



Radvan Horny

Porophyllum Saxifragae

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Rock Garden Society

The Bulletin

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SOME SAXIFRAGES

H. LINCOLN FOSTER
Falls Village, Conn.

The last book devoted exclusively to saxifrages was written by Walter Irving and Reginand Maltby and published in England in 1914. Since then there have been short articles in various journals, and Winton Hardy did a series of articles for the *Quarterly Bulletin of the Alpine Garden Society* in 1969 and 1970 dealing with the genus in its various sections, a series later published as an AGS Guide.

It is curious in many ways that horticultural authors have been timid about dealing with a genus that Farrer characterized as the backbone of rock gardening. There are, probably, a number of reasons for this reluctance.

The genus in the wild presents even trained botanists with critical problems and until the taxonomists have settled their confusions, the horticulturists tend

to flounder — always years behind. But look at the horticultural literature dealing with rhododendrons and with orchids, two genera equally complicated.

Likewise, as with rhododendrons, the saxifrages are rather free in hybridizing, not only in nature, but certainly in the garden; hence few garden saxifrages represent what taxonomists would recognize as true species. This is most certainly true among the “encrusteds and the mossies”, and to a large extent among the *Kabschia-engleria* complex, currently lumped in the section *Porophyllum* by many botanists.

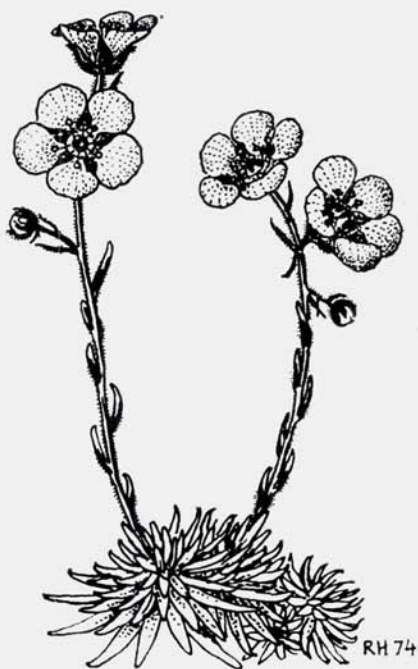
At one time, primarily during the first three decades of this century, saxifrages of all sorts were extremely popular among the horticultural cogno-

scenti because they made a good display in pots at competitive shows and because they were at the same time slightly tricky to cultivate well. Hence every keen competitor tried to grow the largest and floweriest pan of saxifrages for the shows and every nurseryman was as furiously creating new hybrids to lure the pence and marks from the grower. This was the time when new named hybrids, particularly in the most popular sections of the genus: the *Kabschia-englerias*, the encrusteds, the mossies — were filling the nurserymen's catalogs and prancing their way to the show benches.

As new species were introduced, they were forthwith made the subject of devoted hybridizing, not only by the nurserymen but by enthusiastic amateurs. Among the leaders of this swarm of hybridizers were Farrer, Irving, Boyd, and Pritchard of England and Suendermann of Germany. Many of their hybrids and selected forms of species are still in cultivation — commemorating a fine frenzy and an admirable devotion.

Then there came about what must be looked upon as a mini-dark age in the creation and culture of the saxifrages. The First and Second World Wars took their obvious toll. But I suspect that the principal reason for the decline was a combination of things. There was a limit to the size of a full flowered pan of saxifrages and beyond a certain point there was no competitive impetus. Very few new species were turning up in the wild to enrich the hybridists, while at the same time primulas, meconopsis, rhododendrons, et al. were swarming in from the plant explorers. The new plants presented a new challenge and the saxifrages became more and more *deja-vu*; plantsmen are as fashion prone as food addicts and the clothes conscious.

Moreover some of the old clones of saxifrages appeared to lose vigor, either from that mysterious tiredness that plantsmen assign to continued vegetative propagation, or more probably from a susceptibility to such soil organisms as nematodes that had evolved along with the dwindling rage for saxifrages.



There was a definite waning of enthusiasm in England, and German horticulturists were not prepared to take over the work of Papa Suendermann. At the same period after the wars, however, in America and interestingly enough in Czechoslovakia there was a renaissance of interest in the saxifrages.

