# BULLETIN

## *of the*

# AMERICAN ROCK GARDEN SOCIETY

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# BULLETIN

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# AMERICAN ROCK GARDEN SOCIETY

**Dorothy Ebel Hansell, Editor**

VOL. 7 May - June No. 3


## PLANT HUNTING IN THE SISKIYOUS


MARCEL LE PINIEC, JACKSONVILLE, OREGON


KURT and I were sitting in the shade, atop the corral fence, just sitting and talking. Kurt is a cowboy and also a hunter. It was this knowledge that kept me there with him, listening and fishing for information while enduring a pain—a sharp pain caused by the split rail fence on which we were sitting and to which Kurt, being a cowboy, seemed indifferent.

For years, Kurt had driven cattle and hunted bear and cougar throughout the Siskiyous. As most cowboys are observant, I thought that he might put me on the trail of a few rare plants which I had so far been unable to locate, *Lewisia cotyledon* and *Epilobium rigidum* in particular. His scant knowledge of wild flowers would hardly enable him to recognize these species from the description I gave him, but I knew well that if he had ever seen the mass effect of these plants in bloom during summer, an indelible imprint would have been left somewhere beneath his broad Stetson.

The pain ceased when, after shifting his quid from check to check, he announced that he could show me where he'd seen bright patches on top of the range while *salting cattle. He'd heard of Fireweed but never of "Louisa" and if she was up there, why he'd go up the next day to visit with her!

We went up the 2nd of August. In the thin forest of gigantic Douglas Fir and thickets of Manzanita dotting the precipitous slopes, *Lilium washingtonianum* was in full bloom. Climbing further, we found both sides of the roadway splashed with the most vivid hues - the blues of Penstemons and Delphiniums, the orange-scarlet of *Gilia aggregata* and Indian Paintbrush, the gold of Oregon Sunshine, the yellows of various Sedums, the red of Columbines and the white of the ubiquitous Yarrow. Near the top of the range, at this point over 7,000 feet, the same colors prevailed. Each color, each species by itself, dotted the stony waste and seldom intermingled; all were alpine species, replacing the taller Penstemons, Delphiniums, Castillejas and Eriophyllums we had seen on the way up.

The road ran along the very crest of the ridge, circumventing jagged teeth, pinnacles and crags. In passing by one fantastic jutting tor, Kurt stopped to point at an effulgence of vivid rosy pink cascading down its clefts. The effect arrested sight and breath before I could move and climb toward the long streaming ribbon of *Epilobium rigidum* and the curious black knots interrupting their descent. Seen closer, these black knots proved to be the dark green clumps of *Polystichum mohrioides* var. *lemmoni* or Lemon's Rock Shield Fern.

*Epilobium rigidum*, which Farrer calls "one of the best of all Epilobiums", grows in bare narrow crevices of serpentine rock, where its long wire-like stolons follow the cleavage, or in stony rubble. And it is there, where it can roam at will, that from July till September under full sun and prolonged drought, *E. rigidum* splashes the alpine landscape with color.

—*Photo by Maxcine Williams*

*Luetkea pectinata*

The growth is upright with numerous grayish leaves. The inflorescense is an open raceme of large flowers, often more than a full inch across, frailer, daintier in appearance than an alpine Poppy. The whole rarely exceeds six inches in height. Gabrielton, who saw its bewitching sweeps in the Siskiyous, claims in his book, WESTERN AMERICAN ALPINES that "this plant because of its beauty and season of bloom bids fair to be one of Oregon's outstanding contributions to the garden".

Growing at high elevations, where winter reigns from late September until May and often much later, *Epilobium rigidum* should be hardy in northeastern rock gardens. It demands only the poorest diet - a sprinkling of sand and leafmold amongst broken stones or in narrow crevices of non-calcareous rock.

We were barely on our way again when Kurt announced that since we had found the Fireweed, he could take me unhesitatingly to the "Middle of Hell". He knew "Louisa" to be there.

"The Middle of Hell" is one of the deep canyons which cleaves the Siskiyous. It is surrounded by perpendicular cliffs and viewed from the rim appears to be an elongated pot hole some 3,000 feet deep, with no apparent outlet. It was on the northern slope of the southern rim that I came upon a most incredible sight. Not just one plant here and there as I had imagined, but literally thousands upon thousands of *Lewisia cotyledon* - and all in full bloom. They grew so thickly in many places that I had to walk on them, when I could not step on rocks. Wherever accessible, all the flower heads had been nipped and eaten down to the rosettes by deer, cattle and wild horses. While I was tremendously elated at having found this Lewisia, my curiosity was satisfied only after I had ascertained how it grew. Never having seen the plant in the wild before, I was surprised to observe that all the rock crevices were crowded with beautiful specimens, thus placing it on equal footing with the finest Saxifrages, Ramondias and other true saxatile species.

I also observed that apart from a few poor, scorched individuals growing on the flat of the crest and exposed to continuous sunshine, the whole colony grew on the steep disintegrated rim, a slope facing north where the sun's rays could only strike obliquely after noon. Another interesting fact, one which may prove of some help to eastern rock gardeners, was the nature of the rock. It resembled in texture and appearance the relatively soft mica schist found on Manhattan,

around Philadelphia and other parts of the country. A pinch of loose soil, composed solely of this disentegrated schist and leafmold, had an oily feeling when pressed between the fingers.

Another highly edifying observation which I made in collecting over a hundred specimens among the loose rubble, was that all, without exception, were found with roots extending laterally and always growing up hill and very close to the surface. This seems to place *Lewisia cotyledon* in a unique class as a gravity feeder. Plants with the largest flower heads and individual flowers were invariably found growing among the everlasting skeleton of dead stunted Manzanita bushes, where the wind-blown accumulation of dead leaves and dappled shade favored their growth through the retention of moisture and abundant food supply.

