

# BULLETIN

*of the*

## AMERICAN ROCK GARDEN SOCIETY

Vol. 7

November-December, 1949

No. 6

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## AMERICAN ROCK GARDEN SOCIETY

Dorothy Ebel Hansell, Editor

VOL. 7

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### WHAT THE WELL GROOMED ROCK SHOULD WEAR

G. G. NEARING, DEMAREST, NEW JERSEY

**I**N all treatises on rock gardening, we are told to use weathered rocks. What does weathering mean? Can we contribute toward the weathering, and are we in danger of "unweathering" them? We know that a newly broken rock looks raw, that a boulder recently unearthed does not appear as natural as one which has lain a century or two in the pasture. Originally, all rocks were raw. What happens to them in weathering?

Most rocks start as angular pieces broken from a cliff or ledge. For centuries they lie on the hillside, some changing color by long exposure to the air, the surface oxidizing gradually and thereby altering in chemical constitution. Soot and dust falling upon them lodge in the tiny crevices and cause a gradual darkening. The texture and even the shape of any rock is eventually modified by the action of frost, which pries out the surface granules of sandstone, chips off projecting angles of certain rocks, laminations of others, opens cracks of natural cleavage.

A rock in the course of time may be buried under other rocks, covered by accumulation of soil and, perhaps, later exposed again. The soil acids, dissolved in rainwater flowing over the surface, etch it or deposit minerals upon it. Rolling at last into a brook, it may be smoothed by the sand and small stones washed against it, further eroded by the chemical salts in the water. Or a glacier may pick it up, polish or score it, and finally dump it at the terminal moraine.

All these alterations proceed at a majestic pace, so slowly there is virtually nothing we can do about them. A skilled craftsman working with acids, oxidizing chemicals, lamp-black and ochre, might accomplish like results quickly, but the effect to the eye would not be quite the same, because there is another and even more significant element in what we call weathering. That element is plant life.

To the unbotanical mind, there are trees, shrubs, flowers, grass, ferns of many kinds, and below them growths not worth distinguishing from each other, all called moss and toadstools. A botanist knows that "moss and toadstools" include more separate species than all the larger members of the botanical kingdom put together. Among these lower forms of plant life, we find many which play important roles in the weathering and clothing of the naked rock. And they fall into several really dissimilar groups.

First we have the algae. Look down into a brook and notice the waving masses of green filaments. These particular algae live only in water, so do not concern us now - or do they? Walk along a cliff until you find a place where water oozes out over the surface continually. There you will see a green slime, the same algae or some closely related.

Moreover the wind is full of algae, microscopic, single-celled kinds. These alight on damp ground, trees, rocks, everything. If the surface remains damp, these



*Natural rocks covered with lichens and mosses.*



*Natural ledge encrusted with lichens, capped with mosses and hepatics.*

algae multiply by splitting in half, each half splitting again until, where one cell started, a colony of thousands or millions grows - the crumbly green coating on the north side of the tree or rock and in crevices anywhere.

Don't jump to the conclusion that all green surfaces are algae. A moss spore coming to rest on a wet rock can germinate and cover the rock with a film of minute green filaments, not at all like the moss which produced the spore. This film is known as protonema. From it will arise eventually, if the rock stays wet, a dense cushion of true moss. Another class, the hepatics, starts similarly.

If a lichen spore germinates in a colony of algae, it, too, develops a small film which captures and encloses the algae and by keeping them alive while feeding on them, slowly covers the stone with a lichen growth.

How do these small plants live on a rock without soil? Having no roots, they need no soil. Rain, the air and dust falling from the air provide all the food they require. But the rock must do its part by keeping them moist. Rocks hold water like sponges. Bring a stone into the house and dry it thoroughly over the range, then place it in a saucer of water. You will be amazed at the amount of water it sucks up.

Rocks partly buried in the ground receive from the earth a supply of moisture, greatly augmented, of course, whenever rain falls on them. But newly placed rocks dry out quickly, because disturbed soil does not conduct moisture properly. First, the earth must settle and be soaked into a denser consistency. Weeks or months may elapse before a newly built rock garden settles sufficiently to keep itself moist.

Partly because of this temporary lack of moisture, weathered field stones clothed with mosses and lichens, will often lose all their decorative growth and become mere dead, unattractive masses. Other causes contribute to moss failure. Each species of plant has its own special requirements of sunshine or shade. Bring a shade-loving moss into full sunlight, and in a few days it will shrivel to nothing. Cover any moss with a winter mulch, in spring it will not be there. Spray it with a chemical it does not like, and it will disappear.

Lichens are even more sensitive. Any sulphur spray will ruin them. Mulching is immediately fatal. None of them can endure the fumes of city smoke, and only a few survive even small town conditions since the advent of the oil burner.

So accustomed have we become to the barren rock faces of our railway and highway cuts, the cold, soot-blackened ledges of the city's environs, that we may easily forget these have never known or have sluffed off completely the softening

touch of nature. Certain of the less attractive mosses can endure city smoke, but no lichen can, and nothing survives repeated back-lot fires. These hideous crags are monuments which man unconsciously erects to death by torture.

Far from the towns abound thousands of species of the mosses, hepatics and lichens with which nature graces her rocks. Many of them would be objectionable in a rock garden, some positively ugly, while others are possessed of a beauty even the choicest flower can not excel. If you wish to have any particular one of them, you must study its requirements. There is no over-all procedure. Most of them refuse transplanting. Those from above timber line will not usually last at sea level. Some exist in suburbs even under the poison dew from a thousand chimneys, others fail or lose their glamor.

There are, however, general rules for fostering the complexions of your rocks. Do not cover them in winter. If you have plants which must be mulched (and some can be killed in no other practicable way), mulch the single pocket only. During dry weather in summer, and always on new rock work, give frequent light sprinklings with the hose. When sprays are required, drape old cloths over the rocks nearest the ailing plant so that no spray will touch them.

If in your explorations you run across a moss of special beauty growing on rocks like your own, under conditions not too unlike yours, do not try to transplant it, for the chances are that it will die immediately. Instead, look for capsules, the tiny urns lifted on thread-like stalks, offering their spore-dust to the wind. These, if they still contain spores, can be collected and pulverized over your dampened rocks some breathless evening. Before long, if you have chosen well, and if you sprinkle the surface often, the green protonema may creep along appropriate crevices and after a few weeks may weave the miniature carpet you covet.