There were only a few nurseries still listing species and hybrids. Names had become increasingly muddled and more often than not the same plant was sent out under two different names or different plants had become tagged with

the same name. Seedlings of hybrids were occasionally grown and old names reassigned. Confusion was compounded.

That same confusion still generally reigns. Dr. Radvan Horny, a paleontologist at the Museum in Prague, Czechoslovakia, became enamoured of the *Kabschia-engleria saxifrages* and grew successfully as many as he could lay his hands on. His garden, outside Prague, on a steep limestone slope, provided an ideal setting. Some of his fellow rock gardeners in Prague and surrounds, all of them keen and expert gardeners, had already been bringing back into cultivation by hook or by crook many of the old time saxifrages from England and Germany. Their lists were impressive, their enthusiasm endless, and their growing skill mighty. But Dr. Horny, a highly disciplined scientist trained in taxonomic paleontology, was naturally distressed by the confusion among the *Kabschias* (which in the meantime botanists had combined with the closely allied *Englerias*) and especially puzzled by the utter welter of hybrids. With the encouragement and assistance of some of his colleagues he determined to try to bring order out of the chaos.

He tried a number of approaches. First he attempted to sort out the hybrids by looking at what was in cultivation under all their names. Then he searched the literature, such as it was, in gardening articles, nursery catalogs and through personal correspondence. He then started at the very base with the wild species, pouring over all the old and latest information in the scientific writings. These he checked by as many personal field explorations as he was able to undertake. Dr. Horny and his associates will, I am sure, finally be able to bring some order out of the confusion and God bless him.

On the basis of his research he



has devised a system of grouping all the named hybrids and cultivars around the basic species into a set of what might be called *grex* and *super-grex*. (*A grex is a group of hybrid clones all with the same parents.*—Ed.) For a brief summary of the work, which will eventually be published as a book, refer to the *Bulletin of the American Rock Garden Society*, Vol. 33, No. 4, pp. 183-192.

If we follow Dr. Horny's system, so elegantly devised, we shall have to make a few adjustments in cultivar names commonly in use, but the effort will help to clarify genetic relationships. For instance, the reliable old favorite we have known as *S. 'Irvingii'* has been rechristened 'Walter Irving' to conform to the code of cultivar names and to permit the adoption of *irvingii* as a new Latin bi-nome for a group of cultivars sharing the parentage *S. burserana* (formerly *S. burseriana*) x *S. lilacina*. The same has occurred in some other cases of old familiar terms, such as *S. x boydii*. But the system begins to bring order into the welter of hybrids and cultivars among the *Porophyllum saxifrages* that must eventually be accepted, I think, because it makes sense and is in conformity with codes of nomenclature being adopted

by rhododendron fanciers and other horticulturists.

I fear that my own rather carefree breeding of saxifrages for a few years complicated Dr. Horny's problems. Starting in the late 50's I purchased a few *Kabschia* saxifrages from the only source I knew at that time: Andre Michaux's Alpenglow Nursery in British Columbia, Canada. There were, as I remember now, such things as *SS. apiculata*, *irvingii*, *elizabethae* and *burseriana*. For these precious small tufted plants, obviously pot grown, I constructed a small special bed with lumps of foamy slag from a nearby old iron foundry. They did flourish despite the fact that I put them into too shady and dank a corner. The first flowers were an enchantment. Then the plants grew leggy and less flowery; mosses and sagina crept into the loose tussocks.

Meanwhile I had begun experimenting with seed of saxifrages from the various seed exchanges. With beginner's luck I had fine success, and soon learned that most, and certainly the most winsome, are slow in developing beyond the first set of true leaves. It is best, I found, to leave them until the second year in the seed pan. Then each seedling goes into a small pot until it begins to push forth rosettes in all directions and fill the pot with roots.

Soon I was avid for more and more diversity. I sent orders to Lohbrunner in Canada and Suendermann in Germany. Some shipments survived but I learned that the small rooted cuttings of saxifrages (what they *can* afford to send), with sparse tangled roots washed free of soil, as they must be for importation, are difficult to bring along.

Whatever survived and flowered was pampered and if seed was set it was gathered and planted. To my surprise, from yellow flowered *S. x elizabethae*

and yellow 'Faldonside' I got some white flowered seedlings. Bees and genetics were obviously at work.