In order to help settle the problem of hardiness, I should like to mention that this large colony, spread over an estimated ten acres, was located at an altitude of about 7,500 feet on the barren steep northern slope of an exposed canyon rim - in the intermediate area where, in this range, the timber line (*Hudsonian zone*) and the alpine (*Arctic-Alpine zone*) species intermingle freely. Companion plants with the Lewisias and others, at the same altitude but in different soils and exposures, included: *Lupinus lyalli and breweri, Spraguea multiceps, Dicentra uniflora, Luetkea pectinta, Phlox diffusa* and *Erigeron compositus trifidus.* According to observations made by the Forest Service, temperatures of minus 20°F are not infrequent during normal winter seasons. Further, the rim is alternately buried under snows or swept free by the absence, presence or direction of winds.

Concerning the so-called species, *LL. howelli, finchi, heckneri, purdyi, longifolia, latifolia, angustifolia* and all other folia, I warn gardener, botanist and authority alike against hair splitting - at least not before they all take one long look at "Louisa's" lusty progeny of doubtful origin on the brim of "The Middle of Hell". That so few were christened is the only wonder. Or were Howell, Finch, Heckner and the others afraid to give recognition to those who had gone over the edge?

* *The practice of supplying and distributing salt to ranging cattle in mountains or summer pastures.*

## ABIES LASIOCARPA

FRANCES KINNE ROBERSON, SEATTLE, WASHINGTON

A tree which is so closely associated with alpines that it bears the name of Alpine Fir or, more correctly, Subalpine Fir merits some attention along with our consideration of rock plants. Only the high mountains are devoid of any trees and the Subalpine Fir, *Abies lasiocarpa*, occurs at elevations well over 7,000 feet in the Olympic and the Cascade Mountains as well as in other ranges in northwestern United States.

The contrast between the Subalpine Fir and other trees, such as Douglas Fir, for example, is most strongly apparent in the outline of the branches. Those of the Douglas Fir may droop from the accumulated pressure of years of snow, but characteristically, they grow more nearly at right angles to the trunk before bending with their own weight at the outer extremity. The lower branches of the Subalpine Fir, on the other hand, press closely against the trunk before curving upward at the tips. It is the downswept habit of the Subalpine Fir, in contrast to the merely drooping habit of the Douglas Fir, which brings the branches so close to the ground and then spreads them in the skirted effect which makes a solitary tree appear to grow from an island of green.

This illusion is enhanced by the plants which flourish at the outer edge of the branches, since the tree gives these plants a certain amount of protection from grazing animals and, perhaps, conserves some moisture for their use after the summer sun has began to parch surrounding soil. The green of the Subalpine Fir is often continued, in a more yellowish shade, by *Luetkea pectinata* or Partridge Foot which tops its low feathery mats of foliage with spikes of creamy flowers in mid-season. These flowers are responsible for another of its common names, Alaska Spirea.

The accompanying picture of a Subalpine Fir, with its close hugging branches, was taken near the end of the road which traverses the backbone of Hurricane Ridge in the Olympic Mountains. As we watched, several grouse in great agitation at the disturbance we caused, shuffled out from one clump of these trees. They reminded us of all the birds and larger animals which find protection from single trees and in thickets formed when several grow so close together that their branches furnish a sort of thatched roof over the enclosure made by the trunks. The latter are bare of needles and eventually sparse of branches on the inside where the trees overlap. Even deer can find shelter in the open space so formed. A brood hen could keep her feathers no closer to the nest than the Subalpine Fir keeps its branches to the ground.

The tree in the picture is small in comparison with the 60 to 90 foot trees frequently seen on mountain slopes, but it is large by comparison with the weather-beaten, wind buffeted, stunted specimens found on exposed craggy points at timber line. Normally, the characteristic spire-like crown makes the Subalpine Fir easily recognizable from a great distance.

*Abies lasiocarpa*

Growing near this tree on the rocky slopes in the full sun were such plants as *Potentilla fruticosa nana, Douglasia laevigata, Phlox diffusa, Erigeron compositus trifidus, Polemonium pulcherrimum and Eriogonum ovalifolium.* Abrupt declivities facing north were studded with gems such as *Epilobium fastigiatum* and *Spiraea hendersoni.*

But lets return to the Subalpine Fir. The thin, smooth bark is the grey of that

ashy shade so often sought when interior wood finishing is in process. All the needles around a twig, whether emanating from the top, side or underneath, point upward and are crowded together. A slight tinge of silver overlays the dark green color of the foliage.

Not the least of the attractions of the Silver Fir is the cone which shimmers with irridescent purple and lavender in its early maturity. It is two to four inches in length by about one and a half inches in diameter, and is borne upright so that it is sometimes known as a "candle", a simile which is particularly apt because of the waxiness of the cone.

Small seedlings of *Abies lasiocarpa* transplant readily and grow slowly to handsome points of interest in the sunny rock garden.

## A PERSONAL STORY CONCERNING RANUNCULUS ANDERSONII

CLARA W. REGAN, BUTTE, MONTANA

HOW things do happen! For several weeks now, Dr. C. R. Worth and I have been conducting a long-range discussion on the subject of *Ranunculus andersonii*, that obscure and little known plant of the interior basin which lies between the Rocky Mountains and the coastal ranges. Then, the March-April issue of The Bulletin arrived, containing photograph and words concerning *R. andersonii* by Dr. Wherry.

It all started thirteen years ago, when several enthusiastic collectors brought living specimens from Idaho of what was referred to vaguely as a "Buttercup". Several of the plants were given to me, were planted, lived, and after two years one bloomed. My surprise and delight were beyond words when it proved to be a very beautiful white Buttercup - white, yes, but pink in effect. The petals were thick and waxy, but on the underside had deep rose-colored veins which showed through the translucency of the petal-texture and the flower, to the casual eye, was a "pink Buttercup". The leaves were fleshy and grey-green and had very few lobes. The plants never prospered nor bloomed again. Hoping to improve the situation, I moved them to a sunnier location, where the soil was loose and full of gravel. All died very soon.

Several years later, while visiting Mrs. A. C. U. Berry, of Portland, Oregon, one of the original collectors, our talk turned to the intriguing *Ranunculus*. Relying solely on memory, we identified it from a flora dealing with plants of the west, as *Ranunculus* (*Beckwithia*) *andersonii*. There, the matter rested.