Some mosses and many lichens respond to an even simpler ceremony, for they can be crumbled and scattered or rubbed into the surface of the stone, with a reasonable hope that any crumb, wherever it falls, may reproduce the original tuft. But those species which grow on logs or on the soil are unlikely to take to a rock surface.

Bare ground may also be beautified or concealed by similar humble growths. Banks along footpaths, trails and wood roads often clothe themselves with decorative garments of green and gray, some of which can be successfully transplanted, packed around the choicer gems of the garden, where they not only give the plants a more natural setting but as effectively as rock chips prevent the rain from splashing mud on the flowers. For this purpose, prefer the lichens and mosses which instead of forming a continuous carpet, crack into tile-like fragments a couple of inches across. Such species are accustomed to being moved about in their native haunts, are easily picked up, and likely to thrive where they may be placed.

## HEATHER AT NANTUCKET

WALTER D. BLAIR, TARRYTOWN, NEW YORK

**T**HOSE who want vivid colors in the rock garden in summer and spreads of green foliage in winter may well turn to the Heathers. The following varieties we find suitable in our Nantucket garden. They are all small in growth and make compact masses of bloom, completely covering their foliage. They require full sun, abundant water and a light porous and acid soil. These varieties will not attain the massive growth of the usual *Calluna vulgaris*, *Erica vagans* or *E. carnea* which make, in time, wide reaches of flowers, completely satisfying and thrilling.

*Erica cinerea atro-rubens* is the smallest, a wee gem, that commences to bloom June 15th and continues till September 15th. It is six inches high and has a spread of ten to twelve inches. Its foliage is a dark green, the color of its flowers a vivid ruby.

Another continuous bloomer from July 1st is *Erica ciliaris* X *tetralix*, Dawn, in color a soft pure pink.

*Erica vagans* Mrs. Maxwell is a rose-pink and makes a compact mound eight inches high and fifteen inches wide - a gorgeous display of loveliness. It blooms from July 15th to August 15th. *E. vagans* St. Keverne blooms a little later and is slightly less brilliant in color than Mrs. Maxwell.

*Calluna* Hamilton has double flowers and makes a mound eight inches high and fifteen inches wide of light pink buds, each bud a rosette, completely hiding the foliage. This plant blooms August 15th to September 1st.

*Calluna* County Wicklow has also a double blossom and is a light lavender in color, a solid mass of bloom. For higher bloom, suitable for a background, *Calluna* D. H. Beale makes sprays of lavender rosettes, less compact than Hamilton or County Wicklow.

These plants may be obtained from Mayfair Nurseries in New Jersey, L. N. Roberson Co., in the State of Washington or Carl Starker in Oregon; or one can grow them easily from cuttings or seeds, with patience and constant care.

EDITOR'S NOTE: An outstanding exhibit at the 1949 show of the Maria Mitchell Association on Nantucket Island was a collection of thirty five varieties of Heather grown in the garden of Mr. and Mrs. Blair at Nantucket. A pure white Heather, *Calluna vulgaris searlei*, was considered by the visitors to the show one of the loveliest of all the specimens. These were exhibited by Mrs. Blair under the name by which she is so well known as the novelist, Elizabeth Hollister Frost.

## A ROCK GARDEN IN MINIATURE

MARION S. REID, MOUNTAIN LAKES, NEW JERSEY

**A**UTUMN flower shows were becoming a favorite topic of conversation among garden club members. Carefully planned schedules, with the usual emphasis on flower arrangements, were being discussed; quests for containers, quality florist material and accessories were under way. A long standing determination to resist being swept into the swollen ranks of ardent flower arrangers left me pretty much on the outside looking in.

To my rescue came the two or so years of association with rock gardeners in the American Rock Garden Society and a nucleus of collected rock plants. So absorbing an interest had this become, I could think of no more pleasant way of contributing my bit to a show than to design and plant a miniature rock garden.

My husband thereupon drew up rough plans for the carpenter who unexpectedly discovered he was called upon to become tinsmith and general handyman. A box fifty two inches long, thirty five inches wide, ten inches high in back, five inches high in front, was constructed and lined with galvanized sheet metal. In the back near the bottom, two drainage holes were drilled into which short sections of one half inch copper tubing were fitted and soldered. Near the top of the back, a third hole was drilled through which was drawn a length of one quarter inch copper tubing. Later, this was to be attached by means of a rubber tube to a water tank fitted with a turn-off valve.

The next step was to assure good drainage. A shallow layer of cleaned coarse cinders was spread over the bottom of the box. This completed, my husband and I made a trip to a limestone area where an extensive search produced a good supply of small but beautifully stratified and partially moss covered rocks. Further search produced a few minute ferns, lichens and several handsome strips of moss.

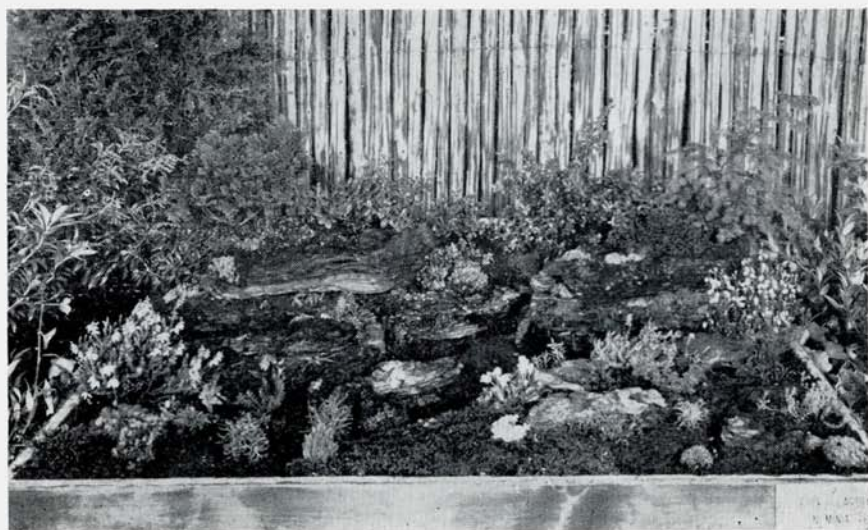
The most interesting part of the venture followed. The total effect, we felt, depended first on a rock formation that would be beautiful whether plants were introduced or not; second on a unique introduction of water; third on a careful

selection of plants - never losing sight of scale. Rocks were then placed to form a background ledge, leaving enough space in the rear to hold soil. The ledge dipped in the center where we visualized a mountain stream trickling over an eroded rock into a pool that was to extend deep into a cavern. A second ledge was constructed to the left, leaving a narrow ravine. At this point we were able to picture a meandering brook. A cardboard pattern was cut, fitted and reproduced in sheet metal. The water course was designed to extend from the pool along the base of the single ledge on the right and on the left to flow at the base of the double ledge, disappearing beneath a low overhanging rock. The accompanying photograph does not show the course the brook takes, but a diminutive Maidenhair Fern marks the spot where it disappears.