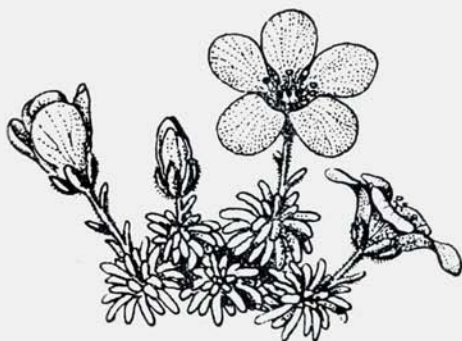
Meanwhile I had made a sort of bastard alpine house out of an old sap-house and in it carried over in pots all the saxifrages I could lay hands on plus my own seedlings.

About this time I struck up a correspondence with Dr. Radvan Horny in Czechoslovakia, and also began to take cuttings from the best of my seedlings. I suppose I had tried cuttings before but without a great deal of enthusiasm because I had put myself down as a seed grower, not a cutting man. I just didn't seem to have a feel for when or how to take a bit of living stuff off a plant and make it into a self supporting plant system. And the green fingers were never as green as I hoped.

As a spin-off from my correspondence with Dr. Horny there arrived one year, just before Christmas, by airmail from Czechoslovakia, a candy box stoutly wrapped in that foreign looking paper and string. Inside the box were no exotic sweets. Instead in serried ranks were individual rosette cuttings of a sampler of saxifrages. Each cutting was nested in a tuft of moist sphagnum moss that had been precisely bundled about the base of the stem by a spiral of fine, strong thread enwrapping cutting, sphagnum, and a tiny red plastic label that bore a neatly printed name. The oblong of that candy box, when opened, displayed a work of art and nature eloquently combined into the perfect Christmas message across miles of space.

All of those cuttings, except two, rooted in sand under lights in my basement within two months. Most of them reside still in my alpine house and have given rise in turn to other cuttings shared hither and yon.

The arrival of those cuttings in the dead of winter and their success in rooting prompted a continuing program of cutting propagation in late fall and early winter. Most advice is that the ideal time is immediately after flowering. That is true. Saxifrage cuttings will root readily then, but there are disadvantages at that time of year. Spring is busier in the garden than winter. Cuttings root and need potting during the heat of summer and are still small when the following winter sets in. Saxifrages rooted in early winter may even be set outdoors in the fall of the same year.



The collection of new cultivars from Dr. Horny and my own increasing population of seedlings packed cheek by jowl in the smallest pots possible soon elbowed out almost all the former inhabitants of the alpine house. As they bloomed during the late winter and very early spring with new excitements each year, I kept on "pimping". With a small camel's hair water-color brush I would transport pollen from one to another. One year it would be yellow on yellow or yellow onto pink. Another year pink on white or whatever was in bloom. Because each plant carried a number of blossoms and because each blossom stem was too frail to carry a separate tag, I kept few records of

the crosses. When seed was set and collected I did record on the packet the name of the female parent at least.

One year I thought I should be more scientific and selected up to three open blossoms on a plant, plucked out the rest and put onto the stigmas of those remaining, pollen from a single plant. Into the pot went a label that bore a number and the full parentage; this information was recorded in a note book.

Two years later I had a population of seedlings in small pots, each with a label bearing a number such as 69-021 *diapensoides lutea* x *lilacina*. These were lined up row on row on a flat wall around our parking area in light shade, near a source of water and close by for frequent inspection.

They were also at a convenient height for a grandson who came to visit. While the adults sat and chatted on the terrace out of sight, he amused himself by gathering the labels into neat bundles by color and size.

As a consequence of my own carefree pollen dabbing and this forgivable and doubtless inevitable thwarting of my one effort at orderliness, my saxifrage progeny have only a partial or putative parentage. I know this has been a vexation to Dr. Horny who encouraged me to send samples of my cultivars.

He has been most patient about my partial and vague accounts of parentage and most generous in his praise of many of the individual plants. Like all breeders I have certainly been biased in my admiration of the seedlings that came along from my simple act of carrying pollen from the anthers of one saxifrage to the stigmas of another. The best, and there have been too many I know in my dotting estimation, I have christened and propagated and handed around. For names I have used constellations, mythological characters,

figures from Shakespeare, and the names of the members of my family and of horticultural friends. A few have perished since their christening. Some have proved so similar to cultivars already named that I have ceased to recognize them. Two have been distinctive enough to have been elevated in Dr. Horny's pantheon to the status of his grex binomial Latin nomenclature: *S. x lincolni-fosteri* and *S. x wendelacina*.

