.

The walk from Alp Grum to Bernina Hospice station can be done comfortably in about an hour and a half. If you still have some time on your hands, there is within a quarter of a mile of the station, and just a little above it, an

area of hillocks and hollows forming a most attractive and interesting natural alpine garden of perhaps an acre or so. Here you can stroll around without any undue effort, and admire at close quarters *Gentiana clusii* and *G. kochiana,* many of the Primulas already mentioned, and some wonderful big clumps of *Silene acaulis* of varying shades of pink.

As an alternative to going to this area near the station, you might have turned left when you reached the dam at the end of Lago Bianco. A rough footpath would then take you along the western side of the lake across rather steep rocky ground. This is quite a rich hunting ground and, in addition to many of the plants already mentioned, you should find *Gentiana orbicularis* (syn. *favratii*) a most attractive member of what you might call the Verna group. Compared with *G. verna* it has smaller, more compact rosettes, and flowers of an intense blue. Also found here are *Ranunculus glacialis, Doronicum clusii, Astrantia minor,* and *Lloydia serotina.* The latter is a tiny member of the lily family with narrow leaves three or four inches long, and cup-shaped white flowers with veins of pinky-brown.

Unless the path has been much improved since I was there, I advise going back the way you came, as towards the north end of the lake the path is liable to rock slides, and the deep, icy waters are not recommended for bathing when wearing climbing boots and other paraphernalia!

Diavolezza (2978 meters, over 9000 feet) will be our next goal. It has its own little station which we passed on the way up to Alp Grum by the Rhaetian railway. From this station it is only a step to the cable car station. On the way up you can see the path by which the tougher types will no doubt be climbing up. This path passes a little lake, Lej da la Diavolezza, round which I believe interesting plants are to be found; I have not been there myself, however. At the top you get a really magnificent view of the high tops along the Swiss-Italian frontier, and also right down the length of the Bernina Valley. Along a ridge running northwest from the cable car station is a good hunting ground, and here, in addition to commoner plants, are to be found fine specimens of *Eritrichium nanum, Gentiana orbicularis* and *Ranunculus glacialis.* Also found here is *Potentilla frigida,* rare, perhaps, but not really very attractive.

Having done a high top, we might now have a day in the meadows for a change. We get off the train at Bernina Suot station, and after a walk of about a mile we are in the Heutal or Val dal Fain (Hay Meadow) at a height of about 7000 feet, I think. The valley is famous for Primulas—*rubra, viscosa, integrifolia,* and many hybrids. Primula fiends and fanciers may be seen crawling around, lens in hand, hunting for a new hybrid!

There are lots of marmots in the valley, and if you sit quietly for a little you can get a good look at them. A mile or more up the valley a track can be seen winding up the northern slope and disappearing over the top of the ridge. You can go home that way across the Alp Langard, and the path will eventually bring you to the top of the chair-lift down to Pontresina. It is a good long walk, so it is not recommended except for those in pretty good training. The snow seems to lie longer there than in most places at a similar height. I have twice been up there and been beaten by snow.

On the Alp Langard plateau is the Pischa Lake surrounded by what has been described as a natural rock garden. I have never seen it though, both

times I was up there it was deep in snow and ice. *Androsace imbricata* and *Eritrichium nanum* grow there, as well as many of the plants already mentioned.

Piz Lagalb, a huge sugar loaf of a mountain, should certainly be visited. It towers up on the south side of the Val Minor. Nowadays there is nothing to prevent anyone getting up there, for a cable car to the top starts close to the Lagalb railway station. Having reached the top, the 'half-milers' can see *Eritrichium nanum* by strolling a mere hundred yards, practically on the flat. Those who don't mind a steepish, but easy walk of about three miles, mostly down hill, should take the track south to Bernina Hospice. On the way down they will see *Eritrichium nanum* in scores scattered around, also among many other flowers some particularly fine specimens of *Geum reptans* with its typical red strawberry-like runners.

For those more energetic only, a fine three hour tramp with lots of interesting flowers to be seen is from Bernina Hospice right round the base of Piz Lagalb in an anti-clockwise direction. This takes you down Val Minor and back to the railway at Lagalb station.

Of particular interest is an isolated mound of gypsum on which there are masses of *Saxifraga caesia,* that neat little hard cushion of a thing covered with white flowers. The gypsum mound is at Passo da Lagalb at just about the highest point you reach on this walk. From here you look down into the Val Livigno which is in Italy, as three of us discovered a few years ago.

We had gotten down to the road and thumbed a lift on an already overloaded jeep. One of us perched precariously on the very top of the load, the other two sat on the bonnet with feet on the bumper. How the driver saw to drive, I don't know. The wheels had only an inch or two of road to spare on either side! When we unexpectedly ran into an Italian frontier post, we were greeted by a bunch of Carbineri rushing out, buckling on their pistols as they ran. The fact that we did not have our passports with us was just a little awkward! However, the Carbineri were a very friendly lot, and while one of our party was allowed, under escort, to cross into Italy to collect a car, the other two of us were regaled in the police post with Chianti out of a huge flagon, so all ended happily. My only regret is that no one was there to take a snap of the three of us draped around the jeep.