However, the memory of that interesting Buttercup never left me and the hope of replacing this treasure some day was an expectation which I thought not too unlikely to happen, as it came from a sister state and grew, so my friends said, from the rolling foothill country to sub-alpine heights. Evidently, an adaptable plant.

Longing so ardently for its replacement as I did, I approached my friends, Mr. Dwight Ripley and Mr. Rupert Barneby, on the subject of the dear departed and asked them to look out for it on their trips to the south and west. The result of this appeal was most gratifying, for they kindly sent me plants last summer. (I am also indebted to them for another plant mentioned in Dr. Wherry's article, the delectable *Phlox tumulosa*. As I received the plants, they were pale green half domes, about half an inch across, of unbelievably fine little tufts not more than one-eighth inch high.)

Remembering my former experience with the *Ranunculus*, I gave a great deal of thought to planting it. As the plants were dormant, only a clustered mop of roots attached to a dead-looking crown, they evidently wanted to dry out in summer, a condition desired by most of the early-blooming semi-desert species. (The first lot of plants from Idaho were still green; being later blooming, no doubt, they had not time to become dormant and so threw me off their culture.) Then I recalled the disastrous soil mixture of humus and gravel, and the hot location on the level. I had made a scree bed in spring, especially for the culture of rare and difficult plants of the west. It is very ugly but useful and practical, being made with 2 x 4s on the sides and ends and sloping up towards the center, so giving me a northern and southern slope, though both are in sun, but with differing degrees of intensity.

I planted my recovered prizes on the northern slope in a mixture of clay, humus and stone chips. There I buried them and there I hope for a glorious resurrection, a hope strengthened by a judicious snooping beneath the soil's surface last October, which showed plainly the little furled-up grey-green leaves awaiting only the warm sun of spring. With them I hope to see some of the lovely pink blossoms and I shall no longer envy the Europeans their *Ranunculus glacialis*. The latter plant brings forth much praise from writers and its flowers are said to sheet large areas of the Alps, white at first, then pink after fertilization.

Much of the dearth of knowledge Dr. Worth and I complained of, in our letters, concerning this little plant, which would make such an unusual and charming addition to the rock garden, is due to its early blooming habits. None of the collectors I knew, including Dr. Worth himself, had ever seen it in flower; and I think my tale of its being pink was received with the proberbial "grain of salt '. So I am very grateful, indeed, to Dr. Wherry that he arrived at Ely, Nevada, early enough to see *Ranunculus andersonii* in bloom; and that his description of the white Buttercup with the "rosy glow" relieves me of moral obloquy as a sort of Baroness Munchausen, in a horticultural way.

## TOO DRY FOR XEROPHYTES !

DR. C. R. WORTH, GROTON, NEW YORK

FROM England has come the message, "I find many of your xerophytic spp. unusually intolerant of drought as seedlings, although "drought" here is presumably a mild business to a Californian or Texan."

Those words express mildly my bewilderment at the behavior of western plants here during the past two seasons. 1947 was locally one of almost incessant rain, yet Rocky Mountain plants, and even those from the Black Hills (which, Claude Barr tells me, make the Rockies a lush oasis by comparison) throve incredibly with no evidence of a single loss from excessive moisture. On the other hand, 1948 has been one of the hottest and driest seasons I can recall, though in no way even approximating the dry heat of the southern deserts. Almost from the start, western plants began dying off and investigation showed that it was due to dry soil - yet, again, not nearly as dry as that of their native homes.

After these experiences, I am forced to the astonishing conclusion that the way to grow dry land plants in eastern gardens is to give them excessively sharp drainage (see my article on Sand Bed and Semi-Scree in the January-February 1948 issue of the Bulletin) and then to dump on all the water that clouds and hose permit. Perhaps *Lewisia tweedyi* would prefer drier treatment, and a few other species will endure it but most, very obviously, love water - provided it does not stand around their crowns and upper roots.

—*Photo by Maxcine Williams*

*Dodecatheon macrocarpum*

The members of the genus *Dodecatheon* differ by such obscure and inconstant characters that their identification and naming are difficult even for the specialist. The beautiful species here illustrated, which has been variously called *D. meadia*, *D. pauciflorum*, *D. superbum*, etc., is regarded by Dr. Eric Hulten, the Swedish authority on the Alaskan flora, to be correctly classed as *Dodecatheon macrocarpum*. E. T. W.

# IRIS VERNA AT GLADWYNE

MARY G. HENRY, GLADWYNE, PENNSYLVANIA

IRIS *verna* in its finer forms provides perfection of symmetry, beauty of color and charm of exquisite fragrance. In addition to all these splendid qualities, it has deep green, evergreen foliage.

Maybe this little six-inch Iris is beauty in miniature. For rock gardeners and the many who appreciate faultless loveliness, smallness in size is no disadvantage. Even if the single flower is little, it is an ample and generous grower that spreads into fine mats, but not too quickly, covered by a sheet of color and scarcely a leaf is visible!

*Iris verna* is definitely easy to grow and completely hardy to below zero F., without any protection whatsoever. It does have certain requirements as indeed such a beauty has a right to have!

Here at Gladwyne it thrives to perfection in a soil that is composed of sand, dark native peat, just enough loam to make the mixture stick together and plenty of crushed granitic rock or other neutral stone, all mixed together for a depth of at least a foot. It does require perfect drainage which can often be provided by growing it on a gentle slope, if no rock garden is available. With me it is growing happily in sun and also in part shade.

It was in 1939 that I began to hunt for color forms of *Iris verna*. My first one was a beauty of a very high order. It ended in tragedy, owing to the Japanese beetle. It was carefully sheltered from insects above ground, as I had placed a cone made from galvanized fly screen over it. Alas! a loathsome beetle grub bored upward and devoured it. Beetles were bad both above and below ground for a few worrisome years. Thank goodness, they have not given me much anxiety these late years.