The next step was to prepare soil with meticulous care for the various needs the plants are reputed to require - an acid peaty medium, acid soil supplemented with sharp grit, alkaline soil from the limestone country, plus a good quantity of limestone chips. The mixtures were firmed in their respective places. A few small weathered and lichen covered rocks were pressed into the "alpine meadow" in the foreground, and we were ready for planting.

To plant in scale presented problems particularly as to the choice of flowering plants. Late September selection was limited as far as minute plants were concerned. Color in the background was restricted to two specimens; one, a delicately autumn hued *Vaccinium vitis idaea* var. *minus*, the other, a *Potentilla tridentata* with a few scarlet leaves. The focal point was thus further accented by these two accommodating plants. For height, *Chamaecyparis obtusa nana*, a small *Ilex crenata convexa* and a seedling Hemlock were introduced. Grouped among the trees were several Rhododendrons (*R. racemosum*), *Ilex crenata helleri* and a secondary accent plant of *Bruckenthalia spiculifolia* which resembled a Mugho Pine in miniature. Shrublets of *Vaccinium vitis idaea* var. *minus* were interplanted and faced down the larger specimens.

A search in a nearby woods where fertility was low, produced fine tiny leaved *Mitchella repens* in fruit. This was used as a groundcover beneath the



*A miniature rock garden*

—Photo by A. L. Johnsrud

Chamaecyparis and the berries repeated the color of the scarlet leaved Potentilla. *Cassiope lycopodioides* snuggled in a shady corner and must have seeded itself at the base of the cliff! Several groups of Sempervivums hugged weatherworn crevices, such as *S. arachnoideum*, *hookeri* and a hybrid. Minute Aspleniums, both *trichomanes* and *platyneuron*, with fronds only one half inch long; *A. ruta-muraria* and a few very tiny slender-leaved *Camptosorus rhizophyllus* peeped out of a tight crevice; a one half inch *Polypodium virginianum* reposed comfortably on top of an outcropping. *Hutchinsia alpina*, so delicate and fragile looking, made a lovely cascade from another crevice. *Satureja glabella* crept along the top and nearby rosettes of *Saxifraga umbrosa primuloides* just barely exposed themselves beneath the light shade of a shrub. *Thalictrum kuisianum* supplied foliage contrast in color and texture against a firmer planting.

An exploratory July trip several years ago to the ice caverns near Sam's Point, N. Y., left us with a vivid impression of the lush growth of *Chiogenes hispidula* deep in the cool recesses of the almost frightening chasm for the uninitiated. The narrow floor of the ravine in this miniature rock garden seemed, therefore, like a suitable place to plant several mats of this charming but difficult bit of shrublet. A little higher up, a small leaved blooming specimen of *Cornus canadensis* was added. Near the top of the second ledge directly above the pool, fern-like *Acaena microphylla* was given a prominent spot. Dropping below this, *Cheilanthes californica* spread its feathery fronds; several *Coptis quinquefolia* drooped over the moss edged pool. At the base of several minute peaks (sheer drops ranging from two and a half to three and a half inches to the quiet waters below!) several divisions of *Viola nana* followed an irregular pattern around a bend in the stream.

Where the terrain assumed a more nearly level appearance, two blooming *Daboecia cantabrica*, *Calluna vulgaris compacta nana*, *C. v. kuphaldti*, *C. v. rigida*, *C. v. P. H. Gray*, *Erica ciliaris* (at the height of its bloom), *E. cinerea atro-rubens* and *Santolina virens* were grouped. Dividing this planting from the "alpine meadow" on the opposite side was a carpet of rich green moss.

Against the single ledge to the right, *Daboecia cantabrica alba* displayed a profusion of glistening white bells. Nearer the brook, gray-green variegated leaves of *Viola walteri* blended rather effectively against mossy limestone. A small *Kalmia glaucophylla* extended its wee branches over the edge of the brook, just showing the glaucous under surface of its leaves. Plants of *Serratula shawii*, *Sedum sieboldi*, *Linaria alpina*, *Solidago brachystachys* and *Lotus paniculatus* in acid pockets supplied flowering interest. In an alkaline area, *Nierembergia rivularis* with creamy white cups and *Phlox subulata* var. *brittoni* Pink contributed their share of bloom. Other plants in this section were *Erigeron compositus*, *Globularia repens*, *Hebe decumbens*, *Iberis saxatilis*, *Lotus pinnatus*, *Antennaria microphylla* and *Draba longistrata*.

Fifty odd varieties and approximately ninety plants were used in this exhibit. The American Rock Garden Society's scale of points specifies ten for variety. This posed a problem - to avoid an effect of a botanical collection. We felt a grouping of the same variety would have been more effective, although less educational. However, the intriguing quality of a wide range of form, color and texture was a challenge.

Perhaps the most interesting comments overheard were from people whose gardens are limited in size. Visitors became suddenly aware that here was a way to enjoy a wealth of plant material that probably no other form of gardening could offer. We are inclined to believe that there may be much a group, such as the American Rock Garden Society, can do in popularizing this fascinating field.

EDITOR'S NOTE: This exquisite miniature rock garden, which was exhibited first at the flower show of the Mountain Lakes Garden Club, on September 16th, was



awarded the gold medal of the American Rock Garden Society. The following week it was exhibited at the State Flower Show of the Garden Club of New Jersey, in Montclair, N. J., and received the tri-color award of that organization.