If you are a fern lover and have a little time to spare, it would be worth getting out at Morteratsch station. In a half mile walk up the road to the glacier you could see quite a number of ferns including *Asplenium septentrionale.* There are also quite a lot of plants of *Daphne striata,* and also of *Artemisia mutellina,* an attractive silver-woolly. If you wish to see the glacier you must go on another two or three miles.

As this article is getting rather long, especially as I have no suitable photographs to use as illustrations, I will just try to describe one more outing.

This time we will leave the Bernina Valley, and take the train along to St. Moritz in the Inn Valley. From there we will take the funicular up to Corviglia, above and to the north of the town. At Corviglia you change over to the cable car which takes you to the top of Piz Nair, about 10,000 feet. Close by the station at the top you can see some fine plants of *Ranunculus glacialis,* and also quite a goodly number of plants of *Eritrichium nanum.*

An even better area for plants is on the lower slopes of Piz Nair above Corviglia. When you get out of the funicular, instead of going over to the cable car station, walk straight up the hill on a line of the ski tow. A little above the top of the ski tow you come to a steepish rocky slope with masses of flowers; *Ranunculus glacialis, Silene exscapa, Gentiana brachyphylla, Androsace alpina, Chrysanthemum alpinum, Linaria alpina* var. *concolor* (i.e. with no yellow in the flowers), *Lloydia serotina,* and others.

WILL C. CURTIS – HIS LIFE

HOWARD O. STILES, *Framingham, Mass.*

On October 26, 1969, Will C. Curtis, a member of the American Rock Garden Society, died at his home in the Garden in the Woods, Framingham, Mass. I would like to tell you the story of his life for it can be an inspiration to those who do not know it, as it has been to those of us who know it well.

A little over 86 years ago, Will C. Curtis, creator of the famous Garden in the Woods in Framingham, Mass., was born in Schuylerville (Old Saratoga), New York. Before he was ten, he had an early and abiding interest in plants. His mother was also a plant lover. His first childhood garden was one of mostly wild plants under a pear tree. Orphaned when young, he brought up a younger brother and sister. He graduated from Cornell University. There one of his interests was landscaping. His very first undertaking was helping to lay out the park system in Schenectady, N. Y. Later he became purchasing agent for a big leather company in Little Falls, N. Y. At this he was highly successful but missed his contacts with plants and the out of doors. Week ends were devoted to these activities.

Finally, he left this lucrative job and joined Warren H. Manning (called the Dean of L. A.) in Billerica, Mass. Years later, when Manning died, Will became general manager of a large nursery in Framingham, Mass., known as Little Tree Farms. It was while here that Will happened across the topographically interesting area now known as the Garden in the Woods. This property proved to be financially within reach and available. With its many undulating eskers, tumbling brooks and varied woodland with two bogs and one pond, plus an ever-flowing spring (still flowing), it seemed a place made to order for the big wild garden he had always envisioned.

This was the beginning and was in 1931. Mr. Curtis, a determined and resourceful man, and a friend, Ormond Hamilton (now, himself, a famous landscape designer), with the same interests, began to develop the new land. First, the building appeared, then gardening areas were cleared and winding roads opened up. Paths just naturally grew by degrees (today there are almost six miles of them). In 1933, I joined the effort and came to live here. In 1936, it became a full partnership. Meanwhile we arranged many flower show exhibits and accumulated many outstanding awards. This attracted people to the Garden, of course, of which I was in charge. Mr. Curtis, as a Landscape Designer (he preferred this to L. A.) of the Naturalistic school, and a consultant, continued to thrive. I cared for the garden, usually with one man, but often alone. I guided groups, sold a few plants, welcomed visitors, and developed, also, the greenhouse collection of exotic plants.

Early in 1935, we made a new lily pond, now a focal point in the main garden. Here, also, was started the first rock garden; there are now several such spots. About this time, we officially became a Botanic Garden, which status we still retain. These were the happy years! These were the years of propagating, planting, starting new garden places, new paths, and the adding of many, many new species and varieties of plants. Of special interest to Will Curtis was his fine group of albinos and mutants.

Gradually, as time hurried on, it became necessary to slow down on landscaping which had supported the Garden and us. We were worried but turned down offers to sell. We detested the thought of the efforts of more than thirty years going under a bulldozer or becoming a gravel pit. Developments had started near us and the future began to look ominous for the Garden. A wealthy client and friend conceived the idea of offering the Garden to some society to maintain and preserve. The New England Wild Flower Preservation Society became interested. Agreements and details were worked out over a period of time. An endowment campaign was begun and went over the top ahead of schedule with contributions coming in from every state in the union, including Alaska. Individuals, groups, organizations of all kinds helped in this effort.

We gave the Garden to the society in May, 1965. Mr. Curtis was made Director and I, Curator. In 1967, Mr. Curtis became ill and several operations followed for different things. This slowed his pace and after the third operation he became a bed-wheelchair patient, at home as he desired, hopefully to recuperate. It became necessary to have a nurse as many days as possible. This went on for a year. Death came quietly and peacefully to this man this last October. His ashes rest, as he wished, here in the Garden he conceived and loved. He so often said, "My life is here." Also, to quote a thought he often brought out, "Balance without Symmetry" which always guided him in his work. He always disliked what he, amusingly, called the *"Each Side* School of Thought."

This man was a most unusual character; rugged, determined, resourceful, undeviatingly honest with no use whatever for so-called "diplomacy." He was a man with vision, a true artist who knew exactly what he wanted and went to any amount of time and labor to achieve it, whether doing landscaping for a client, or working at the Garden. He *never* used a plan—not once—for it was all in that brain that could *envision* and *feel* and *know* just how it should be.