That dreadful episode had one definite effect upon me. It made me want to find something as good as or better than the plant I had lost. So spring after spring for some years after this event found me making an "*Iris verna trip*". Maybe, after all, that little Iris did not lose its life in vain because color form after color form has come to light on lonely mountain and hillside, and the joy I had in finding them has been very great.

Being eager always to share my plant treasures, I have placed six of these little Iris in the hands of one of our foremost commercial raisers of fine Iris.

My first introduction was *Iris verna*, Vernal Snow. This was registered by the American Iris Society in 1941. The following varieties are all registered by that society and the dates of registration follow their names.

Vernal Snow has pure white flowers and wonderful contrasting crests of fiery orange, an utterly delightful little Iris of sprightly and very appealing beauty. The bright crests light up the whole flower and give the white a lovely creamy tinge. It has dark, glossy green foliage. This one came from the Appalachian Mountains.

Vernal Dawn (1941), another adorable form of *Iris verna*, has flowers of palest pinky lavender. The intense orange crest on the falls make the little flower glow like an opal. It has attractively grey-green foliage that is quite distinct and exceedingly attractive.

Vernal Fairy (1945) is also an enchanting little Iris. The white standards are heavily clouded over with lavender. The pure white falls are decorated with brilliant orange crests. It is indeed a most beautiful, unusual and distinctive reverse bi-colored form of *I. verna*. This one, too, has pale grey-green foliage.

Vernal Evening (1945) is another precious and altogether flawless little gem. The deep lavender flowers have a blotch of dark blackish purple velvet beneath the conspicuous orange crest, a wonderful combination of rich coloring. The foliage is deep green well stained with purple coloring at the base of the fan of leaves. This one came from the mountains of Georgia.

Vernal Simplicity (1945) is what the name implies, a simple little lavender Iris without even a touch of orange in its crest, a delightful small Quakeress and a great contrast to her gorgeous little sisters. Vernal Simplicity was located in Alabama.

Vernal Night (1947) is undoubtedly a remarkable and extraordinarily beautiful little plant. It is by far the darkest and richest in color of this group. According to Ridgway, the standards are "Bradley's violet" and the little flaring falls are "dark violet". The general effect of the color is royal purple and the striking orange crests are very rich and brilliant. This Iris from Georgia gives handsome and unusual color for the rock garden; the foliage is dark and shaded with red. Each season as they bloom anew in my garden, these superlatively lovely little Iris surprise me by their altogether charming and almost startling beauty.

## TRAILING - ARBUTUS

IDA A. THOMAS, PATERSON, NEW JERSEY

ANY gardener who has ever seen or smelled Trailing-Arbutus, *Epigaea repens*, in early spring has wished to possess it in his own garden. Not knowing, however, that it is primarily a matter of selecting the right location and providing the right kind of soil, he has failed to have it grow when he brought in plants from the wild or purchased them from a nursery. Few of our "vanishing Americans" have been wasted to the extent Arbutus has in digging it from the wild, only to have it slowly die in the garden although for some weeks it may even look alive.

Having known the charm of Trailing-Arbutus from early childhood, I determined to establish it when I came to live, some years ago, where I could enjoy a garden. Several times, I obtained small plants or large sods from extensive plantings on properties of friends in New Jersey, Pennsylvania and Maine, as well as from various nurseries in the south and north. The plants eventually died, until I learned how to prepare the soil properly.

Now I have one large patch, about three by four feet, which is eight years old, and several smaller patches. They are between the north side of a garage and a much used path, with good light and early morning and late afternoon sun. The slightly sloping soil, giving proper drainage, was acid to begin with, but it was not of the right composition. In a space three by ten feet, I added sand that was free from lime and a quantity of peatmoss and three or four bags of shredded oak leafmold from a section (of New Jersey) where Laurel and Arbutus thrive. The last is a most important factor.

A healthy specimen of Trailing-Arbutus has a large mass of very fine fibrous roots which are well supplied with a mycorrhizal fungus. According to the NEW GARDEN ENCYCLOPEDIA, this is an association of fungus with a higher plant in which it acts not as a parasite but as a partner to their mutual benefit. This mycelium, or underground vegetative part of the fungus, envelope the roots of the other plant and functions like hair roots, absorbing from the soil and giving to the plant substances necessary for the latter's nutrition. Other plants of the Heath family and many wild flowers are dependent upon this association.

I prepared the soil close to a small "existing" plant of Arbutus, brought from Maine and planted in this space a couple of years before, without disturbing it

and worked some of the soil in all around it. This plant soon began to show its appreciation of this treatment and has spread over a large area, blooming each spring. Unfortunately, it is almost white, not pink.

By bringing in soil from a section where Arbutus grows, you are likely to get the necessary mycelium to start the plants in a new section. Then, the plants will take care of themselves as they increase in size. The first year it is necessary to supply water at all times, but Arbutus does not like a soil that becomes and remains too wet. If you live in an area where there are chemicals in the city water, it is advisable to collect rain water for Arbutus. Otherwise, add a pinch of aluminum sulphate to each pailful of city water to neutralize it.

In the interest of conservation, you should not gather plants from the wild. On the other hand, if a tract is being cut over, taking all shade away which may result in the death of the groundcover plants, or if a tract is being converted to building plots, it is true conservation to collect what you can and plant it in a properly prepared plot. If there are many plants to choose from, the best are the smaller ones. Be careful to dig deep and a foot from the plant all around it, in order not to disturb the mycorrhiza on the roots.

A year and a half ago, I was given some Arbutus seed in late June. I found this to be the easiest, though not the quickest, way to get Arbutus. In the bottom of an eight-inch pan, I placed a layer of drainage and an inch of peatmoss well packed down. On that I placed a mixture of one part each of sharp sand and peatmoss and two parts of the crushed oak leafmold mentioned previously. I watered this thoroughly after tamping it well, having inserted a two-inch pot with a cork in the bottom in the middle of the mixture - the top just below the top of the large pot. This small pot I kept filled with water all the time. Over this soil mixture I scattered the fine seed very sparsely and gave it a gentle spray of water to settle it; then covered the large pot with a sheet of glass and newspaper and placed it against the north side of the garage - in a box of peatmoss to further prevent drying out.