I append a list of cultivar names I have been vain enough to attach to seedlings of my own raising, with an indication of their characteristics and what information I have of their parentage. The list is doubtless longer than it should be and will occupy valuable space in the Bulletin. My only excuse for including it is that most of these plants have been given to other growers and they may be curious about their history so far as I can furnish it.

Some Millstream Saxifrages

- 'Aladdin': *x ferdinandi-coburgi*,
yellow, flowers in heads of 6-8
- 'Ariel': *lilacina x ? porophylla*,
purple, handsome foliage, flowers intermediate
- 'Clarissa': ?,
white, large, crenate flowers
- 'Cleo': 'Faldonside' F2,
white, compact spiny plant, large flowers on short stems
- 'Demeter': 'Petraschii' F2,
white, tight bun
- 'Diana': *diapensoides* 'Lutea' *x burserana*,
yellow, very compact, slow growing, type for Dr. Horny's *S. lincolni-fosteri*
- 'Dwight Ripley': *lilacina x ?*,
deep rose, flat, hard rosettes
- 'Eliot Ford': *lilacina x burserana*,
pale rose, tight cushion, early flowering
- 'Eliot Hodgkin': ?,
yellow, cluster head, long pointed leaves
- 'Elizabeth Sinclair': 'Elizabethae' F2,
yellow, large flowers, solitary
- 'Ellie B': *lilacina x porophylla*,
purple, sister seedling of 'Ariel', larger rosettes
- 'Falstaff': 'Faldonside' F2,
white, vigorous and floriferous
- 'Galahad': 'Bertolonii' F2,
pale yellow, open growth, red flower stems
- 'G. M. Hopkins': ?
white, hard cushion
- 'Icicle': 'Elizabethae' F2,
white, blue-gray foliage
- 'Jason': 'Elizabethae' F2,
bright yellow, solitary flowers
- 'Juliet': *lilacina x porophylla*,
red purple, sister seedling of 'Ariel'
- 'Klondike': *burserana* 'Sulphurea' F2,
cream yellow, good round flowers
- 'Kath Dryden': *lilacina x ?*,
deep rose, compact flat rosettes
- 'Lusanna': *lilacina x burserana*,
white flushed with pink, sister seedling of 'Eliot Ford'
- 'Luna': 'Petraschii' *x ferdinandi-coburgi*,
yellow, cluster head
- 'Midas': 'Elizabethae' F2,
bright yellow, cone shaped rosettes
- 'Moonbeam': *lilacina x yellow ?*,
yellow suffused pink, very slow growing
- 'Millstream Cream': 'Elizabethae' F2,
cream yellow, good compact grower
- 'Opalescent': ?
apricot with pink suffusion, distinctive color and flower form
- 'Prince Hal': 'Faldonside' F2,
white, good grower, sister seedling of 'Falstaff'
- 'Peach Blossom': 'Bertolonii' F2,
peach pink, sprawly growth, deep red sepals
- 'Sara Sinclair': *lilacina x ?*,
rose, rapid grower, floriferous
- 'Stella': 'Petraschii' *x ?*,
gold, neat and compact
- 'Sun Dance': *burserana* 'Sulphurea' F2,
cream yellow with deep eye ring
- 'Timmy Foster': *lilacina x burserana*,
deep pink, large flowers, very early, sister seedling of 'Eliot Ford'
- 'Valborg': 'Valerie Keevil' F2,
rose, strong grower
- 'Valentine': 'Valerie Keevil' F2,
rose, compact, late flowering
- 'Wendrush': *wendelboi x lilacina*,
deep pink, tight mound
- 'Wendy': *wendelboi x lilacina*,
strong pink, type for Dr. Horny's *S. x wendelacina*

ULU DAG, The Turkish Olympus

ROY DAVIDSON
Seattle, Wash.



29 May — Today we are to begin our first climb. Pulses quicken at the first glimpse of our mountain cast in white on the southern horizon, south of the Sea of Marmara. We have crossed the Bosphorus bridge from Istanbul and are now in Asia (Anatolia of ancient history); we've moved easterly to the port of Izmit along an arm of the sea, followed its southerly shore (now heading westerly) and turned southwards to gain a small rise. The mountain from this perspective is impressive for its sheer mass, a huge ridge running in an east-west axis as do all the mountains of Turkey, part of the greatest folds of the Earth's surface, which extend from the European Alps to the climax of the great Himalaya. There is something else at-

tracting us — a pattern of green quite visible among the snowpatches as we contemplate early spring from afar, across the agricultural plain of Bursa, stretching between.