It is to be hoped that the Garden will thrive and grow as time goes on. Right now, we are trying to maintain and preserve. Educational courses, classes and lectures are given at the new Nature Center Building. Guided groups and clubs are taken about the Garden, as always. Last year, fifteen more acres to the north (the only direction left in which to expand) were purchased, for very soon developments will surround us completely and the Garden will be a forty-five acre green spot in the middle of Suburbia, USA. This Garden should stay here forever; its hills, valleys, brooks (polluted, of course), lovely vistas, and large assemblage of plants, rare and otherwise, wild, cultivated, and exotic should stay here for however long forever may be.

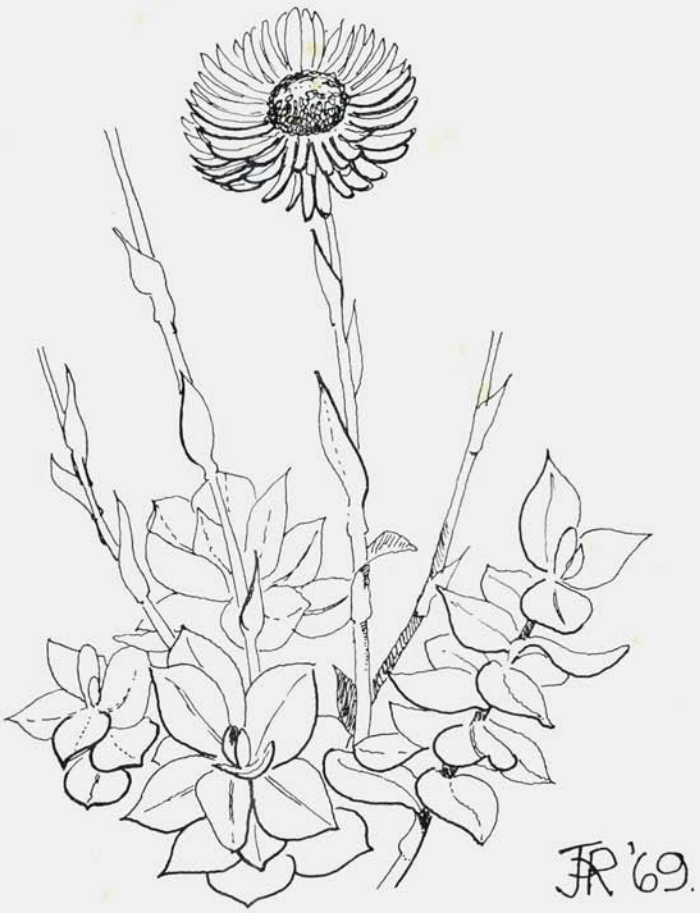
Let us hope it will be a long, long time. Let us hope that the dream of one dedicated man, Will C. Curtis, may go on and provide happiness for the uncounted thousands of plant lovers yet to come.

THREE CHOICE NEW ZEALANDERS

BRIAN HALLIWELL, *Richmond, Surrey, England*

AN EVERLASTING DAISY—Helichrysum is a large family of plants of diverse nature embracing annuals, perennials and shrubs. It contains about 350 species that are widely distributed in the Northern and Southern Hemispheres, but absent from the American continent. Many plants in this family are worthy of cultivation, a number of which are desirable rock garden plants.

Helichrysum bellidioides



There are probably 9 species from New Zealand, most of which are considered to be choice plants for the rock garden. The prettiest and best known, which is probably also the easiest of cultivation is *Helichrysum bellidioides.* Farrer, writing in *The English Rock Garden,* says of it, "Perhaps the best of all (helichrysums) and a treasure not only of singular beauty but also of a far happier temper than most."

This plant is quite common throughout New Zealand where it occurs over a wide range of altitudes up to about 5000 feet. It is common on the gravels along the banks of streams, on stable screes and moraines and along the river gravels above the flood limit. It forms large mats which are completely covered with its white daisy-like flowers.

It is a prostrate plant whose stems become woody with age. These stems grow at a considerable rate and root as they go. When growing amongst shrubs and other plants, the stems can grow up and into or over its neighbors. These stems are clothed to some extent with a cottony down as are the small rounded leaves, about one quarter inch in diameter which end in a point, although their upper surfaces often become smooth and shiny with age. The flower stems rise 2 or 3 inches from this mat and carry flowers about three quarters inch across which have slightly incurving white papery petals arranged around a yellow centre. Because of the texture of the petals they persist for a long period even after the seed is ripe, hence their common name.

This is a variable species and a number of forms exist where the foliage varies in size and the degree of woolly covering, the length of the flower stalk, and in the size and freedom of flowering. This natural variation is still further influenced by growing conditions. Plant in quite harsh conditions where it has to fight for its existence. Avoid planting in rich soil, with other taller growing plants, or in the shade. In such positions the plant will grow lush, swamp its neighbors, flower sparsely, and tend to die during the winter. The best kind of position to place it is in a scree or in the crevice on a rock face. Under such conditions it will form a neat plant and flower freely and refrain from being invasive.