## GENTIANA FARRERI

DORETTA KLABER-OCT'49.

### GENTIANA FARRERI

DORETTA KLABER, QUAKERTOWN, PA.

**F**ROM a packet of seeds labeled "*Gentiana farreri*", I grew one plant. This was placed between two rocks on a narrow bit of raised ground between the path and a small artificial stream. The stream does not always run, but it is fed from a spring and the ground is moist most of the time.

*Farreri* seemed happy and last fall thrilled us with the profusion of its beautiful starry trumpets, with their delicate outline and lovely color, a violet-blue; but the effect is a dazzling iridescent blue, almost hiding the many smooth narrow leaves, when they are open. The flowers need sunshine to awaken them and they close up in disgust when it is wet or too cold or dark.

The growth of the whole plant is much more graceful than that of any *Gentiana* I have seen. It does not rise above four to six inches, but sprays out in all direc-

tions. My two-year old plant is now about a foot wide, with trumpets growing on one-sided sprays and all opening at once with the exception of the end bud. Farrer's description (under *G. ornata* in THE ENGLISH ROCK GARDEN) says "it sends out many flopping slender shoots from the stock, clad in very narrow foliage, and ending each in a single huge up-turned trumpet wide-mouthed". I find that some of the shoots end in one or two trumpets as shown in sketch "A", but most of them are one-sided, as shown in "B". Of course, it is possible that this is not true *farreri*, but allowing for the differences in individual plants and in plants from seed, it probably is.

On my plant, the leaves are sessile and opposite, alternating at right angles up the stem. They look as though some one had crossed each leaf up the middle. I wouldn't call the flowers huge - about one inch in diameter - but so many open at once, that they are very effective and also nicely proportioned to the plant.

We returned to the city last fall on November 1st before *G. farreri* had stopped blooming, so I picked a small bunch of the flowers and took them with me. I put them in water and kept them until they had turned brown and actually produced seeds. These were put in an envelope in a tightly closed canning jar and placed in the refrigerator, where they stayed until we came back to the country April 1st. Sown at once, they germinated and I now have a number of seedlings.

My husband had occasion to go to the country in late November (1948) and reported, "I'm afraid you've lost *G. farreri* - it's all brown". This spring when I looked for it, it seemed indeed "gone", but I poked gently and discovered new shoots coming up from the root. Soon it was as happy as ever. I took several cuttings which rooted easily and are now giving a few blooms.

I'm beginning to wonder why this Gentian is not in every garden. So far, it has done well with me. It has been blooming for weeks at this writing (October 14th) and will undoubtedly continue until frost. Evidently, it has the soil and moisture which it likes - soil on the neutral to acid side and underground moisture. It is never "watered", nor has the ground been specially prepared according to Farrer's elaborate prescription - just a clayey loam to which sand and grit and chips have been added from time to time.

## A DWARF PIERIS JAPONICA

H. LINCOLN FOSTER, NORFOLK, CONN.

ONE of the great pleasures of raising plants from seed, aside from the natural satisfaction one takes in a creative activity, is the perpetual hope that from a batch of seedlings may come a chance individual with a new exciting color, a larger or double flower, or some "break" in stature to set it off from the ordinary.

Just such a "break" occurred four years ago in a batch of seedlings of *Pieris japonica*, which were raised from seed set on a single plant of quite normal *P. japonica* purchased from a nursery in eastern Massachusetts. The seed was sown in February; by fall of the first year, when the small plants were being given a second transplanting into a flat to be wintered in the pit house, one individual was so conspicuously smaller in all its dimensions that there was danger of its being lost among its fellows. It was given a pot of its own. It was either a sickly runt which would recover or perish in the pot, or it was a true dwarf and would be lost in the flat of larger plants.

Since that time it has resided in a pot by itself, shifted into larger sizes as it has grown - but it hasn't grown much. The other seedlings of the same sowing are now in permanent location and have become shapely bushes of over three feet; whereas this single specimen, which in the general run of events might have been

(continued on page 99)

## WHEN YOU TIRE OF MOSS PHLOX

STEPHEN F. HAMBLIN, LEXINGTON, MASS.

THE most universal and colorful of rock plants in eastern gardens in spring is our native Moss Phlox, *P. subulata*. Besides the wild magenta type, there are now endless named seedlings of various colors from nearly red to pure white, in several degrees of growth habit, loose or dense. The one character is the needle-like feel of the foliage at touch. To offset its many good qualities is the habit of creeping madly and rooting as it goes, making it a constant menace to choice plants nearby. Thus, it may be said to grow not wisely but too well, in the eyes of the critical gardener.

But by no means are all the tufted sorts of spring Phlox this species. For instance, there is the Tenpoint Phlox (*P. bifida*), much more loose in habit, far from compact in growth. But the plant stays in tight clumps, the floppy tops drooping over rock or bank, rooting very little. The petals are deeply split to ten points, the color clear blue, lavender or white. This blooms with Moss Phlox, in fully as heavy a mass of color. It is the only wiry Phlox of the eastern states with blue flowers, and in many ways is the best Phlox for the rock garden. *P. bifida* seeds itself freely and shows color variation. But few dealers praise or offer it.

The blue and lavender forms of Moss Phlox are apparently hybrids of Moss and Tenpoint, with such clon names as G. F. Wilson, Blue Hills and others. To be botanical, this group may be called Lilac Phlox (*X P. lilacina*); their ancestry is indicated in their being more loose in habit than the purple and rose Moss sorts and by their rooting less, the plants being more erect than creeping. What is called in the trade *Phlox stellaria* is either a robust tumbling shrub of the "lilacina" series or a variation of Tenpoint, the flowers relatively large and palest blue in color.

Another "Mossy" that is not the real Moss Phlox is Trailing Phlox (*P. nivalis*), a more southern species, not always hardy in wet spots in New England rock gardens, but perfectly hardy when good drainage is provided. It is a rather woody plant, forming a close basal clump, the stems shrub-like with heavy foliage such as a spray of Hemlock, the plant loose and tumbling, not in a compact mat. *P. nivalis* is wonderful hanging down walls and ledges, and never encroaches upon its neighbors. The flowers are large, three times the size of the usual Moss Phlox. It starts to bloom as early in May as does Moss but continues well into June, giving twice the length of bloom. The species name means "snowy". The most famed clon is Camla, clear rose; the white one, now listed as Camla alba, represents the species type. Dixie is deepest rose to nearly red; Mary Alice is pink with red eye; Azure is light lavender; Sir Guilford is bright pink. And there may be endless un-named self-sown seedlings.