Within a month, green fuzz appeared all over the surface; after a few weeks more, I could distinguish real Arbutus foliage. The tiny plants were not permitted to dry out, although the glass cover was raised a little to give air; with the peatmoss around the pot and the water in the center, this was not too difficult. In October, before really cold weather, I took the seed pot into the greenhouse, in early December, I transplanted some of the little plants, from one quarter to one half inch across, into small pots, using the same soil mixture. Although the plants were tiny, the roots were from one to two inches long - and it is very important not to break these roots.

The plants were kept very cool all winter. In early spring, I put the pots into a box with peatmoss well packed about each, and set the box on the north side of a row of shrubs. A tub of rain water was close at hand, so that I could water the plants whenever they needed it. This was practically every day, for they must not be allowed to dry out. (I had netting over the tub to prevent mosquitoes from breeding.)

Last fall some of the plants were an inch across. Of course, others failed to grow, because the roots were broken in being transplanted. All the pots were buried to their tops in a frame filled with sand and covered with a layer of pine needles and sash, which had been raised a bit all winter. Now early in February 1949, they look fine and will be ready to plant in the garden in spring. A few little plants set out along the garage also look just as healthy.

If you have choice plants of a good pink color, they can be increased from cuttings, preferably soon after the plants have bloomed or in early fall. Take tips three to five inches long; and if they have started to root into the ground, so much

the better. Dig the roots carefully in order to disturb them as little as possible and keep the soil on.

A mixture of one part each of clean sharp sand and rubbed peatmoss gives good rooting material, but I also like to use one part of vermiculite, thoroughly soaking the mixture before inserting the cuttings. Here again, I put the small pot of water in the middle of the propagating pot. Only the tip of the cutting is left above the surface, which is kept moist and shaded, and nice roots are in evidence in two to three months.

If you take cuttings in early summer, keep them in the frame in shade until you pot them in early fall in the same soil mixture. If taken in the fall, they are best left undisturbed until the next spring when new growth has started. Be sure to protect them over winter in the frame with oak leaves or pine needles.

## A PAIR OF NATIVE ORPHANS

EDGAR L. TOTTEN, HO-HO-KUS, NEW JERSEY

FOR a shady spot in the rock garden, may I introduce to you two seldom used natives - *Spigelia marilandica and Chamaelirium luteum?* When properly placed, they will hold their own alongside many of the better-known foreign aristocrats.

I have had *Spigelia marilandica* (Logania family) for more than a dozen years. It grows about ten inches high and is found in rich shady woods Ohio south to Texas and Florida. The flower is a very slender tube, red outside, yellow within, about the same colors as are found in *Aquilegia canadensis.* In its native habitat, the flowering season is said to be in May or June. One of its peculiarities with me is that it may come into flower any time from the middle of July until as late as October. It is a poor seed producer and the few seeds I have been able to collect have been planted at the base of the mother plant and only two offspring have appeared. Subdivision has not been attempted, although I believe that it could be successfully accomplished.

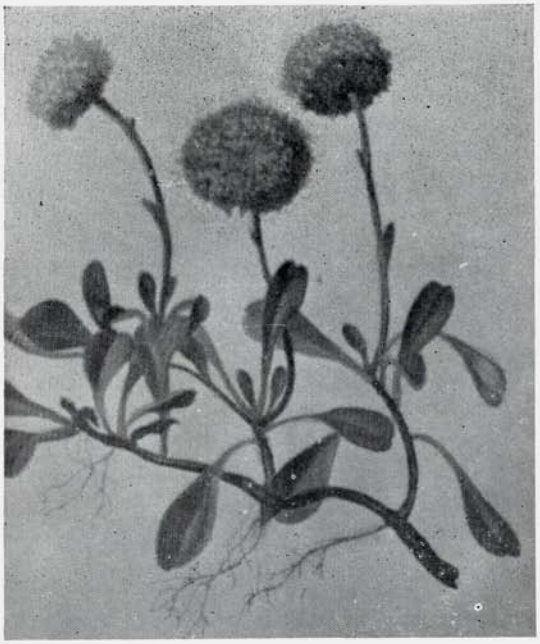
The new growth is very late in pushing through the soil, so the location of *Spigelia marilandica* should be carefully marked. It seems perfectly happy in a small shelf in a shady part of the rock garden in association with such acid lovers as *Gaultheria* and *Polygala...* Its common names are Pink Root and Indian Pink.

Gray describes *Chamaelirium luteum* as a "dweller of low ground. Commoner west and south". It is occasionally found in New Jersey and southern New York and is said to grow from one to three feet high. It can be easily kept to its minimum height by withholding moisture, to which it seems to have no objection. The basal leaves are flat lanceolate, some shorter ones appearing up the stem. Its fragrant, feathery, ivory flowers are produced on a three to nine-inch, wand-like spike in late spring. While the flowers are usually described as white, I think ivory is more fitting.

Transplanting *Chamaelirium luteum* from the wild is not at all difficult, but increase from seed may be slow as it is a dioecious plant. To appear at its best in the garden, a background of taller ferns should be provided. Soil is the same as that in which our native *Sanguinaria canadensis* will thrive.

In a recent issue of the Bulletin, Mr. F. Cleveland Morgan mentioned a *Chamaelirium* among the vast collection of plants in his garden near Montreal. If he refers to *C. luteum*, it would indicate that it is hardy much further north than its usual range.

Among the common names by which this native is known are Devil's Bit, Blazing Star and Lamb's Tail.



# THE GENUS GLOBULARIA

Robert M. Senior
Cincinnati, Ohio

*From Flahault's Nouvelle F. L. Colorire des Alpes and Pyrenees"*

*Globularia Cordifolia*

THE genus Globularia is a small one that includes not over twenty species; of these, probably not more than nine are in cultivation. All of them are suitable for the rock garden, since none is much over a foot high. They have one characteristic in common, in that they have numerous small irregularly shaped flowers, massed in a somewhat globular cluster head, terminating the ends of the flowering branches. Many of the nurseries specializing in rock plants offer seeds or plants. Below is included every species which is worth raising in the rock garden.