Plant in a lime-free, gritty soil that is well supplied with water. The plant, in spite of its hairy leaves and stem, does not like an arid summer atmosphere and is happier in those climates where there is moderate summer humidity. Where the summers tend to be dry, a position in light shade should be chosen.

It is probably more suited to the Pacific Coast of the United States. It will tolerate winter temperatures of 15-20 degrees F., but under a good snow cover it will tolerate much lower temperatures.

This plant is easily raised from seed which is offered in some of the seed lists of the various Alpine Societies. Any sample of seed is likely to contain a high percentage of infertile seed so germination can appear poor. Sow the seed as soon as possible after receipt for it does not have a long life. Sow in a lime-free, gritty compost. After germination expose to full light in a position where there is a gentle air movement; avoid too high temperatures and high humidity. As soon as the seedlings are large enough to handle, they should be potted singly into small pots, using equal parts of lime-free soil, coarse sand, and peat or leaf mould. As soon as these young plants are established, transfer to a sunny frame, grow as hard as possible and give protection only in the winter.

When plants are available, cuttings are easy to root. Make these from non-flowering shoots and insert into pure sand in July or August. Pot singly after they have rooted which is usually after a period of two or three weeks. Plant out in early spring whilst the plants are still small. Little further treatment is necessary except to trim the plant back hard each spring to keep it neat, compact and within bounds.

This is a most attractive carpeting plant with gray woolly leaves producing flowers over a long period and is generally long lived.

NEW ZEALAND'S GIANT BUTTERCUP—It is not often that gigantism is to be found amongst alpine plants, yet it exists amongst New Zealand's buttercups. *Ranunculus lyallii* is a magnificent plant which hails from the Southern Alps, a range of high mountains which form the backbone of the South Island of New Zealand.

This plant is a giant in all of its parts. Large, round, dark leaves may be as much as 12 inches in diameter, carried on leaf stalks as long, or longer. From amongst this bunch of large leaves arises a stout branched flower stalk a yard in height which carries a large head of flowers, often as many as fifty. The typical buttercup-shaped flowers are about 2 inches in diameter, having pure white petals surrounding a golden yellow boss of stamens.

Locally common at altitudes around 4000 feet throughout the Southern Alps, it carries the name of the highest mountain, Mount Cook, which rises 12,348 feet and, no doubt, as a token of respect it is erroneously called a lily. The Mount Cook Lily forms drifts along the banks of streams in narrow valleys or gullies which have been carved out by the fast-flowing mountain streams.

It has a stout rootstock which whilst dormant in winter is well below ground level where it has protection from a good snow cover. Winter temperatures well below zero are common. In the springtime when the snow has gone, the frost has left the ground, and the air is warm, growth is very rapid and flowering usually takes place in New Zealand in November, which corresponds to May in the Northern Hemisphere. Occasionally, a second flowering spike may be produced one or two months later.

Here is a plant which taxes the skill of any grower. Even in New Zealand this is not an easy plant under cultivation when taken away from its mountain home. There it grows in a soil always well supplied with water, for besides growing along the banks of streams, the rainfall is high. Besides a very moist soil the high rainfall produces an atmosphere that is always moist and this is an indication of the requirements of this plant. A deep rich soil that will never dry out and a climate that has a high summer humidity are essentials.

It is a very beautiful plant that is too big for all but the largest rock gardens and even then it needs to be carefully placed. It is most effective if planted at the edge of water with a large rock behind it so that there is no sense of disproportion. It is better kept on its own, but if it is desired that it be associated with other plants, use larger plants, shrubs or small conifers.

Plants are raised from seed which should be sown in an open, lime-free soil which contains some peat. If the seed is fresh, germination is quite rapid, but the older the seed the longer germination will take. Old seed, or seed of indeterminable age should first be placed in a refrigerator for two weeks after

Ranunculus lyallii

John Roberts

which the seed container is transferred to a temperature of 60 degrees at which time germination will be speeded up.

As soon as the seedlings are big enough to handle they should be potted singly into small pots using a compost made up of equal parts of lime-free soil, peat or leaf mould and sharp sand. As soon as the pot fills with roots, the plant should be moved into a larger pot. At no time should these plants be given excessive heat and once established in their pots they should be transferred to a north-facing frame and plunged to their rims. Keep well watered at all times during the summer and spray overhead at frequent intervals with water. Less water should be given after the leaves have died down, but at no time should the soil be allowed to dry out.

Plant out into their permanent positions as the first signs of growth are visible in the spring; this is approximately a year after sowing. The young shoots are succulent to which slugs are particularly partial, so provide protection against their ravages.

Obviously most readers are most interested in growing plants in their rock gardens, but this plant may better be treated as a woodland plant, especially where the rock garden is small. Select a position where there is a good depth of moist soil and where the shade is only light.

After planting one must be patient for the plant will flower in its own time and it is usual for a period of three years to elapse from seed sowing to flowering. When conditions are to the plant's liking, the number and size of the leaves will continue to increase, if not, the new leaves will decrease in size and be produced in ever smaller numbers so that the plant fades away and suddenly it is there no more.

This plant is never long lived under cultivation, so a succession of plants should be raised to provide continuity. This plant should be most at home on the Pacific west coast.

Regardless of Reginald Farrer's indifference to this plant, it is a real beauty in spite of its size and if your garden is in a favorable locality, do try your skill for you will in no way be disappointed when you see the full glory of the Mount Cook Lily in flower.

