# American Rock Garden Society Bulletin


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## BULLETIN

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# AMERICAN ROCK GARDEN SOCIETY BULLETIN

**Albert M. Sutton, Editor**

VOL. 33 APRIL, 1975 No. 2

## FOURTH OF JULY ON ISLE ROYALE

IZA GOROFF, *Chicago, Ill.*
AND DEON PRELL, *Elm Grove, Wisc.*

Isle Royale is surrounded by Lake Superior, one of the coldest bodies of fresh water in the world. The climatic consequences of its surroundings, together with its preservation by the National Park Service, give Isle Royale a truly remarkable flora.

In 1973 the Wisconsin-Illinois Chapter of the American Rock Garden Society sponsored a trip to Door County in Wisconsin, following the national meeting of the ARGS held in Milwaukee. The success of that trip (initiated, planned and managed by Don Havens) encouraged the membership to try another. The journey to Isle Royale was planned and managed by Jean (Mrs. Clarence) Hapke, who did a superb job. Twenty-one people from three states left home July 3, 1974 and returned home Sunday, July 7.

On July 3, the temperature in Chicago was 100°F. On July 4, the temperature in Chicago was probably still 100°F, but the temperature on the deck of the Isle Queen II crossing Lake Superior was around 50°F. The temperature did not go much above 60°F during our time on Isle Royale. Isle Royale is 40 miles long, but we sampled only the eastern tip since we were limited by our short stay.

Within this limited area lies a wide variety of habitats: bogs, meadows, forests and many rock formations. The temperature varies from the coolest areas on the edges of peninsulas and small islands surrounded by the lake, to the warmest inland, usually at higher elevations, the opposite of the usual temperature gradients.

The experience of plant viewing on Isle Royale may be illustrated by a plant list or by other means. We have chosen to paint small word pictures of some of the ecological niches the plants occupy.

A favorite picture is of the moderately moist, dappled shade of the more open forest floor. The floor is a carpet of mixed colors and textures. Intermixed are the prostrate Twin flower *(Linnaea borealis)* with its small glossy lettuce-green leaves and upright stems with little pink twin bells, the Bunchberry *(Cornus canadensis)* with its larger olive green leaves on upright stemlets 4-6″ high, 4-leaved on the purely vegetative first year growths, 6-leaved on

Polypody ferns among granite boulders covered with crustose and foliose lichens
Don Peach

the second year growths beneath the proportionately large (2″) white "flowers." In drier and sunnier places these were further mixed with the cool light grey network of the Reindeer Lichen (Cladonia sp.). In sunnier and drier areas that are a bit more open, the Twin flower is replaced by Bearberry *(Arctostaphylos uva-ursi).*

Mossy hummocks in the open forest occasionally are covered with small (1½″) dark, glossy green rosettes. The first group of these had little (½″) white balloons hanging from short cane-shaped stems, only an inch or two high. Later on we came across many other groups where the balloons had popped, opening into waxy white stars, still nodding on the cane-shaped stems, now 2-3″ high. The flowers of the One-flowered Wintergreen *(Moneses uniflora)* are ¾ of an inch across, very large compared to the 1½″ diameter of the plant, a true jewel.

*Moneses uniflora* is but one of the Pyrolaceae which carpets the forest floor. Under heavy deciduous shade among the leaf litter and rotting wood of the forest floor are found the glossy kidney-shaped leaves of *Pyrola asarifolia,* the Pink Wintergreen, with 8-12″ high spikes of ½″ waxy flowers, another jewel. Only a third or a quarter of the clumps of foliage have flower spikes. What appears to be a plant is actually a clump of foliage on the end of a runner which may be a part of a very large network. What *is* a plant? It depends on your definition.

Isle Royale is known for its orchids, over 40 different species and varieties. These are found in the forest and bog areas. The showiest of the orchids of the deep forest, in bloom at the time we were there, were the Coral-

root and the Calypso. The Coralroots are saprophytes; they have no chlorophyll and pick up most of their food from the decaying vegetative matter on the forest floor. Most of the year they are completely underground, but when their flowering time comes, a mass of flowering stems bursts from the ground. We saw the insignificant *Corallorhiza trifida* with its yellowish green flowers and few stems. The outstanding Coralroot here is *C. maculata* with its many spikes of plentiful flowers in shades of luscious pink and its even more showy yellow variety *C. maculata* var. *flavida* with bright yellow and white flowers. We found *Calypso bulbosa* with its pseudobulbs and its leaves forming a fan-shaped clump covering the face of a one-foot high rock in very heavy shade. The plants were not in contact with the forest floor except perhaps through their roots. They were much larger and more vigorous than any we had ever seen, their fat pseudobulbs 1½″ long, and round leaves almost three inches long. The flowers were already past their peak, but there were several spikes, each with a number of flowers. We came across many Habenarias, tall, short, thin-leaved, round-leaved, many-leaved, twin-leaved, but all with green flowers.

Raspberry Island, a small islet five minutes by power boat from Rock Harbor (where we stayed) has a large number of plants, including many orchid species. Robert Janke, a naturalist for the National Park Service at Isle Royale, a professor at Michigan Technical University the rest of the year and the author of a book about the plants of Isle Royale, was our able guide. He was able to find and label many plants we otherwise would have missed, for example the Heart-leaved Twayblade *(Listera cordata).* He also explained the ecological evolution of the bogs. The Bog Buckbean *(Menyanthes trifoliata),* blooming at the time with its intricately fringed though symmetric white flowers, grows in shallow water. It and other plants growing through the water partially filled the bog. Plants, especially sphagnum, grow on top of these making, in some places, floating islands of vegetation; in other places gradually filling in from the bottom. On Raspberry Island the proto-bog has just Bog Buckbean and the leaves from the surrounding trees to fill it. The more advanced bog is filled with sphagnum and many fascinating plants are growing in it. Here are the insectivorous plants, the stout Pitcher Plants, mahogany red in leaf and even redder in flower, the diminutive Sundews, (hard to find even in the photographs taken of them), the showy ericaceous plants, Bog Laurel *(Kalmia polifolia),* Bog Rosemary *(Andromeda polifolia)* and Labrador Tea *(Ledum groenlandicum),* with flowers ranging in color from the deep pink Laurel to the snowy Ledum.

Isle Royale is rock, basalt uplifted ten thousand years ago. Under the dense shade of the coniferous forests of Raspberry Island are large boulders, densely covered with mosses of many kinds, sometimes waterfalls of fern-leaved mosses. Among these grow single fronds of miniature polypody ferns, 4-8″ high, the vertical fronds 4-6″ apart in wavy lines marching (or snaking) up and down or across the boulders. Among the boulders in sun and shade grow a wide variety of ferns, including a Cheilanthes.

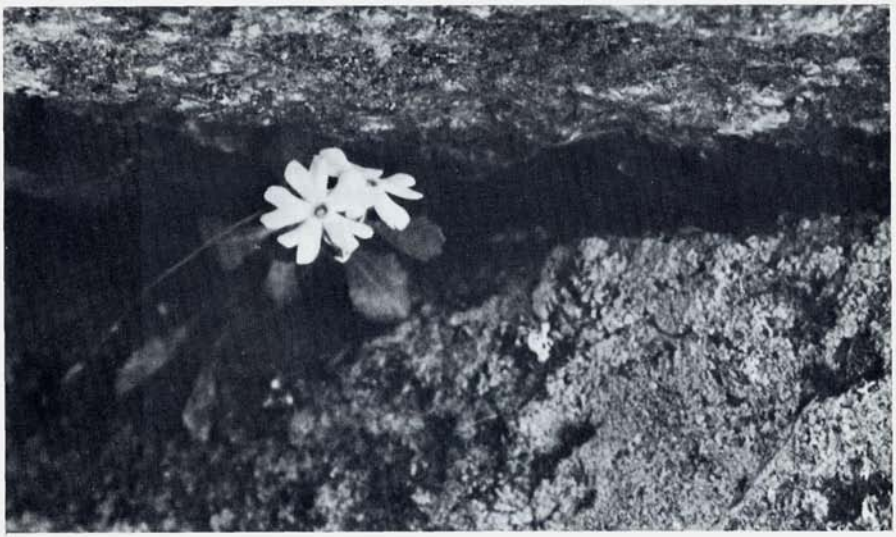
Isle Royale has many interesting lower plants. There are lovely mosaics of mosses and pixie cups (lichens), large fluted liverworts and orange crustose lichens on otherwise bare rock. The club mosses are especially interesting

with the vertical parts of the Princess Pine *(Lycopodium* species) mimicking in miniature the coniferous trees. (Do not mistake the vertical parts for whole plants, as they are connected to long underground runners. A piece cut off will almost certainly die).

A very different type of rocky environment is provided by the tip of Raspberry Island and by Scoville Point. There are no trees. There is no soil. The cold winds blow across Lake Superior unimpeded. The coniferous shrub is *Juniperus horizontalis,* snaking its way across the rocks, rooting in an occasional crack, heavy with blue berries. *Potentilla fruticosa* is prostrate, its gray-green foliage fitting into depressions in the rock with large (1½") yellow flowers, much larger than those of its more pampered races growing in the prairies of Wisconsin. Harebell *(Campanula rotundifolia)* roots in the crevices and, once again, the flowers are much larger than those of the woodlands further south. *Potentilla tridentata* follows densely what little sandy soil there is with its glossy deep green and reddish green foliage and white flowers. Saxifrages are here and nowhere else: they need the exposure. *Saxifraga tricuspidata,* the three-toothed saxifrage, forms dense mats of upright foliage 4" high crowned with many short spikes of ⅜" white flowers. *Saxifraga virginiensis* (v. michaux?) has small (1½") rosettes of wide, flat and indented reddish toned green leaves. It was not in flower. At Scoville Point there is Crowberry, healthy and succulent in its foliage.

The most remarkable of the rocky places was only steps from where we stayed. On the shore only ten or twenty feet southwest of the furthest southwest building of the Rock Harbor Lodge stands an exceptional white cedar (Thuja), both twisted and straight! The trunk rises vertically, but the ridges on the stout three-foot trunk are twisted around the tree several times before the top—only 15 to 20 feet high. Barely into the lake are several large boulders. This was the only place we found the Arctic Primrose, *Primula mistassinica (intercedens?)* and the first place we found the Butterwort *(Pinguicula vulgaris)* resembling a *Gentiana acaulis,* of all things. The flowers are not as blue, the foliage is too yellow (and too sticky), and the flowers are on those cane-shaped stems, but the suggestion is there. We later found the Butterwort elsewhere, but always the site was similar, rooted in a rock crack, partially exposed, waves splashing nearby keeping the plants moist. Contrasting with the flat yellow-green foliage of the Butterwort and its blue-purple flowers is the tiny gray-green foliage of the Arctic Primrose and its tiny pale lavender fringed flowers. These are on the same boulder as the Butterwort, but they are hiding in crevices out of the sun. Nearby is a large smooth boulder with a vertical crack and the largest, most perfect Harebell we ever saw.