Twice we stop. The first time I fancy seeing Madonna Lilies on the bank high above a protective highway bulkhead of huge, beautifully mortared stone blocks. It is convolvulus, but nearby is a foot-high (30 cm) powder-blue campanula of some charm and a towering ornithogalum seated securely in *Terra rosa* only just slightly more dentable than tarmac. At the second stop, on a further rise, a pasturage not yet grazed for the season, a coarse muscari is in seed, a lovely low pink mallow and a similarly colored convolvulus make known their distinctions, and two

orobanches are profuse, one tall, grayish, the other low, blue. There are many of these strange parasites in Turkey, most of them on legumes, we're told, and legumes may even outnumber the composites here. The ground is rosy-red in patches where the brilliant five-point star-shaped capsule-clusters of the annual *Trifolium stellatum* are reaching the high color of maturity.

From the ancient market city of Bursa, we seek the way up onto the mountain; the old city was built on its very flanks, rising directly from the flat plain. History has it that Bursa (equals Prousa) was a flourishing trade center of ancient Bithynia, later to become the first capital of the Ottoman Empire, in 1326. Some parts do not seem much changed, particularly the section we traverse, threading — along with pony-carts — through passages that have become streets, narrowing, branching, widening, always climbing, and now with a sign post and arrow at each of many "hesitation points." Unbelievably, we are soon above the city looking directly onto its close pattern of slate-flat, red-tile rooftops, all the buildings multi-story and of masonry, the modern ones encased in earthquake-resistant steel-concrete framework, with broad windows and balconies; even older ones are marked by these characteristics in their design, though simpler, lower. By now it is evening; the last rays of a fading sun bathe westerly slopes of huge castanea trees; camped in a small grove, we prepare a hot meal to complement the fresh loaf from a Bursa street vendor, wash up, and turn in.

Dawn of May 30 brings a glorious new day, first to the other side of Ulu Dag; to us it brings shepherd boys full of curiosity, their flocks and dogs; the steep slopes are pastures, with an occasional orchard plot from which

cherries and strawberries are being offered on the roadsides. After a breakfast of strawberries we finally recommence our journey. The roadside yields on undercut banks about a dozen species of the ubiquitous legumes, large and small — from white, azure, violet, cerise, pink, ivory, honey, butter, gold and brass — only poppy-scarlet is missing. Lower, the holiday crowds gathered sweet bouquets of *Spartium junceum* (or were they gathered for market? It would be difficult to say — probably both). Above we pass into a belt cooled by *Abies nordmanniana* ssp. *bornmuelleriana*. Small inns and outdoor restaurants are all along the way, one smelling deliciously of roasting lamb. Surprisingly, the good roadbed is of square-cut cobbles as in most of the cities in this part of the world, and in very good condition, obviously put down by artisans. Roadsides are hand-cut for fodder carried away on pony carts, and of course the wildflowers go along too. We are struck with the beauty of the soft primrose-colored *Hypericum olympicum* and then the gold of *Genista lydia*, both familiar as garden plants, yet surprisingly fresh up here in their homeland. A six-inch, creamy achillea seems almost as good. At one stop a bank glows softly mauve with the unflowered leafage of a little sedum (*S. magellense?*), each scrap rooted into fine gravel. We move upwards through a pure stand of *Pinus nigra* ssp. *pallasiana* (natural it seems; at least not of a size, nor in rows), great sweeps of *Viola gracilis* carpeting all, here in blue, sometimes wan but "silvery," often violet-shadowed; this goes with us to the base of the summit in a variety of terrain and exposure. The roadway has now become less steep, yet our summit has never shown itself again. There are in fact great broad and nearly treeless, bright green

meadows, filled today with picnickers and ball games (it could conceivably be U.S.A. on July 4!). One of them is patched with bright tangerine *Geum coccineum* to all of 8 inches. A surprisingly extensive ski village suddenly emerges, at least a dozen huge chalets, set in the soft slope so each has a great view — as suddenly we ourselves quite unexpectedly do — of the summit peak a few miles off to the sunrise. To escape the crowds of mad drivers, we thread through to a high rough vacated roadway, running also eastward and just beneath the long ridge that eventually terminates in the summit, the Turkish Mt. Olympus, 8343 ft. (337m), gleaming in the sunshine. Within a mile or two, we can no longer wait and abandon the faithful “little green frog” (a Citroen) and take to the ridge, climbing over well-turfed meadow, seldom on loose talus.