AN ATTRACTIVE BERRIED EVERGREEN—There are many Gaultherias that are suited to a rock or peat garden and one of the most attractive and little-known species is *Gaultheria depressa,* a native of the mountains of Tasmania and New Zealand. The flowers of this species are small and greenish, quite insignificant but they are heralds for the real beauty to come which are the fruits. For the size of the plant these are quite large, being three quarters of an inch in diameter. Generally the fruits are white and this indicates why the plant is referred to as snowberry. Often these white fruits are flushed with pink and forms exist where they are completely pink, or even red. The true fruit is the dry capsule containing seed but this is surrounded by the calyx which has become fleshy, giving the appearance of a succulent berry.

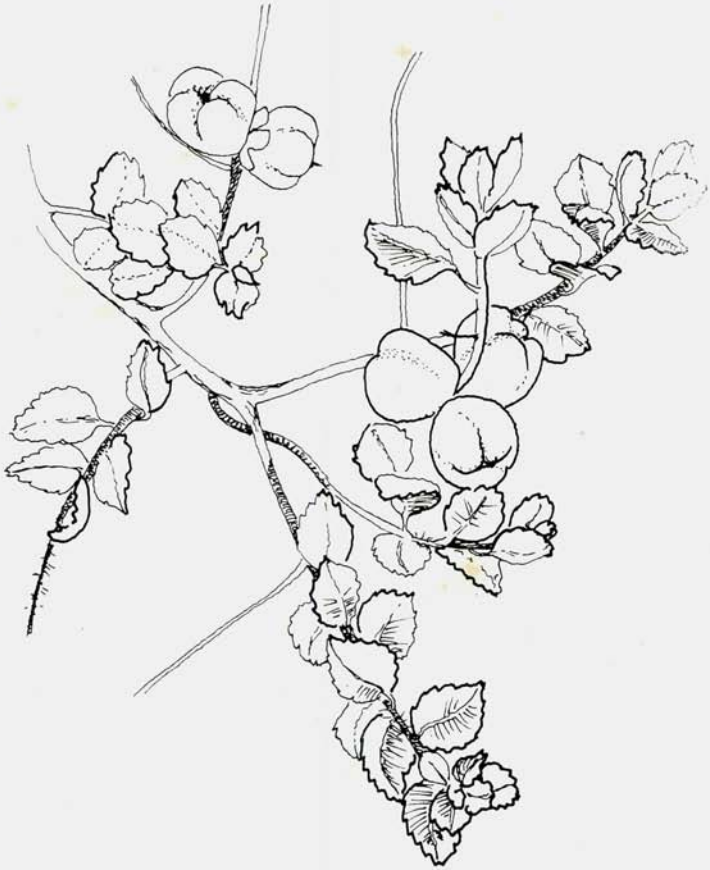
The plant itself is low growing with wiry, much-branched stems which root as they grow, forming low mats. Whilst the plant is at first completely prostrate, with age the younger shoots grow over the older ones and a low mound may be formed.

The leaves are closely spaced on the stems being alternately produced

and carried on short stems. Somewhat variable in shape, even on the same plant, they are more or less oval in shape with toothed margins and between one fourth and one half inch long. The plant is evergreen and the leathery leaves are shiny and bright green when young but with age they assume reddish tints and the old leaves may become completely red.

Success in cultivation is very much dependent on climatic conditions. It needs a moderately heavy rainfall but one that is evenly spread throughout the summer months. A winter minimum of about 15-20 degrees is tolerable, but where there is a good snow cover lower temperatures will cause no harm. Protection from cold winds in winter and hot ones in summer is necessary.

Choose a moist, lime-free soil that is well enriched with peat or leaf



JR '69

Gaultheria depressa

mould. The ideal place is in a peat garden, but it is quite at home in a well prepared position in the rock garden near a pond or stream. In areas where the summer humidity is low, plant in a shady position and water frequently.

When seed is available, it should be sown on a compost well-drained, lime-free, and containing peat. Grow the seedlings in a cool atmosphere, but where there is protection from sun. Seedlings should never want for water and as these are very slow of growth some time will elapse before they are big enough to handle. Pot each singly into small pots; those made of peat are ideal, using a compost of 2 parts peat, one lime-free soil, and one of sand.

Water carefully, using rain water where possible; avoid mains water that has high lime content. When established in pots, transfer to a north-facing frame until they are large enough to plant out. Give protection against cold during the winter.

When *Gaultheria depressa* likes the environment in which it is growing, it will romp away, the stems rooting as they grow. It is easy to increase this plant by detaching rooted layers and potting them. Cuttings taken of young growth in July root easily if inserted into a mixture of equal parts of peat and sand.

SISKIYOU RARITIES

LAWRENCE P. CROCKER, *Medford, Ore.*

One of the most interesting areas in the United States from the standpoint of those interested in unusual plants, and from a scenic one as well, is the area which includes the counties of Curry, Josephine, and Jackson in Oregon, and Del Norte and Siskiyou in California. While Josephine County may have the largest selection of endemic plants, one can not overlook the many fine plants of Siskiyou County which has an area almost equal to that of the other four.