Despite the small size of the genus, it is surprising that the nomenclature is so confused. In several instances, when the writer has purchased plants or has raised them from seed, the names supplied by nurserymen have been incorrect. If the reader has any Globularias in his garden and is in doubt regarding their specific name, the following descriptions may be of some help.

*G. nana*, native to the Pyrenees and central Spain, is the smallest of all, with tiny oval spathulate leaves that are dark green, somewhat leathery and entire; they form little rosettes along the woody stems. In time, *nana* will make a good-sized mat and from the rosettes send up very short flowering stems, each bearing one flower head having a greyish violet tinge. The plant which I possess was sent to me under the name of *G. bellidifolia*, a synonym for *G. nana*.

*G. cordifolia*, apparently found in several sections of the Alps, is almost as low growing as *nana* and also tends to form good-sized leafy mats. In fact, *nana* has so many characteristics of *cordifolia* that the former might almost be considered a diminutive variety. However, one way in which I can always distinguish my *cordifolia*, even when not in bloom, is by the notch at the apex of most of the narrow spathulate leaves. The flower stalk is about three inches high, and the flowers have a light bluish violet tinge. Here, again, I once purchased plants which proved to be a different species.

Bailey, in his CYCLOPEDIA of HORTICULTURE, mentions *G. trichosantha* as "particularly showy in the rock garden". I do not know whether plants of this species

can be purchased in this country, but seeds can be procured from an English nurseryman. This is an herbaceous species, with obovate-spathulate, obtuse leaves, either entire or three-toothed. The striate flowering stem is about six inches high and more or less leafy; the stem leaves are smaller than the basal ones. Its home is Asia Minor and Syria.

I have never raised G. *spinosa* but judging from pictures, it must be fairly attractive. The three to seven-toothed spiny basal leaves are dark green and, like those of so many plants of this genus, somewhat leathery in texture. The purplsih flowering stems are about one foot high, and the flower heads rather large.

*From Lindman's "Bilder Nordens Flora"*

*Globularia*
*Vulgaris*

G. *orientalis* I have never seen and I gather that it is not in cultivation in this country. However, I hope to secure seeds from abroad and if I do, should be glad to furnish some for our Seed Exchange. This species is a native of Asia Minor and was first described by Linnaeus. Apparently, it is an erect branching plant, not over six inches high, with angular stems that are slightly leafy. The leaves are coriaceous, somewhat glaucous, entire, with margins that are a bit wavy.

G. *nudicaulis* is an herbaceous plant that is rather widespread in the Alps and Pyrences. It has longer basal leaves than any of the above-mentioned species; these are entire, obtuse at the apex, and narrow into a long petiole. As the name indicates, the flowering stems which are sometimes a foot high, bear no leaves or at most a few scales. The corolla is bluish lilac. There is also a white variety. Bailey, in his CYCLOPEDIA, lists *nudicaulis* as a synonym for G. *vulgaris*, but this is probably incorrect.

The INDEX KEWENSIS considers *willkommi* a synonym for G. *vulgaris;* but a modern authority, Hegi, in his FLORA VON MITTEL EUROPA, gives *willkommi* specific rank. I have examined pictures of both plants and in both, the fairly long basal leaves are obovate, narrowing into a petiole.

*Flahault's Nouvell F. L. Colorire des Alps and Pyrences"*

*Globularia nana*

The flowering stems, up to one foot, have rather small, oblong-lanceolate, sessile leaves. The chief difference which I observed, is that Hegi's plant has basal leaves which are slightly notched at the apex whereas Lindman, in his BILDER NORGENS FLORA, describes *vulgaris* as having small basal leaves that are tridentate at the apex. Since *vulgaris* was first described by Linnaeus, one might draw the conclusion that *willkommi* is either a synonym, subspecies or a variety of *vulgaris*.

None of the plants which I have grown seems to be particularly difficult. Possibly they do best in a well-drained soil with partial shade and a fair degree of moisture in summer. In sections where the summers are not as hot as they are in the greater part of the Central States, Globularias would probably thrive in full sun. Moreover, in a climate where there is much sleet, rain and moisture in winter, a pane of glass over them should enable them to survive.

## INFORMATION, PLEASE, ON ROCK GARDENING FOR BEGINNERS

ALEXANDER I. HEIMLICH, WOBURN, MASSACHUSETTS

*The following is taken from a talk given by Mr. Heimlich at the annual luncheon of the American Rock Garden Society, held in New York City on March 24. Mr. Heimlich's viewpoint is refreshing and provocative. There are members who will agree with Mr. Heimlich that we should do more to encourage and assist the novice, and other members who will contend that we should devote our efforts in furthering the interests of the experienced rock gardener. What is your opinion? Editor.*

ALPINE plants and rocks were not associated with each other until the middle of the nineteenth century. Even then, and this is less than one hundred years ago, the gardens were not the finished products that we occasionally are privileged to see today. They were more or less a geological collection of rocks, such as the rock garden in Chelsea, England, where Sir Joseph Banks added forty tons of stone from the Tower of London to the quantity of lava he had brought back from Iceland. To this were also added flint, chalk, brain corral, bricks and conch shells. Sections of brick piers and broken masonry were also in evidence.

Last year I was asked to visit a rock garden and although it could not boast of such a distinctive and historical collection of rocks, it was on the order of Sir Joseph Banks'. There were rocks from many states and the owner was very proud of his accomplishment. But no self-respecting rock plant intends to stay alive in such an environment very long.

At the turn of the century, reason entered into the building of rock gardens, but the progress from that time to the present day has been very slow. However, the making of good gardens has continued constantly and some have reached a high degree of perfection, both in America and England and on the continent.