Snowmelt on this north slope quite above an undefined treeline provides hundreds of tinkling rills, all rolling down to converge in a little brook, and of course there is a ranunculus; a sward of plantago in flower looks incredibly like a top-flight arctic willow, nestled in the short new grass. Along with it blooms a scilla (*S. bifolia?*), a rich little muscari, a brilliant white, miniature ornithogalum, a little golden gagea, and a blue-flowered crocus (aff. *C. biflorus*); these, along with a yet unflowered allium, constitute the bulbs. This meadow will be quite dry following the melt season. From the summit of the ridge (to the south) we find that a breathtaking escarpment drops suddenly — at least 6,000 ft. to a dimly visible valley with meandering stream, roads, villages and fields. The fell in one of the summit saddles has the allium, a campanula and a badly browsed (and yet unidentified) little deciduous shrublet with alternate, fine-

silky little (rather amelanchier-like) leaves and a few wee, greenish flower buds in their axils. (Better light later disclosed a depressed receptacle, parts in fours). There are two daphnes and, beneath shelter in the fells, a few ferns; the small soft one probably cystopteris, and a lace-cut evergreen, perhaps an athyrium? Surprisingly, we've seen no ferns until now, in spite of copious water piped out to ornamental well-heads every mile or so along the road, many of them arriving via the rustication of a laboriously hollowed tree branch.

But it was toward the summit itself we were drawn, along its great staircase-series of quick, knee-high rises, from the car-park of an enormous mining installation (obviously the original reason for such a fine roadway) to the very top (rather despoiled by a huge, ugly building, certainly *not* fit for any Zeus). It is no surprise that the flora here has strong European overtones, particularly of the Balkan elements. Great patches of *Gentiana verna* easily steal our approval, frequently posed in the joyful association of white-starred patches of *Androsace villosa* or the rich crimson “pipes” of *Saxifraga sempervivum* (*S. porophylla* var. *sibthorpiana*) on silvered pads, or the oval-leaved huddle of fragrant orchid-pink *Aethionema oppositifolia*, or alpine forget-me-not. *Veronica pulvinaris?* is something quite unto itself, little hard buns smothered in bright blue, dollar-size nosegays, and alongside a miniature red-bead sedum (*S. album* perhaps, or *alpestre*, if yellow flowered?), *Draba bruniifolia* ssp. *olympica*, an equally tiny bright mustard-gold alyssum, and highmost and infrequently, a tuber-bearing, orchid-colored corydalis (*C. solida?*). The silver-gray endemic *Erodium sibthorpiatum* is commencing a pink smother

of its huge pads, and large, harsh domes of yet un-budded glaucousness can only be an acantholimon. But perhaps most exciting of all is a tiny tufted grass, most unusual for densely silver-felted leaves!

Quite pretty is a lacy, chartreuse galium (could this be what I've seen as an infrequent escape into Seattle lawns?), and several antennaria-related species are starry with blossom. The viola is less frequent as the treeline approaches and seldom ventures up into the zone of *Juniperus communis* ssp. *nana*, which in fact seems to entwine and bind together plant and mountain in all the uppermost associations, giving, moreover and from afar, that glimpse of green promise to the venturesome. Yet it is here that the yellow flowered violas occur exclusively (as far as our observations are concerned); this soundly perennial little "violetta" is a true gem, either yellow or blue but never parti-colored, the yellow forms varying from a full, rich golden hue to an ivory-pale "moonlight" tint.

Just beneath the north shoulder of the summit yawns a great old cirque, now a snow-mass of great depth; on the precipice several hundred feet above hangs a sill of snow that could be ten feet thick, marking the commencement, in a brawling brook, of one of the short rivers, which for the duration of mankind's memory has nurtured the agraria pursuits of the Bursa Plain below.