Siskiyou County, which is 60 by 100 miles, is about the size of the states of Connecticut and Rhode Island combined. To the north and west, the Siskiyou Mountains form one boundary; to the south the Salmon River Mts. and the Trinity Alps form another; through the center the high Cascades, culminating in the 14,000 foot high Mt. Shasta, form a solid chain; the Marble Mts. and Scott Bar Mts. are entirely enclosed within the western part, and the Warner Mts. form the eastern boundary. Two large river systems drain these jumbled peaks, the Sacramento to the south and the Klamath to the north and west.

Here once was the domain of that most famous of all grizzly bears, Reelfoot. Another hairy creature reported on occasion is Bigfoot, almost as well known as the Abominable Snowman of the Himalayas. A few people are certain that there exists in the cavernous depths of Mt. Shasta a one-eyed race of men called the Lumarians.

While I have never had the good fortune to see any of the above mentioned creatures, I have seen plants that to me are equally interesting.

Phlox hirsuta maintains a tenuous grasp on life in one small area. Road construction destroyed a great number of these, but a hundred or so still remain. This Phlox is indeed lovely, forming a six-inch bush crowned by large

pink flowers with deeper center blotches. This plant seeds heavily so propagation is possible if one is present at seed-ripening time.

Calochortus persistens, bearing several pink blossoms above wide leaves surely must be one of the loveliest of Calochorti. Fortunately this rare plant is found in an area seldom frequented by man. Most of the several hundred plants grow on a one fourth mile wide serpentine ridge that is about two miles long. Deer keep this plant from seeding to any great extent and what few seed pods remain contain few seeds. *Calochortus greenii* is another somewhat rare plant that is sometimes found in Josephine County as well. This hairless lavender-flowered Calochortus grows to 18″ in height.

A most un-Phacelia-like plant is *P. dalesiana*, a gem in an otherwise rather drab genus. This outstanding plant bears white flowers resembling somewhat those of Hesperochiron and is found in only a couple of restricted areas. Of course, the inevitable logging road had to eliminate part of the finest stand. While growers in this country have not reported much success with this plant, one Scottish grower is quite enthusiastic about it.

Polemonium chartaceum has been known to grow on only one mountain. So far I have been unable to locate this elusive beauty and only hope it is still in existence. It supposedly grows in a very rugged terrain at a high elevation. On this same mountain grow a few plants of the very lovely *P. elegans*, a sticky bushlet with flowers of blue. This plant is reported to grow on some peaks in Washington State.

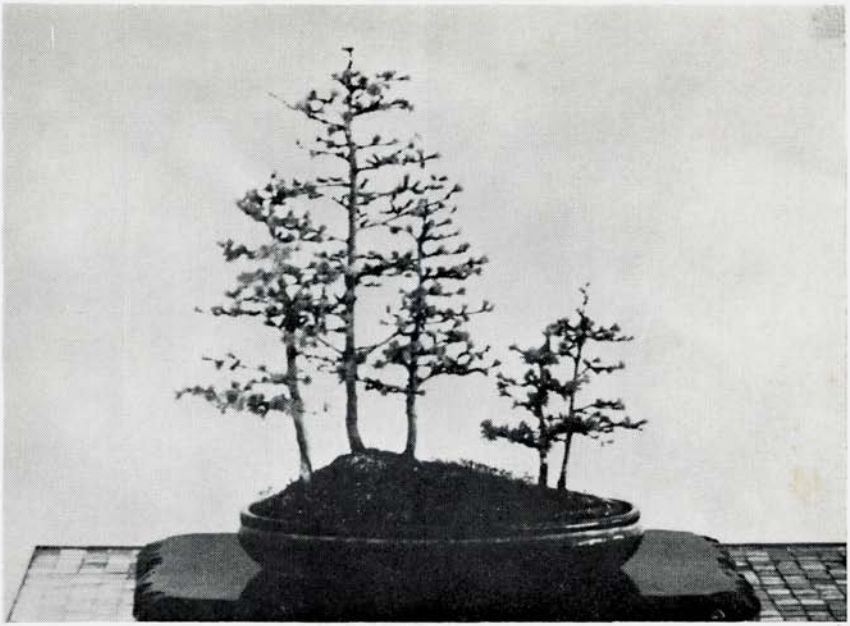
A most gorgeous plant is *Silene hookeri* var. *bolanderi* which occasionally has been found in the southern part of this county. With pure white, deeply laciniated flowers as large as 3″ across, this is truly a plant of distinction. Unlike the regular form of *S. hookeri*, this plant is somewhat of a bush. The elusive *Penstemon berryi* is said to be found in these mountains. Some doubt its existence, or think it only a natural hybrid. A pure white form of *P. newberryi* has been reported.

On one rocky, dry cliff may be found a Campanula, as yet unnamed. This little beauty could well pass for *C. piperi* which grows in the Olympic Mountains. From all outward appearances it seems to differ only in degree of color. *C. scabrella* (*uniflora*) grows in masses on some rocky screes and in a few cleft rock cliffs. This plant is known to grow in northern regions.

A break in the Cascades by way of the Klamath River has permitted a number of high plateau plants to cross over. Among these is *Viola beckwithii*. One field of several hundred acres of this violet is almost breath-taking in its beauty. The white form of *Lewisia rediviva* has crossed over. Other Lewisias found here are *L. leana, L. triphylla, L. cotyledon,* and *L. nevadensis*. The most magnificent stand of *L. cotyledon* that I have ever seen once grew on a cliff overhanging the Klamath River. Some enterprising collector decided to collect every plant, a task only to be undertaken by one with an iron nerve. I am not able to report that he did not break his neck.