Isle Royale has no cars. To get from one place to another overland you walk. There are no large-scale spectacles such as mountains, waterfalls, or geysers. The people who are attracted to it are those who can look closely at nature and appreciate it. We found no cans, paper, or plastic on the trails. If we had, we would have picked them up, as would have any of the other park visitors. The unspoiled nature of the park guarantees that the scenes we have pictured will continue, and if you should happen to visit the park you will see these and many others worthy of your remembrance.



*Primula mistassinica*

Don Peach

NOTE: Direct inquiries about article to one of the below;

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Editor's Note: The Wisconsin-Illinois Chapter, as part of this article, has made a listing of the wildflowers of Isle Royale National Park. The list is by species within their families and the common names are given. Unfortunately, the listing is too long to be reproduced here but it is available to any member who desires it. Just drop the editor a note.

* * * * *

THE COLLATOR'S CORNER—This will be a quarterly or a near quarterly feature which should be of great interest to the novice rock gardener or more advanced gardeners who have problems or who have surmounted problems. Mr. A. J. Brownmiller will be the Collator. Send your growing problems to him as well as your accounts of successes or knowledge of good strains etc. He can function in this capacity only if the members keep him informed. His address is: Rte. 4, Box 274, Gibsonia, Pa. 15044.

# AN ALPINE IS AN ALPINE IS AN ALPINE

JOHN KELLY, *Leicester, England*

" 'When I use a word', Humpty Dumpty said in a rather scornful tone, 'It means just what I choose it to mean, neither more nor less.' "
Lewis Carroll, *Through The Looking Glass.*

While some of us call ourselves 'Rock Gardeners'—a term which can all too easily conjure up a vision of people sowing pebbles and watching them grow to maturity as boulders—and others refer to themselves as 'Alpine Gardeners'—thereby making people think that they wear hats with bits of chamois tucked in the bands and blow dolefully on alpenhorns as they scrat about with trowels in the unrelenting scree—the odd one or two take to themselves the description 'Growers of Alpine Plants'.

Good for them. Their title is unambiguous, it is grammatically sound, and it avoids the rather pretentious 'Plantsman', which accolade is for others to bestow on them. To call themselves a Plantsman is rather like saying, "I am a gourmet", or worse; "I am a connoisseur".

So far, so good. We know what a grower is; we are aware of some of the characteristics which distinguish a plant from an animal and, of course, we know beyond any doubt what, in the context of plants, 'alpine' means.

Or do we?

A word is rather like a golf swing—you have to use it automatically. If you think about it too much it becomes dissociated from the prime function. Say 'Cabbage' over and over to yourself and you will find that it soon becomes a pair of meaningless syllables which have nothing whatever to do with the vegetable; they just sound kind of funny. If you dissect your golf swing into little bits and think hard about them, you may swing the club beautifully. The trouble is that you will not hit the ball.

If, however, you swing entirely automatically, with never a thought to how you are doing it, you may hit the ball all right but you will send it anywhere but toward the hole and you won't know why.

'Growers of alpine plants' use the word 'alpine' with a glibness which is the counterpart of the over-automatic swing; they can say it right enough—they even believe they know what it means but if they were to try to tell you what an alpine was, their answer would be either a slice or a hook—or even an outright shank.

Botanists tend to hit straight, but their shots have an inbuilt tendency to do little more than trickle off the front of the tee. Botanically speaking, an alpine is held to be a plant which occurs above the tree line and below the permanent snows. Well, as gardeners we know that we can dismiss botany as having nothing whatever to do with gardening and ask ourselves if we are to shun Cyclamen, to de-alpinize Primula, and to disqualify Dionysia, for where *Dionysia michauxii* ekes out its meagre living there is no permanent snow line.

The answer, of course, is no, we do not have to do so. They are all alpines. And why? Simply because we say so.

*Saxifraga oppositifolia* is not technically an alpine. After all, it grows in Wales and the highest mountain in the Principality is only about three and a half thousand feet high. We don't get permanent snow in Wales. Permanent rain, yes, but not permanent snow. *Saxifraga bryoides* occurs almost always in the botanically correct environment but it is indeed a poor garden plant. We grow *Saxifraga oppositifolia* because we *like* it and we do not grow *S. bryoides* because it is a poor shriven thing and a miff to boot. *Saxifraga oppositifolia* is an alpine because we say so.

If I were to be called upon to judge a show of alpine plants—an eventuality which becomes less likely with every word that I write—and I were to be face to face with a pan of *Cyclamen persicum* in full fig and bearing untold myriads of icing-pink flowers tipped with glowing triumphal ruby, I should have little hesitation in awarding it a prize. Were I further to be presented with a remarkably good form of the plant, with larger leaves of the most exquisite pattern and with flowers which totally eclipsed the earlier plant, I should without doubt award it a higher prize. Finally, if, in a good year for the plant, I should come upon a stupendously good form, and bred for generations from a particularly good strain, I might well award it the premier prize of the show.

I should also be awarding myself the shortest route ticket to horticultural oblivion and would be forever branded as "That unhinged maniac who gave a silver trophy to a florist's cyclamen", if indeed I were lucky to escape being escorted to the top of the nearest Rocky Mountain and staked out for the buzzards. As a matter of fact, I should love to do it one day, preferably when I am about eighty-six and it isn't going to matter any more. I could then depart with a warm glow in my heart as alpine plant shows began to fill up with poinsettias and lower-class cactuses.

A line, obviously, has to be drawn somewhere. An improved form of a plant is always desirable, but somewhere in its further improvement it ceases to be an alpine and this point is reached when we all feel that it has—in other words, when we say so.

Among the British gardening public, Aubrieta is thought of as *the* rock plant. Furthermore, varieties of it will be found on the terraces of those who think of themselves as growers of alpines; and yet it is a plant which, frankly, comes from the seaside. I have in my garden a plant of an Acaena, which in New Zealand is regarded as a pestiferous weed because of what its burrs do to the fleeces of sheep. Are they alpines?

I think the former is and the latter isn't. Aubrieta looks quite jolly in the spring and it is in keeping with my other plants. The Acaena, on the other hand, is a confounded nuisance which I wish had stayed at home where it belonged. Others may disagree with me about either of the two plants which I have just mentioned, and if there are enough of them I will bow to the majority and be prepared to change my mind. The reason for my preparedness to be so selflessly democratic is purely that I have to recognize that the definition of an alpine is, in gardening terms, that plant which is recognized as an alpine by the great majority of growers of alpines.

One of the criteria by which the admissibility of plants to the ranks of alpines is judged is hardiness. I regret to say that I am not sure what this means. I would have imagined that a plant which was 'hardy' was one which one could plant out in the garden in the full certainty that neither winter's cold nor the damp of fall would overcome its sturdy will to live. My definition though, does not coincide with those of others. We have, more so, I believe, in Britain, taken to the alpine house as a way of protecting some of the more 'difficult' alpines from the effects of our unpredictable winters. Can we say that these plants are hardy? They would be certain to be reduced to a mush of decay if they were left outside without protection.

If they cannot be called 'hardy', then are they to be termed 'alpines'? Of course, I am taking the term 'hardiness' to mean 'susceptible to damp'. Should I not be referring to the degree of damage done to the plants by frost?

It is almost too well known to mention that frosty air behaves like water and that it tends to run downhill, so that he who lives at the top of the hill will grow mighty and ancient specimens of plants which, in his neighbor's garden at the bottom, die off like flies in the winter. Hardiness is known to be dependent on place. What then, of the gardener who says that a plant is or isn't hardy "With Me"? Often what he really means is that he just can't grow the plant and doesn't know why—someone else gardening on the same spot would grow things which he had been led to believe were impossible.

There are, however, plants which are palpably impossible to grow in a lowland temperate climate without the aid of artificial heat and these are inadmissible as 'alpines' in the sense in which gardeners use the term. They are not alpines and they are not hardy because we say so.

As a grower of alpine plants I reserve the right to take the pseudo-bulbs of certain orchids from their soil in the fall; to store them in a paper bag until the early spring; to put them in the airing cupboard until the warmth and moisture of the soil into which I have planted them causes them to commence to progress toward flowering; to keep them in my house as the flowers open, and to enter them in a show of alpine plants where, if there is any justice, they will carry off a first prize—or better.

> Pleiones. I call them alpines, and so do you.
> And therefore that is what they are.

* * * * *

PRAIRIE FLOWERS AND GRASSES—Since undisturbed prairie lands with their original combination of grasses and wild flowers are vanishing almost to the last few acres compared to the nearly endless miles of almost pure prairie that our westward-trekking pioneers knew, it is good to know that there are those who are trying to recreate even a small replica in northern Illinois. Even a rock garden is being contemplated patterned after the original prairie. Rock gardens with wild flowers and grasses intermingled may puzzle the conventional rock gardener. Mr. Richard Clinebell of Wyoming, Ill. and others are working toward the establishment of such a prairie-like rock garden.

# STUDY WEEKENDS — East, West . . . and Central???

As usual, the French have long had *the* word, the apt characterization of a situation or event: in this instance, "the more things change, the more they stay the same." Which is to say that with the conclusion of the Seventh Annual Mid-Winter Symposium on January 19, in White Plains, N.Y., one comes away, head spinning, with many thoughts:

*Item*—Some eight or more years ago, when Ellie Brinckerhoff and Harold Epstein and others first began exploring and sorting out ideas for a mid-winter gathering, which finally culminated in a pioneering venture for ARGS, they concocted a format and pattern that through the succeeding gatherings has proved itself admirably;

*Item*—Once again one feels renewed admiration for the flexibility and 'elbow-room' built into this pattern and, equally, for the fertility of imagination and ideas that result, year after year, in a rich and varied fare for those who have been able to enjoy a somewhat regular attendance;

*Item*—While, year after year, the established pattern maintains itself and, so to say, the diet is preserved, yet the menu never palls and one returns annually to session after session, willingly and in anticipation;

*Item*—So in looking back over several of these sessions on the eastern seaboard, one feels a sense of gratitude for all those whose interest, enthusiasm, knowledge, imagination, experience and assorted other personal attributes combine annually to create for those in attendance a rich expansion of personal horizons and a rewarding deepening of understanding and knowledge.

It would be as hard as it is probably needless to try to assay which of these successive winter meetings has been the best (or, even) the poorest; for the facts are (1) that the series opened on a high level and (2) that each successive year has seen that level maintained. Probably the best testimony to the worth of this institution (for certainly that is what it has become) is to be found in the fact of its adoption by our confreres in the Pacific Northwest. Last year was their initial venture into this enterprise. By all reports, the results were gratifying, for their Second Annual Mid-Winter Gathering of the Clans is now history. We wish them well, and hope also that some of the Old Faithfuls here in the east may have been moved to journey westward just as some of our Seattle friends have come to us in the past.

This year the geographical spread in attendance reached not much, if any, beyond Wisconsin in the west and Maine in the north and east, with representatives from Michigan and Virginia adding their spice to the hundred-odd others closer to home. This was the Hudson Valley's "show", and it goes without saying that they did it well. Nor is much purpose served in a recounting of the several items of the official program: to single out specific ones for comment would be to slight others. However, one may appropriately note some interesting departures from, or refinements of, previous program-ingredients. While it is perhaps factual to say that Dick Redfield's 50 slides showing unusual aspects of alpines and woodlanders was a "quiz program," that designation is regretfully unflattering to the quality of the views presented.