Famous authorities have endorsed alpines and rock plants and the gardens in which they grow lavishly and abundantly, as L. H. Bailey, for instance. In referring to alpines and alpine gardens, Bailey writes, "These plants, some of which are perhaps the most beautiful plants in cultivation . . ." And again, he states "A successfully grown collection of these plants in contrast with ordinary garden flowers would be like a collection of cut gems as compared with one of rough minerals and rocks, for they have an exquisiteness of finish and depth of coloring that gives them as unique a place in the vegetable kingdom as they have in the plan of nature. Surely there are men and women who, if they knew these plants well, would be fired with an ambition to excel in their cultivation."

If some one does become interested, what happens? He goes to a horticultural library or to a nurseryman. The latter will, if he can, discourage the building of a rock garden for several reasons - few know how to build one, the profit is not in rock plants, it consumes too much time in planning. The librarian will furnish books which are so far over the head of the run of suburban home owner that any ambition he might have had is quickly extinguished. Scientific papers on the culture of alpines and rock plants are so high brow that they contain no help for the beginner.

A well-known surgeon asked me for a little reading matter on rock gardens. I gave him leaflets on Saxifrages and other plants. Weeks later, at a Rotary meeting, I asked if he had read the papers. He started to, he said, but became mentally weary wading through a large collection of botanical terms. (You'll all agree that we take no back seat when it comes to long cumbersome names.) What he wanted was simple beginner's information with suggestions on what and how to plant.

The nurseryman does not make this mistake. The beginner is given a small list of shrubs and evergreens which are inexpensive and will grow under almost any condition. He has taken *Spirea vanhouttei* and made it a household word in America. He knows that from the larger number of buyers will come real garden enthusiasts. He knows that if he recommends a rare plant which requires a certain soil and exposure and then the plant dies, the beginner may be lost to horticulture altogether. How many members of our society would recommend simple plants like *Arabis alpina* or *Phlox subulata?* Therein lies our trouble.

When the rock garden craze swept America, I counted on one street alone twenty-three of the most awful piles of rocks that were allowed to disgrace this noble art. I knew then what proved correct later - that this would retard rock gardening for many years. Of the twenty-three on that street only two remain, and they are nothing to brag about. Louise Beebe Wilder wrote, "We have been too busy learning to garden finely along other lines."

Pick up any book written in the twenties and study the illustrations. You will agree with me that the experts gave the wrong advice. We sadly needed then, as we do now, a strong, well publicized authority such as the American Rock Garden Society. Such an authority might have issued a simple pamphlet, stating how to build and how to plant, and given a list of twenty or more plants which are fool-proof for beginners; then continued to give advice with advanced pamphlets.

If the Society had done this, we would number five thousand instead of over five hundred members. Because all societies failed, the public, sick of the horrors they had created due to faulty advice, did the only thing they could do - obliterated them and rock gardening like Rip Van Winkle went to sleep.

I have suggested that at least a part of each regional meeting should be devoted to beginners, to be of real service and to show a willingness to help them. One of our members from Marblehead, Mass., stated that she had brought friends to meetings, but they had lost interest and preferred to admire her garden. If the suggested plan were adopted, she was confident she would bring in a dozen new members before the year was over.

Rock garden plants have an irresistible fascination for the wealthy and poor alike. Why do we not, as an organization, do something about it?

## ONE GOOD TURN DESERVES ANOTHER !

Remember to patronize the horticultural concerns who advertise in the columns of the Bulletin.

Mention the Bulletin when you send them your orders—they'll appreciate it.

# NEWS AND EVENTS

As the material for the May-June issue was placed in the printers' hands just four weeks before the annual meeting took place at the garden of Mr. and Mrs. Leonard J. Buck in Far Hills, N. J., members will realize the impossibility of including the reports presented at the meeting in this issue of the Bulletin. They will appear in the July-August issue.

## OUR SEED EXCHANGE

Although the seasonal distribution of seeds is not as yet complete, it is apparent that the total number of packets will attain a record far in excess of previous years. It is evidence of the broadening interest in the propagation from seed of many old reliable plants as well as rare and unusual ones. An analysis of the seeds requested during the past three years indicates a majority interest in the unusual plants, many of which rarely, if ever, appear on commercial seed lists.

It is, therefore, conclusive that the American Rock Garden Society's Seed Exchange is one of its major projects and as such should be given the very fullest cooperation. Moreover, in order to conduct it efficiently, a review of its basic requirements is necessary.

First - to fulfill the objective of one complete seed list each January, all donations of seeds should be in the hands of the Director of the Seed Exchange not later than January 10th. This arrangement will be more desirable than the procedure followed heretofore, when the seed list was published in as many as four parts over a period of four to six months - only because of the late arrival of seeds. In the future, please forward seeds as soon as available, but not later than to reach the Director by January 10th. If circumstances should cause delay beyond this date, kindly advise the Seed Exchange Director by January 10th of the availability of seeds at a later period, so that they may be tentatively included in the January-printed list. In the case of seeds whose viability is brief and which should be sown as soon as ripe, it is especially important to send them in promptly.

Second - please minimize the work of the Director, by marking clearly the name of seed with any special hints regarding culture or growth. Also endeavor to clean seed of any chaff, pods, etc.

Third - in the past, seeds in greatest demand have been insufficient to satisfy all requests. While efforts have been expended to distribute such seeds as widely as possible, preference will be given to members who contribute seeds to the Exchange.

Fourth - please complete the cycle of cooperation with the Seed Exchange by informing other members of your success and failures through the pages of the Bulletin.

With the blooming period now progressing, this is the time to give thought to those plants in your garden or native to your vicinity which may be of interest to members of the Society.

The officers, on behalf of all the members of the Society, take this opportunity to extend to our retiring Seed Exchange Director, Mrs. L. D. Granger, sincere appreciation for her efforts and untiring zeal in so skillfully completing her several years of arduous seed distribution.

As her successor, we are pleased to announce Mr. H. Lincoln Foster, of Coolwater, Norfolk, Connecticut, who will, we are confident, conduct the Seed Exchange in a very capable manner. Hereafter, all donations of and requests for seeds are to be directed to Mr. Foster, accompanied by stamped, self-addressed envelope. Harold Epstein, President.