The above mentioned instance indicates my reluctance to pinpoint the location of plants mentioned. Years ago, one article printed in this *Bulletin* led to the invasion of a wonderful locality. Lewisias, Lilies, Gentians, etc. no longer grow there in profusion.

The plants listed above are only a few of many hundreds of species found in this interesting county.



Larix leptolepis (Japanese Larch) Seedlings — 8 years old. Dr. David Metheny

THE BONSAI EXHIBIT—The "Art of Bonsai," an exhibit which was organized in particular for the Eleventh International Botanical Congress meeting in Seattle in August, 1969 was held at the request of the University of Washington at the Seattle Art Museum in Volunteer Park.

This exhibit was free to delegates of the Congress and Art Museum members—$.75 admission was charged to the general public. Net proceeds of $1,284.00 were divided equally between the College of Forest Resources and the Seattle Art Museum.

Trees were carefully selected by the Chairman, Kelly Nishitani, from the many Bonsai collections in Seattle.

The containers were uniquely displayed at various heights, giving the viewer full opportunity to compare a rich variety of trees, from many countries, ranging from six-year old seedlings to the noble old collected trees of our mountains. Plant material from the Pacific Northwest (Humid Transsition Zone to the Hudsonian Zone) was particularly stressed for the enjoyment of members of the Congress whose trip to the Northwest was their first, or who would not have the opportunity of taking excursions into the mountains to see them in situ.

Some of the most impressive and inspiring miniature landscapes were the ecological pictures created by the use of the Alpine hemlock, *Tsuga mertensiana,* and Alpine fir, *Abies lasiocarpa,* with their accompanying plants—the mosses, Selaginellas, and Vacciniums. Many of the deciduous trees were dressed in full color. A gem was *Enkianthus perulatus compactus.*

What was surprising to many attending was the variety of plant material suitable for Bonsai culture. Noteworthy was an *Arctostaphylos* species,

Cotoneaster microphylla thymifolia, and the exquisite small features of *Rhododendron kiusianum,* long a celebrated species in Japan from the high mountains of Kyushu.

Not to be forgotten was a "Special Case," displaying the miniature Bonsai which delighted the crowds of people who attended. Connie Raphael, able co-chairman of this popular exhibition, and her enthusiastic and knowledgeable crew spent many hours in careful and accurate labeling of the trees. They also acted as hosts and hostesses, during the three-day exhibit to anwer questions and discuss the culture of the Bonsai.

If you are one of those who missed this "Work of Art," we hope to have another exhibit in the near future—maybe next year. Watch for it!

BITA DUFLON, *Seattle, Wash.*

OMNIUM-GATHERUM

The American Rock Garden Society's 1970 Symposium was held in New York City on Jan. 30-31-Feb. 1. It was a most satisfying affair. To report an event from hearsay, to glean the facts from others through conversation or correspondence, to embellish the report with a liberal use of imagination is one thing. To report the same event as an actual participant is another. This time, I was there. What golden opportunities are lost by not attending these Symposiums.

Co-chairmen for the event were Harold Epstein, who acted throughout as Master of Ceremonies, and Mrs. Herbert Brinckerhoff (Eleanor, or Ellie as she is affectionately known). For all of Saturday and parts of Friday and Sunday there was such a gathering of kindred spirits (a hackneyed phrase, no doubt—rather I might say, 'a blended brotherhood of ARGS members')—pleasant, earnest, most attentive, and above all, friendly and enthusiastic, even exuberant at times, that left nothing to be desired. If a member were asked a cultural question concerning gardening, or a botanical question that he could not answer, he said so quietly and the search for the answer was directed elsewhere. Someone in the gathering would know. No one was embarrassed by not knowing, for, after all, were we not gathered there to learn, and can one learn unless there is first an acknowledged ignorance?

Knowledge of the subjects of interest to those attending was present in great and surprising quantities. It was specialized knowledge and was spread among many. It was for the purpose of sharing the knowledge stored in this great reservoir that the Symposium was organized.

To begin at the beginning. Harold Epstein, on Friday evening, revealed his contribution of pertinent knowledge in an illustrated talk on "What is a Rock Garden?" We learned that the term "Rock Garden" has different meanings for different people. Because Harold was willing to share his knowledge, every member present was enabled to enlarge his own to a satisfying degree. Harold, in his forthright and humorous way pushed ignorance a bit further away.

The first thing on Saturday morning, we learned much about propagating from James Wells, a wholesaler of Rhododendrons from Red Bank, New Jersey. His subject was "Propagation Practices—Past, Present, and Future." I am happy to say that Mr. Wells has consented to arrange his talk in a form which will appear in a future *Bulletin* that those members who were not in attendance

at the Symposium may benefit by his great knowledge of this important subject, and that being thus recorded will thereafter be available for reference.

At 11 a.m., a lively sale of rare books was held. Auctioned off by Harold Epstein, assisted by volunteers, almost all books offered were sold for quite a bit more than the suggested starting price.

To start Saturday afternoon, Frederick W. Case, Jr., of Saginaw, Mich., told us about the "Plants of Mountain and Prairie from Colorado to Alaska." The pictures he showed were evidence of his wide travels within the area covered by his talk. Again, we will benefit in some future *Bulletin*, because it is Mr. Case, this time, who has agreed to honor the editor's request for material.