Have *you* ever examined close up and under magnification the seed pods of the Jeffersonias, *dubia* and *diphylla?* Or grovelled on hands and knees, burrowing among the foliage to bring to light the blooms of *Asarum shuttleworthii?* If not, you should, for you might have well been on the road to flunking this "quiz" of Dick's. It proved how embarrassingly much more homework a lot of us have to do before we can truly say we *know* our plants, and so—chastened—we return home to improve our knowledge. (The highest score your reporter heard admitted was a good 38 out of the 50 identified correctly and fully as to both genus and species, plus a few more properly tagged in one category or the other. There may have been higher scores but I know not of them and I suspect that, like my own, many were substantially lower.)

Another pleasant expansion on a familiar theme was a full-fledged horticultural book store, amply and professionally furnished with items old and new that anyone might well add to flesh out his personal library.

Joel Spingarn's photographic exhibit—enlargements in black and white, uniformly sized and mounted—showed once again what the discerning eye and probing imagination may find in plant and flower form. Like Dick's slides, this, too, should have prodded all viewers to resolve to look more closely and analytically at what we all see.

Now for another year, the curtain is down. Though it is much too early for specifics, rumor has it that there *will* be Gatherings of the Clans early in 1976—perhaps as dress-rehearsals on both coasts for the Seattle Conference in July? DO YOUR HOMEWORK, SAVE YOUR PENNIES (and your gas), for—to revive another ancient tag: TIME MARCHES ON! . . . and, one hopes that before many more winters have passed the Clans may also be able to foregather somewhere in the wide reaches of the prairies.

MILTON S. MULLOY, *Waterbury, Conn.*

## STUDY WEEKEND — WEST

Attending a Study Weekend is a happy experience. One learns at leisure in the company of kindred associates. It is not only the informative and stimulating program but the fun of discussing cultural details with someone who is really interested. There are no embarrassing silences at a Study Weekend, no bored expressions, for just as soon as one person pauses for breath there are several just waiting to add his bit or to ask a pertinent question. At monthly meetings the time is short and it is frequently difficult to contact members individually, but when you are with members for three days the opportunity to discuss is far greater.

The Western Study Weekend last year set such a high standard one wondered if it could be equaled in the future. Thanks to the hard work and intelligent planning of the committee the challenge was met with great success.

The location of the meeting was very important this year. Anyone who has ever experienced the thrill of being in the San Juan Islands will understand. The unique beauty of this area, so precious to lovers of nature, placed each one of us in a receptive mood for "Alpine Botany—Just for the Walk." This inspiring dissertation with its carefully selected slides was moving and

food for thought. Forgotten are energy crises, Cambodia and inflation when we can lose ourselves in the contemplation of all nature has given us.

The fundamental object of a Study Weekend is learning and this was well accomplished. What are microclimates and how can we meet and control them? Is it possible the succulent element has so much to offer in plant design of such great variety? Is it possible hybrids have given us so much of such value? Can I, too, raise those delightful spring flowering bulbs that effectively? Then that Iris display, gorgeous dwarfs and they can be raised from ARGS seed! Is it really true alpine houses need not be expensive?

So in comfort, replete with good food, surrounded by kindred souls we learned, we laughed, and we took down notes, each one of us so pleased with ourselves because we decided to attend.

The "banana belt" produced snow instead of bananas but fortunately the snow was light and wet and of short duration.

The committee receives our thanks. We appreciate all of their hard work and time expended and we want them to know their project was a great success.

ALBERTA DREW, *Rochester, Wash.*

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ATTENTION TRAVELERS—American Rock Garden Society members planning holidays in this country or abroad have written requesting information on private and public gardens they should visit and native plant areas where they can see alpines growing in their native habitat. With the increase of travel throughout the world there is a need for a source of such information. If you plan to visit any country where we have an International Relations Committee representative, write to that representative and you will be supplied with the rock gardening and native plant information you desire. The Committee representatives are as follows:

New Zealand—Mr. James R. Le Comte, No. 2 R.D., Ashburton, N.Z.

Scotland—Mrs. Kathleen Simson-Hall, Marwood, 93 Whitehouse Rd., Edinburgh EH4 6Jt, Scotland.

England—Mr. Barry Starling, Little Marles Cottage, Severs Green, Epping Upland, Essex, England.

Czechoslovakia—Mr. Joseph Starek, c/o Embassy of India, Valdstedjnska 6, Prague 1, Czechoslovakia.

Canada—Mr. Rex Murfitt, 3673 Blenkinsop Road, Victoria, British Columbia, Canada.

Austria—Dr. Franz Kiesenhofer, Hollheim 9, A-4020, Linz, Donau, Austria.

U.S. Eastern—Mrs. William M. Flook, Jr., Box 3748, Greenville, Delaware 19807.

U.S. Western—Mrs. Rodney B. Allen, 18540 26th Ave. N.E., Seattle, Wash. 98155.

When writing please give full details, such as date of arrival, length of stay in the area or country, special gardening interests, if any, as there are many small specialists' gardens that do not appear on tour lists as they are not generally open to the public. Allow enough time in case specific appointments need to be made. These International Relations Committee representatives will be happy to help you make your holiday a memorable one.

# THE GREAT BASIN PHENOMENON

## III. BASIN ECHOES

ROY DAVIDSON, *Seattle, Washington*

(In the summer of 1973 the small party that set out to encircle the western American desert Great Basin proceeded south along the eastern Sierra, crossed the Nevada desert to the Wasatch rim of Utah, then into what must assuredly have been a part of the Great Basin in some early geologic time: southern Idaho's Snake River Plateau. Reduced now to a party of but three, the last part of the narrative left them camped near Sevier Lake in central Utah, after having driven far into the night to escape the desert heat.)

Meadowlarks, crowing farmyard cocks and a chatter of sparrows announced the end of a short night all too soon, and so great was our impatience that we headed directly into the sunrise to take breakfast along the route, one of the few meals not prepared over the campfire in the eighteen days of our exploration. Snow near the top of Mt. Nebo (11,877 ft.) promised we'd hit the calendar about right, and as we topped a low summit into the charming little Mormon village of Fountain Green, our goal lay right in our sights, with an enticing snow-covered cliffside breaking away from the summit plateau. As rapidly as possible we gained that summit, via Ephraim Canyon in the Manti-LaSal National Forest. Perhaps we'd been anticipating too much; a profusion of wildflowers such as lupine was only commencing while the precocious things such as *Erythronium grandiflorum* had gone by. Could it be we were too early? In one snowbank we did locate *Ranunculus adoneus (eschscholtzii?)* and nearby on open stony ground of newly bared plateau (but already in flower) were broad carpets of a stemless white composite we took to be *Erigeron uniflorus;* in another opening in the snow a Caltha was lighting the cold, barren landscape, but in all, there was not much of promise in arctic-alpine treasure.

This station, on the drainage east to the Green River, northernmost tributary of the Colorado River system, consists of a nearly level and only very slightly tilted plateau of great size and beauty, with colonies of conifers below, while beyond and all about lay acres of green pastures which had for years been "sheeped". Could the constant browsing have depleted the flora that once must have been there? Here at 10,200 ft. we certainly should have found much more interesting subjects, and though we felt somewhat deflated, the area did have its lesson; we had come from below through a new and very different plant association, at first with a cover of low *Quercus utahensis* scrub and an occasional specimen of *Acer grandidentatum,* western counterpart of the sugar maple, a handsome small tree that should find more usage in cultivation, as its small scale and exceptional beauty ought to lend it well to smaller properties. We also found much interest in the educational roadside exhibits of the Great Basin Experiment Station of the USDA, established in 1912, its primary purpose the study of ways and means of maintaining, im-

proving and rehabilitating the forest and rangeland ecology. (Who said this was a "new" concern of mankind?) Of greatest import here is the control of devastating erosion resulting from the violent summer storms famous throughout the Wasatch. Overgrazing of course was soon blamed in part.

The terrain from the basin floor to the Skyline Drive at over 10,000 ft. is encompassed within no less than five life zones, from Upper Sonoran to Alpine, and each with its own dominant and characteristic growth. We noted *Aquilegia coerulea* about midway, in several zones. A quick visit to project headquarters in a big aspen-guised cirque disclosed a most informative and well-labeled natural planting of native subjects to be explored briefly.

A nursery plot lower down grows a thousand "exotic" species from fifty foreign countries and other parts of our own, trials toward introducing cover that will reduce erosion and slow down run-off. The purist would condemn any such practice, and we had to agree that tall bearded garden irises looked mighty strange on the steep roadbanks, yet they've proven to be invaluable soil-binders, so planted. Ponderosa pine, however, introduced as early as 1913, seemed to appear quite at home; though considerably stunted by the dry conditions prevailing and quite established, it was deemed "unsuccessful" since it has not been able to reproduce itself by seed. At several elevations, enclosures had for years excluded any grazing or browsing, and these clearly showed the contrast and effect of depletion of the natural cover outside their bounds. A great marsh near the summit was abloom with such as Dodecatheons, and roundabout, the hillsides of Penstemon had given their name to the area as "Blueball Flat."

Again, as at the base of the Sierra Nevada, we suffered intensely of the heat when down to the basin floor, and stopped frequently to cool ourselves with rootbeer floats and wading in inevitable village squares' flooded street drains, along with village children. We were proceeding southward toward the second of the three planned Wasatch stations, this one west of Marysvale on the flanks of Mt. Belknap in the Tushar Range, a spur of the Wasatch, draining northerly to two branches of the Sevier River.

From a base camp on another of those sparkling snow-fed streams, we left early next morning to be stopped soon by snowdrifts blocking the road, and thus we hiked onward and upward, confident of finding good things. A towering sheer cliff-face reached skyward some 200 ft., all its crevices crammed with alum-roots in promise, and we found it to be a good indicator, for this we felt to be one of several "favorite places," places we could come back to again and again. *Aquilegia scopulorum* was commencing; at one place on the lower side of the roadbank a huge old plant bore what must have been a hundred buds. *Silene acaulis* was here, as was the sky-pilot, *Polemonium viscosum,* a lovely thing but "skunky" to those with good noses; others included a perplexation of *Cerastium beeringianum,* some Arenaria, Stellaria and/or Minuartia spp., and a white violet, surprisingly.

A great cirque of weathered sandstone (we were nearing the "canyon country") held an overflow of *Synthyris laciniata* (which I found to be disarmingly similar to alpine forms of *S. missurica* in the southern Wallowas of Oregon, superficially at least). In the saddle leading over to the westernmore of the two Sevier Rivers, we took to the talus to climb to about 11,000 ft.,

not finding much that was not below, until driven back by the threat of a huge black cloud. Retreat seemed auspicious, especially in view of the lessons we'd been learning of Wasatch storms.