## SEED EXCHANGE LIST

The following seeds have been received since the previous list which appeared in the March-April issue of the Bulletin.

From Mr. E. J. Fish, Strongeville, Ohio

*Alyssum saxatile*
*A. serpyllifolium*
*Anemone patens (A. nuttalliana)*
*A. pulsatilla*
*Colchicum bornmuelleri*
*Dianthus arenarius*
*Dianthus deltoides*
*Dicentra eximia*
*Glaucium (flavum tricolor)*
*Oenothera missouriensis*
*Viola (blue)*
*Viola (yellow)*

From Mrs. Daniel B. Gee, Portland, Oregon

*Cyclamen neapolitanum (pink)*

From Mrs. H. D. Thomas, Paterson, N. J.

*Lilium speciosum*
*Lilium superbum*

From Mr. J. M. Stirnkorb, Cincinnati, Ohio

*Thalictrum dipterocarpum*

From Mrs. Justus Hall, Watson, Missouri

*Anemonella thalictrioides*
*Eryngium leavenworthii*

From Mrs. Jacob Zahler, Clackamas, Oregon

*Anemone coronaria*
*Armeria caespitosa alba*
*Dianthus plumarius*

From Mrs. Rose Vasumpaur, Western Springs, Illinois

*Wahlenbergia (gentianoides)*

From Mrs. A. Jaeger, Milwaukee, Wisc.

*Inula ensifolia*

From Miss Margaret Frost, Bowling Green, Ohio

*Papaver somniferum (double, scarlet and pink)*
*Viola cucullata alba*

From Mr. Elmer C. Baldwin, Syracuse, N. Y.

*Calceolaria biflora*
*Inula oculus-christi*
*Platycodon plenum (blue or white, ten pointed flowers)*

From Mrs. Jean Ireland, Sebastopol, Calif.

*Pratia angulata*

From Mr. Charles G. Crawford, Toledo, Ohio

*Alyssum saxatile compactum*
*Armeria formosa gigantea*
*Baptisia australis*
*Bellis perennis monstrosa*
*Campanula rotundifolia superba*
*Chrysanthemum leucanthemum May Queen*
*Digitalis ambigua (D. grandiflora)*
*Leontopodium alpinum*
*Matricaria eximia (Chrysanthemum parthenium)*
*Penstemon confertus*
*Statice dumosa (Limonium vulgare)*
*Statice latifolia (L. latifolium)*
*Viola cornuta G. Wermig*

From Mrs. C. Van de Water, New Paltz, N. Y.

*Dianthus arenarius*
*Dianthus barbatus albus*

From Mr. James Kingston McGrath, Fort Lee, N. J.

*Arenaria saxatilis*
*Campanula thyrsoides*
*Helleborus foetidus*
*Hypericum polyphyllum*
*Scilla sinensis*
*Silene alpestris*

Mrs. Gee writes of Cyclamen neapolitanum: "I have quite a number of plants and find it even seeds itself. Here it is growing and thriving in a well-drained soil under the shade of Firs. About once a year, I add a bit of lime, but I believe that this Cyclamen would thrive without it, although it is said to be a lime lover. Cyclamen neapolitanum is one of the most satisfactory of rock plants, blooming at a time when most things have gone—here from the end of August until the first to the middle of November."

Of Alstroemeria, Mrs. Ireland says: "I realize that this is not a rock plant, but it deserves to be better known. It is a good naturalizer. The tender waxen tubers should not be disturbed. Alstroemerias are heavy feeders and give abundant blooms."

Mr. Crawford describes Verbascum broussia thus: "The leaf is just about white and very, very woolly; six feet tall, the yellow flowers blooming in June-July. It is admired in and out of bloom as a plant alone. All the seeds will germinate." Mr. Crawford also gives this information on Chrysanthemum leucanthemum May Queen: "It is the earliest large Shasta from Holland and in bloom four weeks before any other variety."

## LETTERS TO THE EDITOR

Dear Editor:

In the March-April issue of the Bulletin, there were articles regarding seeds, as well as soil mixtures in which to sow them. In one article, the writer called attention to the advisability of removing chaff from the seeds in order to avoid mold, which might result in affecting the seedlings. There are some seeds, however, such as those of Anemone from which it is sometimes difficult to remove all the chaff. In such instances, I often sprinkle a small amount of Cuprocide over the seeds before covering them. Even after the seeds have been sown and mold appears on the seed bed, a slight sprinkling of Cuprocide is generally enough to eradicate it.

In another article, the writer recommends that when sowing seeds, the soil should not be sterilized. This seems to be contrary to the practice of botanic gardens and experimental stations. The Boyce Thompson Institute, for example, states that it sterilizes all soil and that although sterilization may destroy some beneficial bacteria, it also destroys many which are harmful. Moreover I have before me an article (from an English magazine) on soil sterilization in which the author states that he has made tests with treated and untreated soils, and that the roots of seedlings in treated soil were much more vigorous than in the untreated one. In addition, the soil treatment killed harmful insects, such as wire worms and still left the beneficial bacteria unharmed. Incidentally, the steam treatment seemed to afford the highest plant yield, although formaldehyde was almost as satisfactory.

Again, in the March-April issue, a writer suggests as a suitable soil mixture for seeds, equal parts of loam, sand and peat moss. This is very probably a very satisfactory mixture for those sections where the humidity is not too low, and where the bed will not dry out too fast. But here in the Central States, I believe that generally the percentage of loam should be increased. The John Innes Institution of England, after lengthy experimentation, has concluded that the most advantageous mixture for the seed bed is two parts loam, one part peat moss and one part sand to which is added a little superphosphate and ground limestone. I judge that this formula has been widely accepted by English gardeners.

In passing, it might be interesting to add that for potting soil, the formula of this English institution is seven parts loam, three of peat moss, two of sand and a small amount of fertilizer. Robert M. Senior, Cincinnati, Ohio.

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