Apparently this has made hybrids, the *P. frondosa* group (*P. nivalis* X *subulata*), such as Vivid, deepest pink; Perfection, pink with purple eye, denser in habit and with more foliage, but rooting less than Moss so a safer plant for neighboring alpine. But it is more expensive to buy, as increase by division is slow.

This is not all. For there are also *P. subulata brittoni*, resembling Tenpoint more than Moss in flower shape, compact habit and heavy bloom in white or pale rose; and *P. procumbens*, usually offered as *P. "verna"* or *P. "amoena"*, a hybrid of *P. stolonifera* and *subulata*, with broadish leaves and large, bright pink flowers.

The conclusion is that all "Moss" Phlox is not the same; and if you are weary of the abundance of the plant to which that name really belongs, try Tenpoint and Trailing - if you can find a dealer who lists them.

## CLAIRE NORTON'S NOTEBOOK

**C**REEPING Bluet, *Houstonia serpyllifolia*, is a little plant of quaint and appealing character for a spot in light shade where the soil is light, moist and on the acid side. It puts on a long display of sky-blue flowers - and if one gets Millard's Variety, the color is still deeper and the season longer.

Swan River Daisy (*Brachycome*) is a free-flowering dwarf with white and blue, daisy-like flowers that can be used in the rock garden.

Colorado Rock Daisy (*Melampodium cinereum*) is a rare and delightful subject for the dry rock garden, with white, Helianthemum-like flowers from spring until frost.

*Petunia nana erecta* Periwinkle forms compact plants and covers them with pastel blue flowers, resembling those of the perennial *Vinca*. Still another member of the genus for the rock garden or for edging is *P. parviflora*. Green mats, eighteen inches across, lacy in effect, are dotted with tiny lilac-pink blooms over a long season.

Alpine Toadflax (*Linaria alpina*) is a truly precious creature for the rockery, with neat grayish green foliage on compact trailing plants. The flowers resemble miniature Snapdragons, in purple touched with orange.

Its close relative, *Linaria cymbalaria*, called Kenilworth Ivy, or Mother-of-Thousands, is another neat little trailer. The tiny lavender and purple flowers are the daintiest things imaginable.

The natural habitat of the Armerias is the cliff, and they are always better on the vertical than on the horizontal - hence, possibilities for wall gardening.

*Arenaria grandiflora* has coarser leafage than *A. montana*, but does not brown so badly in winter.

*Globularia cordifolia* is a gem. The leaves, as the specific name suggests, are somewhat heart shaped. The fluffy, globular flower heads, borne on stems about four inches high, are of a steely blue shade. Altogether, this is a charming plant for growing in well-drained pockets of the rock garden. To be most effective, *Globularia* should be planted in little colonies.

*Lithospermum* Heavenly Blue is a beautiful plant, requiring a great amount of peat in its root hold.

*Dianthus deltoides* and *D. graniticus* prefer a root hold that is not too parched. *D. graniticus* is alive with blooms in the fall. Loveliness is a hybrid novelty in Pinks that should enjoy wide popularity. It has large flowers with fringed petals, and in color is an odd mauve tint.

For the many spots where a very low-growing Phlox is desirable, nothing can surpass tiny *Phlox divaricata laphami vera nana*. What a name! Far longer than the plant is tall.

Given slight shade and some winter protection *Daphne cneorum* is a treasure for the rockery. Its dainty flowers of rose-pink are delightfully fragrant and its foliage evergreen.

Sweet Woodruff (*Asperula odorata*), one of the best of herbs, can double as a pleasing flower in the shaded part of the rock garden. Its leaves form a carpet of light green, which is starred with white in April and May.



*Corydalis aurea* var. *occidentalis*

—Photo by Mark Norton

No place is too small to make provision for growing choice blooms from the alpine heights. Even three rocks will form a rock garden, and in their environs a number of lovely flowers can be grown.

According to the latest monograph on *Corydalis*, *C. aurea*, mentioned in the September-October issue under this heading, should read *Corydalis aurea* var. *occidentalis*. *C. montana* also seems to have been included in this species. Glad to bring this to members' notice; also to furnish a picture of "Golden Smoke" - *C. aurea* var. *occidentalis* - taken by Mark Norton.

CLAIRE NORTON, LA PORTE, COLORADO

PIERIS JAPONICA — (continued from page 96)

Overlooked or thrown out, has kept its pygmy stature and measures in inches what the others do in feet. It has been so sparing in growth that till this year the shoots have been too meager to make cuttings.

To date, the plant has shown no inclination to bloom, but its diminutive proportions alone merit notice. The leaves, typical of the species in color and outline, are reduced to 2 cm. long by 5 mm. broad in the largest leaf. At the end of four growing seasons, the small shrub has reached the dimensions of four inches high by three inches across.

Rehder in his "MANUAL OF CULTIVATED TREES AND SHRUBS" lists a dwarf form of *P. japonica* as var. *pygmaea*. There is no detailed description of the variety and it seems doubtful that it has ever found its way to this country from Japan, where it was described in 1800.

When this small shrub, which I have designated as *P. japonica* var. *minima*, has been propagated and distributed, it should prove a worthy addition to the rather sparse assortment of dwarf shrubs suitable to the rock garden.

## PLANT NOTES FROM CALIFORNIA

HARRY E. JACOBS, SAN CARLOS, CALIF.

*Aquilegia vulgaris*, Alaskan form: Native of Europe and Siberia, this Columbine has naturalized itself to some extent in our northern territory and was at one time thought to be sufficiently different to justify creation of a new species.

The deep blue flowers, which usually bloom in the year-old seedlings at about three inches in height, later attain a height of nine to fifteen inches. The terminal flowers which are quite large, are held upright; but the secondary flowers are pendant, like blue bells, and at first glance are sometimes mistaken for them.