It was short-lived, though violent, and caught us near the limited shelter of a few small *Abies lasiocarpa;* then we decended the snow-blocked roadway to find our camp quite dry! Two Penstemons (scarlet *P. eatonii* with long hummingbird tubes, and a brilliant blue one) embellished the upper road-banks and at one place a quieter combination was afforded by a curious milkweed growing with rosettes of *Physaria newberryi,* another felty "pen-wiper": *Asclepias asperula (Asclepiodora decumbens)* bore three-inch, ball-shaped inflorescences of lime color with the "hoods" of the stamens colored pure violet, most attractively, looking like yarn-flowers.

Thus began our own personal encounter with the Wasatch storms of summer; we broke camp in a threatened downpour, and it poured, off-and-on-again fashion, for the following two days. We took a motel that night, literally swimming into it, darting out again periodically to salvage something that ought not to be wet, but which was already soaked, and here the dry specimens of plants began their slow deterioration, so that many identities remain obscure. A bright dawn next morning was deceptive, though it allowed enjoyment of several good stations for plants out on the Markagunt Plateau, southeast of the Wasatch. There were several Penstemons, all blue; some cinereous-gray in leaf, others that belonged to the *Ericopsis* subgenus and which we took to be *PP. caespitosus* and *crandallii,* were attractive, shining, matted plants. There was a small and very appealing white *Oenothera* sp., still good in the early morning; *Antennaria parviflora,* tidy little carpeter (of *A. rosea* persuasion), and another carpeter, this a delicate pink daisy-flowered composite from pink buds, as well as a small pale yellow lupine. All these were in and among the grasses, interspersed with towers of *Pinus ponderosa,* the presence of which, along with large flows of basalt, reminded us of the Colockum area east of Washington's Cascades. However, further along, the presence of *Pinus aristata* (or *longaeva?)* gave us back a proper perspective. The basalt flows afforded a cool place apparently for the success of *Aquilegia coerulea* var. *ochroleuca,* seemingly the western (Utah-Idaho) counterpart of the Colorado columbine. On the ascent up to the Cedar Breaks, we found the pretty, tall "pink dandelion," *Lygodesmia grandiflora,* the most bewitching notch-petaled golden-orange, gaillardia-like *Thelyspermum subnudum,* and an eye-bugging roadside show of salmon-pink Gilia, directly across from another, this of a brilliantly cobalt blue-flowered Penstemon—unidentified. How often we find such spectaculars on disturbed places, which ought to indicate to us possible usages in cultivation.

The Rim Road around Cedar Breaks amphitheater (its lowest elevation over 8000 ft.) skirts the awesome canyon (we paused on its rim for a quick lunch) and then leads off in the direction of Brianhead Pk. (11,335 ft.) from which point all the colorful sandstone canyons of the southwest break away. This is a low, mounded terminus, not at all a "peak" of a mountain, and we were alone on it in a most stupendous roll of thunder-drums, with occasional far-off lightning, a brewing storm that kept saner people in safer places, and we wandered over the vast tapestry of Phloxes and Eriogonums that hold

Earth intact in a lovely silvery smooth pattern. In a great cirque to the north, we found huge plants of the spectacular *Primula parryi* in full glory (another "skunky" one) with a companionship of *Synthyris laciniata.* Rain had not yet come, but the storm continued unabated in an awesome din, re-echoing from everywhere. It WAS cooler, a little bit.

On the descent, we searched successfully for the glaucous-blue form of *Petrophytum caespitosum* on the puddingstone topping of red sandstone cliffs, and as we came to the valley floor, the heavens opened totally and we experienced again the full force of a fierce Wasatch rainstorm. Roadside ditches were soon full, and water could but stand on the roadway; we were grateful for a new freeway and headed directly north, taking rooms in Salt Lake City, where it had been unbearably hot, and was still unbearably warm, and without rain!

By seven next morn it had cooled down to a bearable 70°, and we prepared to drive over the north rim of the present Great Basin, via the low gap through which overflow waters from ancient Lake Bonneville had once emptied northward into the Snake River drainage. Old lakeshore lines were plainly evident on the mountainsides just as at Pyramid Lake. The high plateau of the Upper Snake River in south Idaho is a desert plain similar to that through which we had been traveling, and many of the same species grow there, as for instance, *Chamaebatiaria millefolium.* Seed of many was ready for gathering, and thus we set about to its harvest.

Anyone in this general vicinity owes himself a visit to the Craters of the Moon; here is a truly unique experience for the perceptive, though it might be a big bore to many, being so big, so empty and so "useless". The national monument grounds are laid out with campsites and surfaced roads to some of the main features, including spatter cones from vulcan-times and ice-caves just below the surface in 100° Julys. Black cinder and pumice fields are tufted with the flannelly *Eriogonum ovalifolium* and with the white flowered form of *Lewisia rediviva,* and the bright purple of the little annual *Mimulus nanus* was everywhere, but we could not remain for long and moved on.

The Lost River Range, climaxed by Idaho's highest peak, Mt. Borah (12,662 ft.), is a limestone formation of roughest terrain, seeming strangely familiar to us who'd just spent a couple of weeks in similar ranges to the south. Of course we camped in the traditional spot to convene the official get-together of "Kelsey-moss Admirers, Universal" (those "devotees" of *Kelseya uniflora,* another of western America's unique rosaceous shrubs, a close mat-forming plant of great intrigue to rock gardeners.) It has been conjectured this is to be found throughout this precipitous limestone range at considerable heights, that it is able to find a foothold in this lowermost station though there being a constant cooling down-draft passing through the narrow canyon which carries one of the very few perpetual streams in the range. It is known from only two other places, one in Montana and the other in Wyoming. Some interesting subjects additionally include *Petrophytum caespitosum,* its appressed mats sometimes mingling with the similar ones of Kelseya, and then contrasting, whereas from a slight distance they are often to be confused, except for a slightly different "kind" of green color. A Draba did a credible mimicry of the two, though in smaller scale, and in pockets of cool soil, the

The most spectacular fragment of a mountain shell—(11,000 ft.) props up the sky beyond.

Sharon Sutton

annual *Androsace septentrionalis* made an attractive design, threadlike and precise; spiny, phlox-like *Leptodactylon pungens* with pale apricot flower was attractive enough unless one got too close, and a wispy little shrub, *Polygonum* sp., pink-flowered, straggled in clefts beneath gnarled old *Cercocarpus ledifolius,* with silvered mats of gold-flowered *Haplopappus acaulis. Cheilanthes feei* studded the limestone in an occasional appearance, once in the overhang to a cave mouth, and *Iris missouriensis* was lush along the narrow meadow strip of the streamside. We had a big ceremonial bonfire and when it died down and the moon had climbed high enough to peer into this narrow slit of canyon, its brilliance was NOT to be believed.

Rivers hereabouts sink into the deserts as they do in Nevada; we followed the Big Lost River up to its beginnings in enormous meadows near the base of Mt. Borah, passing in one place a fine colony of *Sphaeralcea munroana,* colored pale-carrot to rusty-brick. A representation of the close-carpet species of this high dry area was taken for reference and identification; all are tiny and silver, gray and/or spiny, and among them a Phlox, an Eriogonum (probably *E. ovalifolium),* a tiny form; the rest too foreign to be guessed at out of flower. The effect is a close carpet, blended, tufted and newly brushed. Our friend, Pediocactus, was even there making little accents in what we refer to as the "Doublesprings Flora". On limestone crevices near the old town of Mackay, we came onto the tiny form of *Penstemon humilis* we are calling "Mackay form", a wee ashen tuft with 2-in. stems of emerald blue.

Passing north over Willow Creek Summit put us into the drainage of the Salmon River and out of the Basin extension, though still in Snake-Columbia

drainage. We were to re-emerge on the old north rim in several places in the Salmon River ranges, the first station being in the White Cloud Peaks. Arriving in late afternoon, we immediately perceived we'd need lots of time and descended to a base camp, although another time we might consider camping at the top; in spite of deserted mine buildings and rusting machinery, the majesty of the place remains quite undiminished.

Not really unusual is the great cirque at the top, a wet meadow garden filling it brim full; but the most spectacular fragment of a mountain shell (ca. 11,000 ft.) props up the sky beyond, marked with the design of its birth, a series of color-bands, distorted abstractions breaking off skyward in a great upthrust that gives little clue to some former grandeur. A further road led up to near its base and from there we hiked out onto the perimeter of the cirque, hovering in the midst of a spectacle of flowering buckwheats. There were three species and no two individuals identical, colors from ivory and blush to baby-ribbon *(Eriogonum ovalifolium),* and from melon-to-salmon, to tangerine and rust, to raspberry-red *(E. caespitosum),* blossoms nearly all stemless, some flowers even pressed into buns of gray leafage, the rusty-haired mounds of *E. androsaceum* unmistakably distinct by contrast.

We hiked for some time on this vast scree, marvelling at distant views into the Salmon River country to the north, at the steepness of nearby canyon walls that gave glimpses of little lakes below, at the profusion of an exquisitely fragrant blue lupine (an 8-inch silver-leaf sp.) and the blaring bold beauty of great *Hymenoxys (Rydbergia) grandiflora,* the "old-man-of the mountain" in its sentinel-light clumps. This is one of the known places for *Primula broad-*

*Eriogonum caespitosum* — one red and the other yellow — flowers nearly all stemless
Sharon Sutton

*headiae,* which has been taxonomically allied to *P. cusickiana,* although there are those who maintain them to be really quite distinct; as we were not so fortunate as to find it, we cannot venture an opinion, other than to remark that ecologically the two were certainly far apart no matter their resemblances. On a steeply eroding cliffside, we came onto a "motherland" of Synthyris; this was the type area for *S. cymopteroides,* now to be interpreted as *S. pinnatifida* var. *canescens.* A larger form of *Penstemon humilis* and the rather similar *P. rydbergii* were painting the scree with blue, the grayish aspect of the former possibly lending an edge in appeal.

As we began the descent, we interrupted the browsing of a big buck mule deer, and lower down we found he had had the good taste to take an especially fine clump of Penstemon we had wanted to photograph! A large colony of a white 6-in. Silene (or was it a Lychnis?) eluded identification, although its dark purplish eye of color was seemingly very individual. In the seepages in the cirque were the heathers, *Cassiope mertensiana* var. *gracilis* and *Phyllodoce empetriformis,* and *Salix nivalis;* the ever-fascinating elephant's head, *Pedicularis groenlandica* with *Veronica wormskjoldii* (light blue) and *Swertia perennis,* a graceful little one of but a few inches; there was also a small tangerine-disked, golden composite in the wet meadow which we could never find again much less guess at for identity. An endemic of the region that extends east to the Bitteroot Range is the 7-in. scroph that was once known as *Penstemon* (or *Penstemonopsis) tweedyi* and is now allied to a Colorado species in the genus *Chionophila.* This has pale powder-blue flowers, flattened as if sat upon, several adangle up the short stem and all facing out into the light at the same angle and direction in open stony glades associated with, but not crowded by, Phyllodoce. Nearby the blue-paint-cups of *Gentiana calycosa* were commencing to pop open, *Phacelia sericea* was pluming a dry bank with amethyst, and *Gilia spicata* var. *orchioides* hovered between (a pretty little white one endemic here in this alpine form) whilst another apricot-colored Phlox relative, *Linanthastrum douglasii,* sat on stony banks.