Later in the afternoon, a discussion panel comprising such knowledgeable members as Frederick Case, Jr., Harold Epstein, H. Lincoln Foster, and James Wells made themselves available to answer questions that had been handed in previously in writing. Members were allowed to answer as they could from the floor and then one or more of the panel members would do their best to answer, and usually their best was very good, indeed. It was interesting to listen to and watch Linc Foster when he answered, for the graceful use of his hands supplemented his tongue and emphasized his words.

Following the cocktail hour and a banquet, somewhat hurried through in anticipation of the treat in store for the evening, Will Ingwersen, V. M. H., prominent English plantsman, told us about "European Alpine Plants in Nature and in the Garden." The members gave him their hushed attention and too soon his lecture came to an end. Geniality and scholarship marked his address which was illustrated with fine slides.

Next morning, Sunday, we heard Elizabeth Hall, currently Senior Librarian at the Horticultural Society of New York, talk about that Dean of Rock Gardeners, Reginald Farrer. Her talk gave evidence of many hours of research and careful reading of the numerous books Farrer has written. Her delivery was delightful. It was so evident that she was bubbling over with her enthusiasm and admiration for this erudite, much-traveled, and somewhat surly rock gardener and writer. Upon the conclusion of her talk, Mr. Ingwersen added a fillip of his own personal experience with the great man. He told of Reginald Farrer's visit to the Ingwersen's home when he, Will, was a lad of eight and how Farrer ejected him from the room because he disliked children.

Mr. Ingwersen concluded his remarks in reference to the speaker's sometimes critical analysis of the character of the great man by turning to Elizabeth Hall and saying, "How Reginald Farrer would have hated you."

Shortly after this the members scattered to check out of the Holiday Inn and go their various ways. The editor, in his exuberance at being in a place where he could meet and talk to so many members, many of them hitherto unknown to him, even through correspondence, could not find time to talk to more than a few. It seemed a lost opportunity. It is hoped that at future Symposiums some means may be found to afford more time for the intermingling of the members so that ideas may be exchanged, friendships cemented, and visits arranged. In all other respects the Symposium was a grand success, well-conceived and well run. Those who can, should make every effort to attend the Symposium now being planned for the winter of 1971. Details of this will appear at a later date.

One last admonition—even while we are congratulating Harold Epstein and Eleanor Brinckerhoff, and the various speakers for the success of this year's Symposium, turn your thoughts to Seattle and the Annual Meeting to be held there on July 24-25-26. It will be another memorable occasion.

REQUESTS BY MEMBERS

Will any member who is able and willing to fulfill a request, please contact directly the person who has made the request.

Mr. Harold Esslemont, 9 Forest Road, Aberdeen, Scotland would like seed of *Eritrichium howardii* and *E. splendens*. He has other rarities which he will exchange for the above.

Mr. A. B. Fisher, 112 Isabella Street, Invercargill, Southland, New Zealand, wants any plants of the genus *Schizocodon*. In exchange he offers seeds or plants native to New Zealand.

Arethusa bulbosa and *Corydalis cashmeriana* are the two plants wanted by Mrs. Herbert Sheppard, Burlington Road, Harwinton, Conn. 06790. She desires plants or information concerning their availability.

Mrs. John E. Gamlam, 2353 No. 140th, Seattle, Wash. 98133 would like to buy plants or seed of the following: *Shortia uniflora grandiflora rosea, Soldanella montana, Saxifraga* x *arco-valleyi, Oxalis enneaphylla 'Rosea,' Oxalis laciniata.*

If you desire plants, seeds, cuttings, or information about them concerning culture, availability, etc., please contact Mrs. Sallie D. Allen, 18540 26th Ave. N.E., Seattle, Wash., for inclusion in the *Bulletin* under "Requests by Members."

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HAROLD EPSTEIN REPORTS that reservations are coming in splendidly for the Western Tour that he is organizing, a tour which will take in Oregon, Washington and British Columbia with the Annual Meeting of the ARGS, July 24-25-26, in Seattle as an exciting interval. He reports that there is room for a few more applicants. If you are interested in joining this tour, please communicate with Harold at 5 Forest Court, Larchmont, N.Y. 10538. Time is getting short.

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WHY CALLUNAS AND NOT ERICAS?—Lawrence Hochheimer, Norwalk, Conn., has observed a puzzling occurrence. Let him tell you in his own words. He writes, "Every eight or ten years the Atlantic seaboard seems to experience a winter with a combination of conditions causing such damage to Callunas that losses of fifty to eighty per cent are general. This is understandable.

"However, subject to the same slings and arrows of outrageous fortune and climate, the Ericas are affected scarcely at all. The two are certainly closely related, and under a glass the root systems appear identical. Can any of the *Bulletin's* learned readers explain this apparent phenomenon?"

A MAGNIFICENT PHLOX—Thus writes John Osborne of Westport, Conn., "I do not think that the notice that appeared in the July (1969) *Bulletin* does justice to the truly magnificent plant of *Phlox stolonifera* that Harold Epstein has found. It may be recalled that I found a white form of this Phlox which I reported in the *Bulletin* a few years ago. Mine was not a true albino and can not be compared to the gem that Harold has. He should be asked to write at greater length about it and the circumstances under which it was found." This shall be done!

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