Collected on a rocky islet in Alaskan waters some years ago by the late Mrs. Stewart Edward White, while she and the author of that name were cruising the interior rivers of the north, this *Aquilegia* has been distributed and sold through several California nurseries. It likes a rather gritty soil with some leafmold, but often self sows in the garden where it will thrive a few years and then disappear, if the soil is not to its liking.

*Zauschneria latifolia tomentella* is the most suitable for the rock garden of the California Fuschia or Humming Bird Trumpet flowers. This broad gray-green leaved *Zauschneria* often shows a whitish gray leaf when growing in gritty soil or rock crevices. Its habit is dwarf, to five or six inches, and the flowers are slightly orange-scarlet.

Another dwarf *Zauschneria*, with a trade name of *Z. microphylla nana*, has narrow leaves of gray-green and most brilliant scarlet flowers.

*Zauschnerias* are generous autumn bloomers in the western dry areas, but are not a bit resentful of moisture.

## IRON CLAD - for MINNESOTA GARDENS

HAROLD ALBRECHT, BELLE PLAINS, MINN.

**W**HATEVER can take Minnesota weather is Sparta-like in constitution. Bitter winters reach twenty five or more degrees below zero; spring follows with alternate thawing and freezing, blowing, scorching winds, rain and snow; summer offers periods which remain hot and dry day and night, up in the 90's. Generally, autumn is benign; sometimes, too "summery" and then this prevents plants from hardening enough for winter. I hope I am not painting the picture too black. We do, of course, have wonderful spells of weather, but I do honestly want to indicate the conditions with which plants must cope. And I haven't, at that, mentioned the periods of drought occasionally in spring and fall, certainly in summer.

It is of real value to know what plants can put up with such conditions. There is variation, though. I know a woman gardener who keeps *Aethionemas* easily; for me, they just won't! This is an added complication.

The *Campanulas* seem amenable. Good drainage they must have. *C. garganica* has been in my garden for years. It even self sows, an indication that it is happy. *C. cochlearifolia* in various forms, *muralis*, *stansfieldi*, *tommasiniana*, *raddeana*, *fenestrellata* - all are possible in this section. A little shade pleases them or the cooling effect of a large stone. *C. rotundifolia* with its swinging bells grows wild here and is good, too. I think all the mentioned *Campanulas* are beautiful.

*Silene wherryi* is one of my favorites. It enjoys sun or part shade - and self sows, also. The color is a clear, glowing pink. *S. virginica*, which is a fine red, is less reliable and not so lasting with me - I believe it wants a more acid soil than I have.

The western Plains flowers seem to like it here. *Penstemon nitidus* and *P. angustifolius* are not too difficult - plants last several years. They give generous

supplies of seed and are easy to keep coming. If they are planted among mats of *Phlox andicola* and *P. alyssifolia*, the effect is pleasing. The blue-clad Penstemons have caught the color of the sky and their spires among the flat mats of Phlox sprinkled in white, lavender to pink, and delicate blue is a satisfying picture. The two Penstemons, already mentioned, also contrast with the pink *P. unilateralis* in a nice group planting.

*Astragalus tridactylus* and *A. gilviflorus* are wee things, forming circles of argent beauty. Even the leafage make them worth while. The usual lean soil and full sun pleases them. I am following Dr. Worth's suggestion and being more liberal with water for western plants - it seems to help them, too. *Astragalus (Homalobus) caespitosus* is another sprite with miniature pea blossoms. All these western items are obtainable from Claude Barr, of South Dakota.

Violas have not tempted me especially. However, *V. jooi* is sensational, when it behaves as it has this year, - a fireworks of flowers. *V. pedata bicolor* is another aristocrat. My plants are more than five years old; no self sowing as yet, I regret to say.

*Anemone caroliniana* is an easy doer, but it disappears in summer and leaves a bare spot.

From Michaud in British Columbia, I procured *Talinum okanoganense* - if I have the specific name correctly spelled. It has lived over several seasons, has lovely creamy white cups and is a small, really beautiful plant.

*Adonis amurensis* has the most intriguing buds in spring of any plant I know - its gold coin flowers are attractive, too. The one fault I have to find is that the "greenery" gets leggy before it disappears.

I'll conclude these few notes on ironclad plants, which have grown thriftily and flowered successfully in my Minnesota garden, with *Primula marginata*. My plant faces east, has its feet up in the air, thus allowing it to trail downward. *P. marginata* appears to be contented and happy in this position and offers its sweetly scented flowers early in the year.

## CAMPANULAS - and "STANDARDIZED PLANT NAMES"

ROBERT M. SENIOR, CINCINNATI, OHIO

THE book entitled "STANDARDIZED PLANT NAMES", which is worthy of a place in the library of every horticulturist, is, in the main, a most carefully prepared listing of the approved scientific and common names of plants that are found in gardens of this country. Of course, it must be remembered that since the first edition was published a number of years ago, subsequent botanical investigation of various plants has disclosed that the names of certain ones which were supposed to have priority, were later found to be antedated by the description of an earlier botanist who had given it a different name. Whenever this condition is ascertained, the name under which it was first described, is given priority.

The occasion for the above remarks was due to the fact that the writer happened to observe the listing in this book of plants under the heading of Campanulas wherein he found several errors of nomenclature, relating to certain species that might be of particular interest to rock gardeners. No doubt, in the next edition, these mistakes will be corrected.

*Campanula caespitosa (pusilla and bellardi)* are given as synonyms. The name *pusilla* has been antedated by that of *C. cochlearifolia* and *bellardi* is no doubt a variety of *cochlearifolia*. But *caespitosa* is not a synonym for *cochlearifolia*. The writer has raised both plants and finds a marked difference between them. To mention but two differences - *caespitosa* has flowers that, as Farrer says, "are so

pulled at the mouth that they look like elongated globules of clear blue water.. It is distinct from *pusilla* and *bellardi*, with which it is sometimes confused." In the second place, my *caespitosa* bloomed about six weeks later than *cochlearifolia* - specifically, during the month of September. Incidentally, both of these plants are delightful subjects for the rock garden.