Further below, the roadside was emblazoned with huge cups of *Oenothera caespitosa,* rosy in decline. A sliding talus both above and below the roadway was haven to the rather uncommon *Penstemon montanus,* spreading to large expanses in the coolth beneath the stones; this is related to *P. fruticosus,* of which a weak colony was seen not too far distant, but distant enough in this knife-canyon that only a goat would try to search out a mergence-zone where they might be expected to be interbreeding. (Subject of a past study some years ago.)

And so we reluctantly broke camp and began our homeward way; at Galena Summit we paused at the overlook for the breathtaking view of the Sawtooth Range and Stanley Basin, a lovely sight, but we could find nothing even of foliage of *Beckwithia (Ranunculus) andersonii,* a "pink buttercup" of repute. We wondered if it too had not been browsed.

From Stanley Basin a great wet meadow gives rise in one end to the main fork of the Salmon River and from the other to a fork of the west-flowing Payette River; we followed the latter. The short, soft yellow *Castilleja glandulifera* was lighting the broad roadside meadowlands in profusion, particularly attractive in the low light of evening against somber pines. This appeared to

be the same as the species in the high meandering meadows atop the Wallowa range in northeast Oregon, not unexpectedly, as the Wallowa flora contains a number of these plants of the northern Rockies and Salmon River ranges, representing their westernmost extensions. Together these latter mountains, with the Wallowas, must have represented the "old northern rim" of the Great Basin, and northwards of this, the original cover must have been much altered, decimated or destroyed in the Ice Age, the old rim acting as a refugium for those we now find there. We climbed again up onto the northern rim where we camped for the night in an expanse of wet meadow that was alive with all the wildflowers of the region, plus mosquitoes! This night we kept a campfire going and at breakfast the temperature read 34°F.

Two additional days were required to return to Seattle, with an occasional stop for a plant or a "cooler". We found extensive colonies of Petrophytum growing on granite rather than limestone and seemingly happy with their lot in several stations in the Salmon River ranges, and on their west end made a stop to see the gray-felt-leaf Penstemon that has been allied with *P. montanus,* as the var. (or ssp.) *idahoensis.* It is most distinct both morphologically and ecologically and would seem to be a perfectly good species in its own right. Apparently at some station or other someone observed the two in proximity and interbreeding; thus they were allied. The same situation can exist wherever two of the woolly-anthered *Dasanthera* subgenus species come together, and a similar lumping a long time ago still confuses them all with *P. menziesii* to many people.

We arrived in Lewiston, Idaho in late afternoon with the thermometer reading 103° (and not much shade in our lives). The following day was a traverse of the state of Washington with a special stop to visit a now old friend, *Pediocactus simpsonii,* in the Columbia basalt. And so it was ended.

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The little we may have contributed to the total knowledge of the plants of the Great Basin is dedicated to those who went before and so willingly helped in our efforts. On purpose we have not disclosed here explicit stations for some of the scarce or endemic species we saw; however, we do invite enquires from those who would go to see them, to study or photograph them, or to seek seed. We owe a great deal to Rupert Barneby and the late Dwight Ripley, to Carl Worth, Carl English, Margaret Williams and Charley Thurman, and we have been truly pleased to have been asked to share our experiences through these pages.

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THE MEMBERSHIP LIST—The newly printed Membership List for 1975, distributed with the January, '75 *Bulletin* deserves careful study. Many members can not or do not take the time for this, so a few statistics may be in order. The total membership, counting a family membership as but one, is 2350 to which can be added some 300 (there are that many family memberships wherein two people are involved) so the true membership figure is close to 2650. This is a net gain of approximately 450 over that at the end of 1973 when the previous list was published. This is an encouraging gain.

# LEWISIAS — FIRST AID AND MAJOR SURGERY

MRS. G. W. DUSEK, *Graham, Wash.*

Sometimes I wish Lewisias were a little less subject to ups and downs in their lives. But if they were as easy to grow as cabbages, rock gardeners, being as they are, would probably lose interest in them. A good friend once grew them by the hundreds, tossing into the compost all that failed to live up to his exacting standards for color and resistance to rot. My fellow eager beavers, with only a few plants whose idiosyncrasies must be endured, can ill afford to follow suit. Hopefully the following information will help them come through the school of hard knocks with as few bumps and bruises as possible, and maybe even graduate with a grin.

It has been my experience that the plants most apt to be bothered with rotting off, are those robust specimens, well supplied with leaves and multiple crowns, that have just given forth with a spectacular display of bloom. Trouble can usually be averted by watching the plants carefully following the initial flush of flowers. At this time the oldest leaves take on chartreuse, yellow or reddish tints. These should be carefully stripped away over a period of several weeks. At the same time small gravel about the size of the end of a finger should be packed around the exposed necks. If it should turn very wet and these old leaves have become mushy, it is usually enough to remove them and then wipe the necks with a finger. Don't forget the gravel! This should allow enough air to circulate to stop the problem. Following this treatment, it is not at all unusual to have a second or even a third show of bloom nearly as good as the first.

In their mountain homes the plants become rather dilapidated looking in the summer as they wither in response to the dry weather. The oldest leaves become hard and dry as they shrivel away almost to nothing. It is this natural loss of the oldest leaves that causes trouble in the garden. We want our plants to look plump and well cared for, so out comes the hose—or maybe it just takes a notion to rain all over them. Instead of drying naturally, the old leaves turn to mush. If not caught in time, the thick necks follow suit. All too soon another Lewisia gets heaved out as a dead loss, a most unnecessary state of affairs.

Gardens have a way of keeping one busy, whether it is a safari in quest of slugs or making a collection of blackberry thorns. The time comes when a check on the Lewisia shows a mighty sick chick. To complicate matters, you have no fancy sick bay for the patient and no green thumbs. None needed!

Dry your tears. Now pull off the affected crowns and strip off the worst leaves from the bottom up. Scrape all the goo off the necks, then check what is left. Badly damaged necks should be removed to a firm spot. Although longer necks may root somewhat quicker, as little as ½″ will serve. In the long run a rather shorter neck is to be preferred over the longer ones.

Now trot around the garden and look for a spot under a tree that is shady most of the day. It should have a nice sawdust mulch, new or old does not

matter. (Logically you should be able to use a pine needle mulch or hay mulch but I do not know this from experience.) Put your bottomless beauties down, pat them on the heads, and walk away. Now keep your hands off that hose! Oh, O.K. a light watering at long intervals won't hurt anything. Periodic checks to see that some misbegotten critter has not upended the patients are in order. If it happens, just turn 'em over and pat them down again. It doesn't seem to bother anything but your blood pressure.

During the hot days of summer, the foot-loose Lewisias will probably just sit there. Oddly enough the sudden removal of the offending parts seems to bring the swift collapse of the plants to a sudden halt. Though rootless, wilting slows amazingly. Initiation of roots apparently depends upon the lengthening days of fall. Instead of a few stragglers, a fine crop of vigorous rootlets results. My friend tells me he used to push his seedlings into lush growth, then behead them to insure just such a fine crop of roots on his mature plants.

By spring each of the crowns should have rooted. The larger ones will bloom on schedule and you will have graduated with that grin.

*Lewisia cotyledon,* its sisters and cousins, all respond well to the above treatment. For small fellows like *L. columbianum,* and the softer-leaved *L. tweedyi,* the process is the same except for one item. Go to your garbage can for a pickle jar or whatever. Rinse out the left-overs—it probably won't hurt to leave them in but the visiting firemen might get the wrong idea. While the jar is still wet, dump some dirt in it and shake it around generously. Spill out the surplus and upend over the patient. The dirt prevents playful sun rays from hitting the glass and cooking the plant. The reason for the jar is that these plants are either fairly small or have not as much of the protective coating that keeps the *L. cotyledons* from wilting too much. The jar is also more apt to come a cropper so be prepared to plunk it down again if it gets knocked over.

As far as results go, it doesn't seem to matter much if you hang over the "pore little things," alternately wringing your hands and encouraging them on to greater efforts, or if you do your check ups on a hit or miss basis. One day you'll investigate and find a whole batch of nicely rooted plants just itching to be set out in new homes.

Now we will suppose that you have been an impeccable gardener and none of your plants has had misfortune overtake them. They have been in the same spot for years blooming faithfully. Then one fine day you come to the conclusion that the flowers are mere shadows of their former selves; moreover the plants look like a batch of long-necked giraffes decked out in picture hats. The problem is the same as with teen-agers—a lack of communication between one and the other. The solution, to quote the Red Queen, is "Off with their heads." Admittedly it sounds rather drastic but the results would do justice to the fountain of youth. So off to the shade tree with them. The next flowers will be glorious.

As for *L. rediviva,* alas! Much of the time they have no heads to take off. So far as I know, one must rely on the progeny hidden in the lovely paper roses that follow the flowers. The seed parts of the other Lewisias are not nearly as charming. In fact, they are downright disgraceful! But if you had

not been quite so nasty nice about keeping the plants presentable, the chances are good that there would have been a covey of young hopefuls around mama in the gravel under her chin. They may or may not look like her. Hopefully they will resist rot better.

Actually Lewisias are not nearly so fussy about the site as has been rumored. I know of one garden where they have survived for years perched on the thick moss of a drained bog. It gets pretty wet in the winter but bone dry in the summer. The weak sisters gave up long ago but the hardy souls flower faithfully each year. In my garden they have grown in rock walls facing all points of the compass. Some are under the overhang of roof, some not. If it gets too shady, they grow well but may not flower. In the full sun they are apt to get rather dog-eared over summer but bloom very well. And the wee beasties that favor such spots are apt to use the roots for hors d'oeuvres. I also grow them in rock sandwiches, tucked under boulders and on a slope with gravel mulch. That is one of the rewards of beheading. The resulting plants are no more resistant to rot, but there are more of them to experiment with. Half a dozen plants, all alike, grouped together and all ablaze with flowers are enough to stop even the most blasé!

Recently we acquired a plastic house. The outflow of rooted cuttings is nothing short of miraculous—except for Lewisias. They simply do not like the humid atmosphere that is such a boon to most cuttings. In the name of experiment, I tried five tired old heads in an unused sweatbox under a tree using pure sand kept quite dry. One rooted reasonably soon with a nice "head of hair". One rooted—sort of. Three sat. Winter arrived and with it our usual wet weather. It soon became apparent that those last Lewisias did *not* like the sweatbox and its lack of circulation. Out they went to the old tried and true sawdust bed. One is too far gone, I think, to manage. It would not surprise me in the least to have the other two rooted by spring. All would have fared better there to start with.

Incidentally, when trimming those fat necks in preparation for the cutting bed, do *not* remove any of the scruffy looking "skin" on the outside. It may have all the appeal of a moth-eaten overcoat, but it seems to be vital to the life of the plant. Most of mine are cut straight across in the name of stability but now and then progress of rot may dictate a slant or even a bit of a ruffle to have enough workable neck left.

This fall my friend who formerly grew so many Lewisias looked at my plants. Stabbing a finger at this one and that one, he said, "I'd cut off all the leaves." Plants indicated were mostly *tweedyi* plants with particularly vigorous leaves. He gave his plants a butch haircut every fall. Not very eye-appealing but for the most part his plants did exceptionally well. For me now and then one will lose all its leaves *(tweedyi)* but these never seem to bloom as heavily. I try to split the difference by watching for and removing leaves as they show signs of problems. This is o.k. with a few plants but would be impractical where grown in any number.

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'76 '76 '76 '76

# BEWARE OF PLANT IDENTIFICATION FROM COLOR PHOTOGRAPHS

EDGAR T. WHERRY, *Philadelphia, Pa.*

In the New York Botanical Garden's volumes on the wild flowers of the United States there are regrettably a number of errors. The namings were furnished by the photographers, who in general are not professional botanists, so some names are incomplete or incorrect, and even assignments to geographic areas are at times erroneous. Having studied the members of the Phlox family (Polemoniaceae) in the field for many years, I am placing on record mixups in this family to aid rock gardeners who may try to name unknown plants in their collections by comparison with the photographs.

As a basis for classification and nomenclature I follow the scholarly book *Natural History of the Phlox Family,* by Verne Grant, adding sub-species based on my own observations; In the Far West the treatment in Abrams' *Illustrated Flora of the Pacific States* has proved more realistic than has other treatments.

| *NAME APPLIED* | *CORRECT NAME* | *DISCUSSION* |
|---|---|---|
| | Northeastern States, Vol. 1, Pt. 2, Pl. 100 | |
| Phlox bifida | P. oklahomensis | Petal-notches shallow; Out of range: Plains |
| Phlox divaricata | P. d. ssp. laphamii | Petal-tips notchless |
| Phlox glabberima | P. g. ssp. interior | Plant massive; calyx short; Out of range: Plains |
| Phlox pilosa | P. glaberrima typ. | Glabrous; anthers visible |
| | Plate 101 | |
| Collomia linearis | | Out of range: Western |
| | Southeastern States, Vol. 2, Pt. 2, Pl. 150 | |
| Phlox subulata (typ.) | | Out of range: Northern (ssp. australis—Southern) |
| | Plate 151 | |
| Phlox divaricata | P. d. ssp. laphamii | Petal-tips notchless |
| Phlox drummondii | P. d. ssp. wilcoxiana | Color red; out of range: Texas |
| Phlox nivalis | P. n. ssp. hentzii | Plant upstanding |
| Phlox pilosa | P. glaberrima typ. | Glabrous; anthers visible |
| | Plate 152 | |
| Phlox buckleyi | | Out of range: Northeastern |
| Phlox carolina | P. c. ssp. alta | Inflorescence massive |
| Phlox glaberrima | P. g. ssp. interior | Plant massive; calyx short; Out of range: Plains |
| | Texas, Vol. 3, Pt. 2, Pl. 90 | |
| Phlox divaricata | P. d. ssp. laphamii | Petal-tips notchless |
| Phlox drummondii | P. d. ssp. wilcoxiana | Color red |

| | | |
|---|---|---|
| Phlox glaberrima | P. g. ssp. interior | Plants massive; calyx short; Out of range: Plains |
| Phlox pilosa | P. glaberrima typ. | Glabrous; anthers visible Out of range: Eastern |
| | Pl. 91 | |
| Ipomopsis havardii | I. gunnisonii | Corolla radial; pale-hued |
| Ipomopsis longiflora | I. laxiflora | Tube short |

Southwestern States, Vol. 4, Pt. 2, Pl. 147

| | | |
|---|---|---|
| Eriastrum eremicum | E. e. ssp. yageri | Corolla near radial |
| Ipomopsis gunnisonii | I. havardii | Corolla bilaterial; lilac; Out of range: Texas |
| | Pl. 148 | |
| Ipomopsis longiflora | I. laxiflora | Tube short |
| Phlox hoodii | P. h. ssp. canescens | Mounded; leaves long |
| Phlox longifolia | P. l. ssp. calva | Herbage glabrous |
| | Pl. 149 | |
| Phlox diffusa | P. austromontana ssp. densa | Plant a small mat; |
| Phlox stansburyi | P. grayi | Tube short |
| | Pl. 150 | |
| Linanthus nuttallii | Linanthastrum n. | Present genus name |
| | Pl. 151 | |
| Collomia heterophylla | | Out of range: Northwest |
| | Pl. 152 | |
| Collomia debilis | | Out of range: Central Mts. (C. larsenii: Northwest) |
| Polemonium foliosissimum | P. occidentale | Inflorescence narrow |
| | Pl. 153 | |
| Polemonium delicatum | P. californicum albino form | P. delicatum in Central Mts. |

Northwestern States, Vol. 5, Pt. 2, Pl. 128

| | | |
|---|---|---|
| Phlox speciosa (2nd) | P. s. ssp. lanceolata | Flowers white |
| | Pl. 129 | |
| Linanthus nuttallii | Linanthastrum n. | Present genus name |
| | Pl. 132 | |
| Collomia debilis | | Out of range: Central Mts. |
| | Pl. 133 | |
| Polemonium carneum | P. amoenum | Flowers flesh, not blue |
| Polemonium pulcherrimum | P. californicum | Leaflets narrow; close |

Central Mts. and Plains, Vol. 6, Pt. 2, Pl. 165

| | | |
|---|---|---|
| Polemonium delicatum | P. d. albino form | Flowers white |
| Polemonium foliosissimum | P. occidentale | Inflorescence narrow |
| Polemonium pulcherrimum | P. delicatum typ. | Leaflets narrow; close (P. p. is Western) |

| *NAME APPLIED* | *CORRECT NAME* | *DISCUSSION* |
|---|---|---|
| Polemonium reptans | | Out of range: Western |
| | Pl. 166 | |
| Gilia acerosa | G. rigidula ssp. a. | ssp. status realistic |
| Gilia capitata | | Out of range: Western |
| | Pl. 167 | |
| Phlox caespitosa | P. c. ssp. pulvinata | Plants low mats |
| Phlox divaricata | P. d. ssp. laphamii | Petal-blades notchless |
| Phlox longifolia | P. l. ssp. calva | Herbage glabrous |
| Phlox pilosa | P. glaberrima typ. | Glabrous; anthers visible<br>Out of range: Eastern |
| Phlox pulvinata | P. caespitosa ssp. p. | ssp. status realistic |
| Phlox speciosa | P. s. ssp. lignosa | Dwarf: Out of range: Northwestern |
| Phlox stansburyi | P. grayi | Tube short |
| | Pl. 168 | |
| Phlox andicola | P. hoodii typ. | Small, low, tufted |
| Phlox condensata | P. caespitosa typ. | Leaves spreading; interlaced |
| Phlox diffusa | P. austromontana ssp. densa | Small, matted: P. d. is Western |
| Phlox hoodii | P. h. ssp. canescens | Mounded; leaves long |
| Phlox muscoides | P. bryoides | Leafy shoots quadrate |
| | Pl. 169 | |
| Linanthus nuttallii | Linanthastrum n. | Present genus name |
| Linanthus parryae | | Out of range: Far Western |
| | Pl. 170 | |
| Navarretia minima | N. intertexta | Plant and flowers ample |
| | Pl. 171 | |
| Ipomopsis aggregata (1st) | I. tenuituba | Tube slender; blades pink |
| | Pl. 172 | |
| Ipomopsis gunnisonii | I. havardii | Corolla bilateral; lilac<br>Out of range: Texas |
| Ipomopsis rubra | | Out of range: Southeastern |

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THINGS TO LOOK FORWARD TO—Roy Davidson reports that Ann Zwinger is to be one of our featured speakers at the '76 Rock Garden Plant Conference. Her second book, *Land Above the Trees* (Co-authored by Beatrice Willard, 1972) brought to our delighted attention an author and artist who was very much one of our own kind. The first book, *Beyond the Aspen Grove* bears the same attentive and loving detail to nature, in an area, however, below timberline. We are just informed by Mrs. Zwinger that a third, the story of the Green River, northernmost of the Colorado's tributaries, will be out in June. So look for it by the most attractive title *Run, River, Run.* For reviews of the first two books see ARGS *Bulletin* of July, '73, page 124.

# IN THE CAUCASUS MOUNTAINS

JOSEF HALDA, *Prague, Czechoslovakia*

Part II

The subalpine zone on the northwestern part of Chugush is from 2000 to 2600 m.a.s. This zone is very attractive to an alpine gardener. Here are many gentle slopes with a relatively deep layer of soil, where many very fine alpines grow. The average temperature during the growing season of over four months is above 5°C. The brooksides are covered by *Arenaria rotundifolia* with white flowers, combined with *Pedicularis crassirostris* with purple flower heads. *Primula auriculata* margins boggy spots and pools together with shrubby willow, *Salix caucasica.* Infrequently here grows the attractive shrub, *Salix pantosericea,* about 50 cm high with broad leaves, silver hairy and silky shining on both sides, nicer than our *S. lanata.* Its shrubs are eye-catching at a distance. The true alpine zone is from 2600 to 3000 m. Hence its meadows are probably the most beautiful in the world. Because of the great number of species found here I have had to choose the minimum of the most distinctive plants, so the notices on grasses and sedges, frequently neglected by the alpine gardener, are minimal. I was not able to determine all the species growing here but their quantity is quite surprising—about 300 in number. Here the first alpine to catch my eye was *Campanula tridens.* Short-stemmed pale blue flowers rising from minute clumps of basal leaves grow in such numbers that *you feel in eyes a blue fog.* The similar *C. tridentata* grows only in the central Causasus and southern Transcaucasia. Violet rays of *Aster alpinus* together with pink *Aster caucasicus,* yellow *Doronicum macrophyllum, D. dolichotrichum* with flowers arranged in pseudo-umbels, yellow *Centaurea fischeri,* lots of orange *Taraxacum stevenii,* yellow *Crepis caucasica,* shrublets of yellow *Hypericum polygonifolium* in large scale, from time to time covers of *Vaccinium vitis-idaea, V. myrtillus* and *V. uliginosum* carpet the landscape. To these are added white, turning to rose, *Cerastium purpurascens,* dense Kabschia-like covers of *Minuartia oreina* and decorative white or rose *Silene compacta* with large flowers; sweet scented and minute *Dianthus discolor* with white and pink flowers change to inflorescences of *Polygonum viviparum* and rich purple red *P. carneum.*

Still other alpines present are minute *Potentilla gelida* with large yellow flowers and with them *P. crantzii* with golden yellow small flowers, *Polygala amoenissima* with relatively large rose flowers in long one-sided spikes, which is closely akin to European *P. major. Polygala caucasica* is most often in its typical gentian-blue form, but there are also the rose and white flowered plants, clumps of *Gentiana nivalis (Hippion nivale),* covers of the famous yellow Gentian—closely related to our familiar *G. verna. Gentiana oschtenica* shows its flowers in colors from rich golden yellow to sulphur tones, with corolla twice larger than with its companion plant *G. angulosa.* While the leaves and stems of *G. angulosa* are olive-green, in *G. oschtencia* the leaves are yellow-green, which is a good diagnostic character even for plants not in flower. *Gentiana djimilensis* (often known as *dshimilensis)* of section Chondrophylla

*Ornithogalum pyrenaicum* *Polygonatum glaberrimum*

*Primula bayernii*

*Hippion nivale*

Jarmila Haldova

blooms in rich clumps of minute blue-violet flowers. Between them grow large clumps of *G. septemfida* with several large flowers on lush leafy stems. There are also lots of forget-me-nots *(Myosotis alpestris), Veronica gentianoides* with azure blue spikes and clumps of golden yellow *Pulsatilla aurea. Veronica filiformis* with minute coin-like leaves is a dangerous weed in our rock gardens.