*Campanula arvatica* (classified as a synonym for *Wahlenbergia hederacea*). At different times, I have raised *arvatica* as well as this *Wahlenbergia* and they are entirely different plants. *Arvatica* is unquestionably a *Campanula*. At one time, it was called *C. acutangula*, but in the December, 1937, number of the "Bulletin of the Alpine Garden Society", in which it was described, the writer states that "the latest Kew handlist agrees with Farrer in repudiating *C. acutangula* in favor of *C. arvatica*". Incidentally, this number contains a good picture of the plant. At this point, I might also mention that the hybrid, *C. kewensis* is, therefore, not a cross of *excisa* and *Wahlenbergia*, but has as its parents *excisa* X *arvatica*.

*Campanula waldsteiniana* (*C. tommasiniana* given as a synonym). *Tommasiniana* is an entirely different species from *waldsteiniana*. Without going into details, I shall say that *tommasiniana* has narrow tubular, nodding violet bells along the flowering stem, whereas *waldsteiniana* has much wider mouthed flowers that are erect.

A few minor observations: *C. burghaltii* is listed as a variety of *C. latifolia* but is probably a hybrid of *latifolia* X *carpatica*. *Campanula* White Star, which I once raised, cannot be a variety of *C. kolentiana*, but looks like a fine variety of *C. carpatica*. *Stansfieldii* and *wockei* are given specific rank, although both of them are hybrids.

## SOCIETY NOTES

LAST CALL FOR SEEDS: Mr. H. Lincoln Foster, director of the Seed Exchange, reminds all members of the American Rock Garden Society that their contributions of seeds must be sent to him without further delay. The list of seeds for distribution in 1950 will be compiled the first week in January for mailing with the January-February 1950 issue of the Bulletin. Send your seeds to Mr. Foster NOW - his address is Coolwater, Norfolk, Conn.

BOSTON MEETING: Mr. Harold Epstein, president, gave an illustrated talk on rock gardens in Horticultural Hall, Boston, October 21, before the members of the New England Region. In his audience were five members from Maine, including the new officers, Mrs. Nettie M. Hamilton, chairman, and Mrs. Edward M. Babb, secretary of the Maine Unit.

Changes of Address: Will members promptly notify the secretary, Mrs. Dorothy E. Hansell, 19 Pittsford Way, Summit, N. J., of any changes in address. Your cooperation in this respect will assist in keeping the mailing list accurate, assure delivery of The Bulletin, and save the Society postage.

## LETTERS from MEMBERS

Dear Editor:

At various spots in the mountains - places of wide distance from one another - we have found *Pinguicula vulgaris*, which Mrs. Lawton mentions having seen on her trip to the Gaspé, described in the last issue of the Bulletin.

Only on the shallow banks of Altrude Lake in Canada have they been so thick that it was impossible to avoid stepping on them. This lake is on the way to becoming a peat bog - parts of the shore have been taken over by live sphagnum. In the peaty margin and on small peaty hummock-islands, this *Pinguicula* forms an ex-



otic encrustation of "battered" yellow-green rosettes, with the violet-blue flowers rising above them on three-inch stems. The "butteriness" of the foliage is due to viscid glands which, together with the inrolled leaves, serve as a trap for insects that cannot escape and are slowly digested.

I have not been successful in growing this plant. Next time, I shall put it in the lowest - the wettest - corner of the peat bog.

There are many species of *Pinguicula*, and they are not wholly confined to cold-winter country. In Europe, some are found in the south. In this country, we have a yellow-flowered one, *P. lutea*, growing in the hot Pine-barren sands of the Gulf States.

Else M. Frye, Seattle, Washington.

Dear Editor:

Having our picnic lunch high up in an alpine meadow surrounded by all those lovely alpenes we try so hard and with so much fear to raise at home - usually without success while here they bloom in their brilliant colors on dry slopes, close to glacial brooks, among rocks or glacier moraines with a tablespoon of soil to hold their roots. Here, above Pontrecima - two deep blue Gentians, *Ranunculus glacialis*, alpine Clover, Trollius, *Anemone pulsatilla*, Violas, and the everpresent Forget-me-not growing high in valley fields and getting lower and lower and bluer and bluer at it climbs up the mountains until we find little clumps of it among rocks 3,000 meters and higher. Too bad we cannot bring a bit of this back to our garden in Summit, New Jersey.

Margaret K. Keller

Dear Editor:

Two weeks ago (the first week in August), Cotton Grass - please don't ask me its botanical name - was everywhere. It is a fine mist of stems covered with little tufts of pale blue to white "cotton" and ties in with childhood memories of the mountains.

As for Stewartias, our woods are full of them. They are so much like *Gordonia* that I'm tempted to ask, "When is a Stewartia not a Stewartia?" and to reply in the same facetious strain, "When it's a *Gordonia*". I know botanically I'm wrong, but I've my own ideas and as a check have three plants of *Gordonia* from Rex Pearce planted at my sister's place on the river.

Whoever heard of Frosted Mint being named for the frost crystals on the dead plants? What we call Frosted Mint is in bloom all over the mountains right this very minute. It grows in lovely sprays covered with a white bloom and gives our hot August woods a delightfully cool appearance. The flowers are insignificant, a faded lavender.

A near tragedy occurred today. My "public" arrived just before the trash boys. As the personally conducted tour reached the driveway, I gave vent to a loud outburst - the boys were loading my moss-covered logs from the shade garden on their truck! I had tucked Trilliums, Ladyslippers, swamp white Violets, Jasmine, Crocus and other precious things around them. Both the boys and the "public" had a hearty laugh, then all turned in to replant the logs. This garden is a dry sandy woods where Sweet Fern and Huckleberries grow. I read that in Isaac Langley Williams' catalog and it earned my check for some of his native Lilies. The huge purple and yellow Crocus are thick in the hedgerows of deep pink Honeysuckle and "Grancy Gray Beard" - Fringe Tree to you. A sheet of wild Iris - *verna*, I believe - runs from the hedgerow down to the road. *Cristata* is all over the mountain, also Indian Pinks and Rooster-heads, as we call Birds-foot Violets. The bi-color is spoken of hereabouts as "velvet-petaled."

In early spring, the roadsides are purple with Birds-foot Violets, *Iris verna*



—Photo by Walter Kolaga

One of the most beautiful of all Violets - *Viola pedata*.

and Spiderwort. Just ahead of them, Houstonia or Quaker Ladies and tiny white and yellow Johnny-Jump-Ups cavort all over the pasture.