We found *Anemone speciosa*—a golden yellow type of our *A. narcissiflora* only to 10 cm high with ternate leaves—and a similar *A. fasciculata,* white and multiflowered *A. narcissiflora,* about 30 cm high; a lovely golden fern, *Botrychium lunaria,* and on moister spots covers of *Lycopodium alpinum;* several kinds of buttercups, the low and tiny *Ranunculus helenae* with large and golden yellow flowers, inhabiting margins of fields of melting snow, *R. elegans*—some larger—to 20 cm high with large yellow flowers and long smooth-haired stems. Often here, too, is *R. oreophilus,* known also from our Carpathians.

A true pearl here is *Daphne glomerata* var. *nivalis.* It forms a minute shrublet with evergreen leaves and underground runners. Its buds are dark rose; the corolla of the open flowers is white inside. It grows in large groups both in meadows and on rocks. *Chamaenerion angustifolium* is a current in-

*Crocus scharojanii* *Colchicum speciosum*

*Polygala amoenissima*

*Gentiana septemfida*
Jarmila Haldova

habiter of spots richer in nitrogen; *Astrantia trifida* shines with its starlike rose flowers; and perhaps most often found here is *Betonica grandiflora* with dense inflorescences of purple flowers. Genus *Pedicularis* is represented by purple-rose *P. nordmanniana.* High alpine *Corydalis conorrhizza* is one of many species of this genus, present here, only to 5 cm high with green incised leaves and purple to violet flowers. *Viola ignobilis* is tiny, to 3 cm high, not scented, with heart-shaped leaves. *Viola oreades* has its flowers to 5 cm large, violet or yellow, but it is not more than 10 cm high. Here there is also blue *Campanula collina* with flowers often quite stemless—and others. One of the most common plants here is *Crocus scharojanii.* This species blooms in late summer and in the autumn changes to orange yellow color by its relatively narrow flowers thousands of acres of meadows and screes. For a botanist whose home is in the Carpathians it is a very unusual sight. The Carpathian fall is violet as its home autumn *Crocus iridiflorus (C. banaticus)* inhabiting the submountain zone is violet. In Central Caucasus *C. speciosus* is blue-violet. *C. scharojanii* is not a difficult plant, is easy to propagate and I can recommend it to anybody. Because of its autumn flowering it is much more recommendable to an alpine gardener than *Sternbergia lutea,* which in our climate is somewhat

uncertain. Leaves and flowers of *C. scharojanii* appear together; it is a distinct character of this species. In the Caucasus another yellow-flowered fall species grows—*C. vallicola,* the leaves of which appear the following spring.

The red-flowered *Gladiolus caucasicus* prefers dense clumps of grasses. *Veratrum lobelianum* together with various yellow Gageas as *G. anisanthos, G. sulfurea* and *G. glacialis* are indicators of snowy fields. *Muscari pallens* and *M. caeruleum* are the earliest flowering plants here, together with rare bluish-violet *Tulipa lipskyi,* white *Ornithogalum balansae* with heads of white starlike flowers and the similar *O. schmalhausenii. Lilium monadelphum* is one of the earliest lilies in the Caucasus. A view of large meadows full of such gems is unforgettable. The big, golden yellow trumpets on relatively short (30 cm high) stems move slightly in the mild winds and spread around a fine undeterminable scent.

The genus *Fritillaria* is represented in this part of the Causasus by three species: *F. lutea* is yellow—outside with violet blotches, inside lemon yellow; *F. latifolia* is brownish yellow; and *F. orientalis,* often known as *F. tenella,* is the third one. *Allium victorialis* with white flowers grows in the neighborhood of *Paris quadrifolia* and *P. incompleta* with undistinguished greenish flowers and poisonous bluish berries. *Lloydia serotina* with its white flowers climbs up from there to ridges where it grows often in crevices of rocks. *Polygonatum*

*Aster alpinus*
*Aethopappas pulcherrimus*
*Gentiana djimilensis*
*Polygonum viviparum*
*Gentiana oschtenica*
*Dianthus superbus*
*Gentiana angulosa*
Jarmila Haldova

*Polygonum carneum*
*Primula pseudo-elatior*
*Corydalis conorrhizza*

*Lilium monadelphum*
*Muscari coeruleum*
*Primula amoena*
Jarmila Haldova

*verticillatum* is a current species of subalpine meadows, decorative because of its leaves. But *P. glaberrimum,* a closely related species, became my favorite.

About the tenth day of our trip in the massif of Chugush we had used up most of our food. Now we had no potatoes or bread and even the ultimate reserve of chocolate was eaten. There remained only a piece of margarine. Nobody had the courage to eat it alone. I said to Tolja, "Let us go back to the valley—I feel too hungry!" But Tolja said, "It is nothing." Not far from our bivouac he had dug out some rootstocks from the ground. And when I asked what it was he showed me the stems which were cut out. It was *Polygonatum glaberrimum.* And when we added some rocky Allium for taste, it, when boiled, was edible—not tasteful—but when you are hungry you are able to eat everything. Later we decided that with some salt it was very good. Next day we captured one ular *(Tetraogallus caucasicus),* and so had meat for the next two days.

I see I've forgotten the Primroses, a distinct component of the flora of alpine meadows. Most often here is *Primula amoena,* closely related to our *P. elatior,* but lower, with some larger and widely open rosy purple flowers. It grows in meadows from the middle to the alpine zone and although it is here mixed with the yellow-flowered *P. pseudoelatior,* I have nowhere observed the hybrid between them, described by Kusnetzov. *Primula meyeri* is a very decorative small pink Primrose, inhabiting areas of short-stemmed grasses. *P. ruprechtii* prefers more exposed sites, where the basal leaves are often reduced to only scale-like forms. Beside it, in *P. bayernii,* which is a typical representative of Section Nivales the basal rosette of long, widely lanceolate leaves is very well developed; flowers are in dense and head-like inflorescences. Both of these Primroses grow easily in rock gardens.

*Primula algida* prefers more moist spots on brooksides or on shady rocks, where it forms in spring nice clumps of leaves and umbels of purple flowers. It easily grows weedy in more moist rock gardens. *Anthyllis variegata* is a semiwoody plant, a subshrub only 10 cm high, with several creamy but not showy flowers, which have very good red and greatly inflated calyxes. *Astragalus oreades* is a tiny violet species adpressed to the ground and often associated with *Artemisia marschalliana,* silvery low sagebrush. *Solidago virgaurea* is a widely spread species. The largest colonies I have seen of it are near the upper limit of the forest. *Erigeron alpinus* with miniature rose flowers also inhabits the rocks. *Achillea ochroleuca* with finely cut leaves and golden yellow flowers is a very nice alpine, but sometimes increases too rapidly in the rock garden. *Senecio integrifolius,* which grows even in the mountains of Central Europe, with coppery orange flowers and densely tomentose leaves, is found here most often in the subalpine zone. These are only a small part of the species which have their home on the meadows of the Western Caucasus. I tried to give preference to those species which would be more interesting to alpine gardeners.

The so-called tundra is formed by rather unusual associations with Dryas. In the Eastern Caucasus, in Daghestan, it covers hundreds of acres of blunt mountain ridges. In the Western Caucasus it covers only smaller squares, but even here it is interesting. On northern mountain slopes it is most frequently found at elevations of 2400-2800 m.a.s. *Dryas caucasica* dominates absolutely

*Fritillaria lutea* *Ranunculus oreophilus*
*Botrychium lunaria*
*Primula meyeri* *Viola oreades* *Daphne glomerata*
Jarmila Haldova

here. Truly there is a continuous cover of Dryas encrusted with other plants. Often it is *Salix arbuscula*—a miniature alpine shrublet with leaves only 2-5 cm long, widely ovate, and with bizarrely twisted trunks. *Vaccinium vitis-idaea* under suitable conditions forms continuing colonies. Many times any free spots among the branchlets are filled by compact cushion-like *Minuartia caucasica,* with spiny leaflets, *Primula ruprechtii* with minute rosettes and relatively large flowers, tiny *Polygonum alpinum* and ubiquitous *Campanula tridens. Empetrum hermaphroditum* forms flat colonies with indistinct flowers and nice berries. *Gentiana septemfida* var. *uniflora* is a very desirable alpine. It is as small as the European *Gentiana alpina. Saxifraga flagellaris* spreads everywhere by its stolons and places its rosettes even over covers of other plants. *Minuartia oreina* with rounded cushions resembles an Acantholimon. *Veronica gentianoides* var. *minor* has sparse spikes of relatively big and rich blue flowers. *Potentilla fruticosa* in its minute form is adpressed to the rocks and all of its branchlets are covered by lots of yellow flowers, very large in relation to its leaves which is the habit of all of these plants. *Vaccinium myrtillus* is present everywhere with *V. vitis-idaea. Doronicum oblongifolium*—a dwarf species in this genus—carries its large flowers on stems up to 10 cm high. Here *Ranunculus oreophilus* is omnipresent. The most distinctive of the grasses are *Festuca ovina* with clumps of wiry leaves, *Elyna capillifolia,* which

is most abundant, and *Carex tristis* with characteristic spikes of flowers.

The high alpine rocks are always the center of interest to any alpine gardener. In the Western Caucasus there are several plants which are characteristic of all vegetative cover. One of these plants is *Draba bryoides*. We can observe it both as small cushions and large carpets, covered in spring by a mass of short-stemmed tiny yellow flowers. It is currently used in alpine gardens. *Campanula saxifraga,* so very often only 10-20 cm high, with large, 25 mm long, rich violet bells, is commonly grown. *Campanula anomala* is somewhat similar but its flowers are somewhat larger. *Campanula petrophila* has a tubular corolla, bell-shaped, about 25 mm long, with narrowly lanceolate leaves. It is usually only 3-5 cm high and undoubtedly belongs to the most showy Campanula. Its fully blooming clumps on rocks look like blue balls at a distance.

To be continued.