By the way, if that was a Trillium illustrating your article in HORTICULTURE, then I've never seen a May-apple! One patch of Trilliums with reddish purple flowers stands waist high; the huge dark green leaves mottled with gray-green. Near the river is the white *cernuum*. But after Gatlinburg in early April, all Trilliums here look undernourished. If you haven't seen them going down that mountain with the white fringed Bleeding Heart, you've something to live for.

I was up in the Trillium patch the other day and ran into a Green Dragon (*Arisaema dracontium*), which was simply gross. It had a stem nearly as big as a broom handle and the leaves were the size of elephant's ears! The seed head was still green and the individual seeds were big as shoe buttons - if you've lived long enough to know how big a shoe button was.

My real rock garden plants are still pretty much in the testing stage, trying to determine what ones will "take it". I go through the catalogs, become enthralled and send out orders. I am now eagerly waiting the species Tulips from one source and Heathers from Mayfair. Some day I may be able to report success - or failure with them.

Marion Orr Lewis, Mentone, Alabama

Dear Editor:

This winter has been very mild in our district and the garden, though tended in the limited spare time of a busy farmer's wife, shows many splashes of color that even the weeds (which, of course, should not be there) cannot hide. As the splashes are early, even for our district, they are all the more welcome. We are approximately forty-five miles from Wellington and so are about midway of New Zealand.

We do have frosts which are quite destructive, but our South Island friends tell us we do not know what frosts are. The sea is only two miles away, but fortunately we are protected from salt winds.

A walk around the garden today (July 17, 1949) revealed unexpected treasures. For instance, *Hyacinthus azureus* (*H. ciliatus*), a new bulb to my garden this year, is making a brave show in a protected pocket of the rock garden. A very pale blue, it might at first glance be compared with Muscari, but it is quite distinctive. It grows easily from seed, but as yet I do not know how long the seedlings take to reach flowering size. I have seeds, which I bought, coming along nicely and I hope to save seeds of my own this year.

Muscari are just appearing, too, and later on will combine with Hoop-Petticoat Daffodils (*Narcissus bulbocodium*) to make a gay edging. Both do very well and are favorites in our district.

The sunken garden which, owing to particularly heavy sustained rain, was inundated for a week, has recovered marvelously and there is very little trace of water damage. The waxy yellow daisies of Celandine (*Cheledonium*) brighten up a damp corner, while a little further on *Parochetus communis* ramps around, studing its clover-like leaves with blue pea flowers. *Erigeron mucronatus*, not really showy, helps to cover banks and is an all-the-year-round bloomer. I can always find at least a few flowers somewhere on its green mounds. Perennial Iberis forms a solid sheet of white against grey stone, quite hiding its own dark leaves and stems. There are several lovely trailing clumps of Iberis in this garden. It is such an accommodating plant, for it sets a nice lot of seed and also layers itself frequently.

Helleborus in shades of green, white, pink and dark wine provide lovely decorative notes in the garden and, as cut flowers, in my home. In the latter instance, I scald the stems for an hour or so and then immerse them right up to their heads in cold water. Under this treatment, I've had a fortnight's pleasure from Helleborus indoors.

Back to the rock garden to find the South African Romuleas, *bulbocodium* and *requieni*. Though splashed with last night's rain, they are making a marvelous show with the sun now shining on them. *Bulbocodium* is lavender with yellow throat, while *requieni* is a self purple, most attractive against stone. They, too, furnish a goodly supply of seeds and before long pockets are filled with their blooms.

Another South African, worth its weight in gold because of its cheery red on a dreary winter's day, is *Lachenalia pendula*.

A few Crocus are peering above ground to see if the sun is really shining. Soleil d'Or, the earliest of Daffodils, makes a corner gay with yellow and double Primroses and Polyanthus tell us spring is just around the corner.

Before I go indoors, I'll pick a few of the lovely flowers of *Rosa rouletti* for my desk and make a buttonhole bouquet for my small daughter of Rose Oakington Hybrid which, with me, persists in growing higher than its correct twelve inches. These two Roses bloom practically the year round.

I wonder what new treasures tomorrow will reveal. Perhaps *Romulea hartungii* and *Narcissus Infanta* may be breaking into color.

S. E. Walker, Te Horo, Manawatu Line

Dear Editor:

My visits to the alpine meadows have ceased for this year. The three passes through the Cascade Range are this week (November 12) closed by snow. State snow plows will try to keep two of them open during the winter, but the highest will be closed till April and that's the one I like best to travel.

This summer there was much mutual rock garden inspiration in a call upon a member of our Society who lives in the isolated village of White Salmon in this state. The Martins - he is the "mayor" of the village - gave us the key to their well-furnished cabin on the lower slopes of Mount Adams, forty miles away. Over the fireplace was fishing tackle, a few rods away was a river, so fresh mountain trout was a dinner change from the smoked meat brought from the town.

Near the cabin began the trail to the mountain meadows. In a mile or so, the way passed through a wooden field of the exquisite pink Dog-tooth Violet, the one with the mottled leaves of dark brown, which the botanists call *Erythronium johnsoni*. Then came bushes of the red Huckleberry, *Vaccinium parvi*, and tall trees of Sugar Pine and dry region sub-shrubs that made us forget the rocky path underfoot.

The dainty denizens of the lush higher meadows were too many to be named in a letter. It is, indeed, a rare privilege for a rock gardener to visit such a region.

Roland G. Gamsell, Bellingham, Wash.

## THE ALPINE GARDEN SOCIETY

This Society, founded in 1930, has well over a hundred members in North America. As distance prevents their taking part in the Society's other activities, it is obvious that they have found the Quarterly Bulletin to be good value for their subscriptions.

The four issues normally run to about 90 pages each and are well illustrated. Editorial policy is to limit the space devoted to parochial affairs, such as shows and tours, so that the bulk of its contents are of general interest to all who grow alpine.

Further particulars regarding the Alpine Garden Society may be obtained from the Secretary, C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent or, better, from Mr. C. R. Worth, Groton, New York, who is one of the Society's Ass't. Hon. Secretaries (foreign).

The depreciation of the pound has added to the attractions of The Quarterly Bulletin to dollar subscribers. You may send Mr. Worth two dollars and eighty cents for the 1950 subscription (one pound), which is payable on January 1st. He is empowered to accept payments and to issue receipts on behalf of the Alpine Garden Society.

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