## OMNIUM-GATHERUM

You may find Omnium-Gatherum rather short in this issue since there is much interesting material available. Do many of our members realize what an active organization the ARGS is? There are fifteen chapters in the U.S.A. and unchaptered members scattered in 31 countries throughout the world. Nearly all of the chapters are active. Well-attended monthly meetings are held by those chapters whose members are not too widely scattered. Many of these are evening meetings while others are held on Saturdays and may start at 10 a.m. and go on well into the evening. Many of the chapters prepare and distribute monthly reports of their activities—a newsletter or a full-fledged monthly publication. Then there are the numerous field trips, most of them daylong affairs, some even take in a whole weekend with overnight stops at motels—even camping trips are planned. Many members who live too far from the population centers and cannot attend monthly meetings happily exert themselves to join the field trips. Sometimes buses are used.

There are plant sales, study classes, annual dinners and even annual picnics. On a regional basis there are at present two Study Weekends, always held during the winter months, one in the East and the other in the West. Now there is word of the possibility of a like weekend in California and the suggestion has been made that a fourth might find a setting in the prairie states. On the national level, every year there is an Annual Meeting, never twice in the same area. In 1973 Milwaukee was the host city, the next year it was San Francisco and in 1975 this meeting will be held in Pittsburgh. Seattle in 1976, of course, has the great Interim International Rock Garden Plant Conference convening there.

All of these varied activities result in the exchange of knowledge concerning rock and kindred gardening, in the appreciation of wild flowers in their native habitats, a greater love of nature and the beauty found there. Then there are the beneficial results of time spent away from the everyday stresses of life as it is now lived. But best of all is the intermingling of people with kindred interests where new friendships are made, and established friend-

ships strengthened. Members from various parts of the country, even from foreign countries, are brought together.

All of this may be true of hundreds of other societies and organizations, but after all it is rock gardening in which we are interested and the plants that make it possible. Also our organization's interest is world-wide since flowering plants grow nearly everywhere. ARGS people are busy people—they study, they garden, they observe, they learn to conserve, they value our wildernesses, they exchange knowledge—in other words they are alive. Best of all the younger people are becoming active members who will carry on in the future.

Our necessary familiarity with plants leads to an acquisition of considerable knowledge of botany as a matter of course—allied subjects are drawn into this learning process—zoology (especially the birds) and geology are not neglected. In the course of time many members become well-rounded amateur scientists who are capable of knowing about and enjoying nature to the fullest without becoming so emersed in any one of these kindred "ologies" as to be deflected from the greater pleasure of an educated but natural joy in all of them. A true rock gardener can be and many times is an expansive person who gets out of life a very great deal and as a corollary, puts into life enough of himself, or herself, to balance the account.

Be proud of your membership in the ARGS and take part in as many of its activities as is possible.

* * * * *

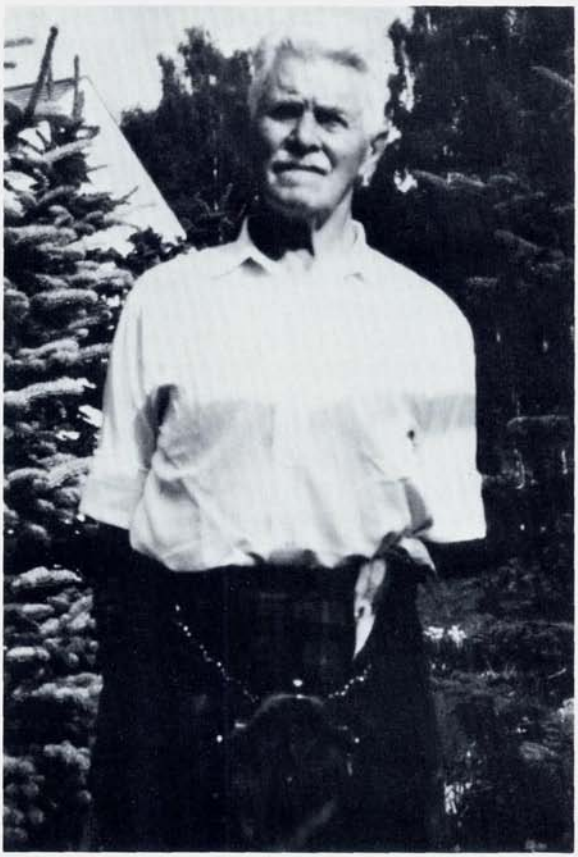
CARL S. ENGLISH, JR. HONORED—Carl, for many years a member of the ARGS, was honored on December 10, 1974 at a dedication ceremony at the Hiram M. Chittenden Locks in Seattle when the United States Corps of Army Engineers unveiled a plaque at the entrance to the extensive landscaped area north of the Locks and gave this area the official name of the Carl S. English, Jr. Gardens. The plaque, under the heading of the new name and a likeness of Carl, states, "In honor of the man who devoted 43 years of federal service to the development and care of these gardens. He gathered an extensive collection of plants and seeds from around the world. His landscape arrangements provide visitors a variety of texture and color throughout the year."

The Hiram M. Chittenden Locks, also known as "the Ballard Locks," provide access from Puget Sound and the Pacific Ocean to Lake Union in the heart of Seattle and to Lake Washington which for 25 miles forms the eastern limits of the city. These locks, through which pass every type of marine craft except the very largest, attract thousands of visitors, especially in the summer, to watch the homecoming of many hundreds of pleasure craft returning from cruises throughout the Puget Sound area, but more visitors come during all the year to enjoy the landscaped gardens, to marvel at the shrubs and trees that Carl has established there in a remarkable number and variety—over a thousand varieties. A trip to the Carl S. English, Jr. Gardens is a "must" for every visitor to Seattle regardless of the time of year.

Carl has been Chairman of the Northwestern Chapter of the ARGS and it is seldom at our monthly meetings that he does not bring to the meeting one or more specimens of little-known plants, many in flower, about which he gives informative talks.

# OBITUARY

## MAJOR GENERAL D. M. MURRAY-LYON D.S.O., M.C.



Members of the A.R.G.S. will mourn the death on 4th February of "the General" as he was affectionately known in the rock gardening world. This grand plantsman was well known in many countries personally or through correspondence or his writings in gardening journals.

Born in 1890, he made the Army his career. During the First World War he served with distinction in the Highland Light Infantry and was awarded the Military Cross and later the Distinguished Service Order. After the war he transferred to the Indian Army where he remained until he retired. When on active service on the North West Frontier of India he received a bar to his D.S.O. John Masters, the well-known writer, served under him in India and describes his commanding officer, whom he obviously admired, in his autobiography "Bugles and a Tiger." Always interested in plants, it was when spending leave in the hills that his great love and knowledge of mountain plants developed and many army stations had small rock gardens made by

him. In the Second World War he saw service in Baluchistan and Malaya and rose to the rank of Major General.

On his retiral he went to live in Pitlochry, the gateway to the Scottish Highlands. There he started to make a garden that was to become world famous. In 1951, for health reasons, a move was made to Edinburgh and here before long the small garden in front of his house was packed with treasures. By now he was taking a very active part in the Scottish Rock Garden Club, acting as Publicity Manager and Edinburgh Show Secretary before becoming President in 1955. City life and a small garden he found frustrating and he returned to his old home in Pitlochry in 1957. Much work had to be done to the garden but some good plants had survived including a *Lewisia tweedyi,* planted nearly ten years before. Among the hills, with the scent of pine trees and heather and a wonderful view across the valley, this was an ideal setting for a garden filled with mountain plants. And so over the years plants from all over the world thrived under the skillful cultivation of the General. A visit to "Ardcuil" was always a joy and during the spring and summer months a constant stream of visitors from home and overseas enjoyed the warm welcome and hospitality of the General and his wife Meredith. A tour of the garden was always interrupted by a visit to the potting shed to collect a trowel and polythene bags and a bit of this was dug up and a cutting of that was given by that most generous gardener to enhance another garden. He was always willing to give advice and encouragement to the less knowledgeable. He took a great interest in the Scottish Rock Garden Club Shows, sometimes attending in the capacity of a judge and often winning top awards when exhibiting. He was a member of the Joint Rock Plant Committee, formed by the Royal Horticultural Society, the Alpine Garden Society and the Scottish Rock Garden Club to give awards to plants of outstanding merit, and he was awarded the Scottish Horticultural Medal by the Royal Caledonian Horticultural Society.

For the past eight or nine years he led a party to the Alps or the Dolomites. His careful study of all available information about the chosen district made it possible to plan expeditions to the best sites to see the glories of the mountain flora. He was to have taken a party to the Dolomites this summer.

He will be long remembered and sadly missed by those privileged to know him.

To his wife, daughter, grandchildren and great-grandchildren we offer sincere sympathy.

Betty B. Cormack, *Edinburgh, Scotland*

* * * * *

SEED EXCHANGE COMMENTS '75—Dr. Edgar T. Wherry writes concerning the latest Seed Exchange list; "This year's Seed List contains errors too minor to be worth a special note in the *Bulletin.* However, to save inexperienced members future disasters, I do feel that a list of weedy or invasive species not so labeled should be pointed out." The list follows: 1639 and 1940, *Hesperis matronalis;* 1705, *Hypochoeris radicata;* 1719 and 1720, *Impatiens biflora* and *I. catensis;* 2027, *Lysimachia clethroides;* 2400, *Pinellia ternata;* 3172, *Typha latifolia.*

THE SEED EXCHANGE AGAIN—By this time most of the seed distributed this year will have been planted. If the seed you ordered failed to arrive when expected—don't give up! Perhaps there will be no need to plant them.


GREAT NEWS, DOCTOR — WE FOUND YOUR LOST SEED ORDER!

Virginia Howie

# BULLETIN

OF THE

# AMERICAN ROCK GARDEN SOCIETY

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# LET'S MEET IN SEATTLE!!!

ELVENA *and* NORMAN CLARK

The response to the 1976 Interim Conference Interest Finder, enclosed with the October 1974 Bulletin, is tremendous—exceeding all expectations. Even now in April 1975 it is not unusual to receive additional carefully assembled documents, adding to the input which helps the planning committee in its effort to make your visit to the West Coast of the North American Continent a rewarding experience.

First, it can be stated that the overwhelming interest expressed is to see and photograph native alpines in their natural setting. If weather and sun cooperate (as they should in July) you will have this opportunity.

Many have indicated an intention to arrive early and stay in the area for a few days afterward. Those with transportation will be able to visit numerous points of interest ranging from the Siskyous, some 500 miles south of Seattle, to the North Cascades 200 miles north and east, to the Olympic Peninsula, some 40 visible miles directly west and to the Canadian Rockies.

Leaving Seattle July 23rd, the Conference will adjourn to Vancouver, 140 miles north by freeway, Amtrak, Greyhound, Continental Trailways or commercial air travel. Here is the gateway to the Canadian Rockies and Banff-Lake Louise, some 700 miles northeast of Seattle. Those arriving by air will find rental vehicles available at standard rates.

The cost and housing arrangements are considered extremely important factors in planning by many. It is the hope of your planning committee that many of those attending will take advantage of the reasonable housing offered at both Universities, the *foci* and *loci* of the Conference, where you will be in close association with those you wish to meet, gathered here from all over the world.

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