There is a record of botanical exploration of Ulu Dag dating back to the 1548 traverse made by Belon. We have found no less than a half dozen of the choicest subjects of our lists and numbered for the record a total of twenty five species. Surely the seed harvest will be a rich one!

(As I write — from London in July — John has advised that a second visit revealed the stony bottom to be

carpeted with a large-flowered lamium "not quite up to *L. armenum*, but then, what could be?" and that it was cheek by jowl with "the best of all the linums in this, The Year of the Linum in Turkey, with no less than five fine ones found to date." And still later came the report that the seed visit had found the mountains extensively browsed so that seed of all was very hard to come by.)

(Unfortunately, Roy had to cut short his sojourn in Turkey with John Watson immediately after the trip up Ulu Dag as he became ill with hepatitis. Returning to England he was popped into the hospital by Mrs. Watson and spent the next two weeks in quarantine. But you can't keep a dedicated plantsman down for long. To quote from the letter accompanying Roy's ms., which incidentally he wrote while in hospital: —

"Jim MacPhail (of Vancouver) arrived as my replacement just as I was being released. We took rooms at Kew a couple-three days, researched further some of the genera in the herbarium, visited the gardens and also Wisley. Jim flew off to Istanbul and I was collected by a London friend (American originally) who'd offered to share his flat. It was the only flat flat in the neighborhood — that is, it had a flat roof, an area about 20 x 80, and I soon had a small pot-nursery going up there."

Roy further reports that, "John (Watson) personally feels that it was his most satisfying trip, and perhaps his most successful one. Of the 'preferred' list of 75 choice plants, he was able to locate most, and in addition they got others, some yet unidentified, possibly even new, as the lamium on Ulu Dag which doesn't match any others nor fit into Davis. The seed

is surely all cleaned by now (it was nearly so when I last visited them in early November) and being apportioned and soon will be sent out to subscribers . . . It is unfortunate that some seed was terribly scarce, but they took quantities of what was abundant. The entire country is open grazing as it always has been, and only those plants clinging to cliff faces escaped — both beasts and Watson-MacPhail.

“There are hairy stories too — Jamie found delirious on a remote by-way,

assorted robberies and constant harassment, debilitating diarrhea — and heat — and dirt — and roads too poor to make haste — BUT, it did come off and to everyone’s satisfaction.”

John Watson, leader of this Turkish expedition, will be writing up the trip in the pages of the “Quarterly Bulletin of the Alpine Garden Society” and will be coming to this country in September to tell us about the highlights of the trip in person and show his slides. — Ed.)

The Life Expectancy of a Rock Garden

Succession in nature is a well recognized fact. Where we once remember a particularly fine display of some exceptional (or common place) wildflower, we may later be rather shocked and dismayed at the sight of nothing but weedier and less beautiful things. And so it may be naturally in the gardens we plant.

In nature there is room for this. Usually, if we search far enough, there will be found a vision comparable to the one in memory, and if it is not quite so good — and seldom will it be so — we must remember to go back time and again, for one year it will be at the absolute peak of development; yet after that it will likely decline as did the original vision. But in our gardens we have neither the space nor the time. We command that there be an ultimate instantly and that

it never diminish, even though we admit this to be somewhat unrealistic as a reasonable expectation, unless there are unlimited reserves of soil, water, plants, and labor, plus the absolute blessing of the weather gods.

It has been said by some that the rock garden must be remade every five years or so, or at least redone a section at a time with some regularity. What can be done to minimize this need for reconstruction or revitalization? How can the design and construction at the outset best serve? Or is it mainly a matter of management, of feeding or not feeding, or pruning or not pruning, dividing or not dividing, of maintaining a very rigid discipline or of none at all? Surely there are many clues we might take from our past experiences and from those of others.

THE WHITE ONE

DREW SHERRARD

It all starts in some such way as this:

You get the seed from England, after running it down through catalogs. You sow it with the usual percentage of losses following. You rescue the seedlings from damping-off, slugs and freezes.

After a while you have two plants left — only two. One sulks, the other blooms — really blooms — and you exult. It is quite as nice as Farrer, or whoever it was, said it would be. You guide visitors to that spot quite artfully, and casually point out your triumph.

One day the right visitor comes, the one who always has the unusual and succeeds with the difficult, and never conceals her successes from you. She finds it, never fear! You see to that, leading her on past the gentians, down the south path where she can't miss it. She sees it, and she is impressed, you can tell that. But she recovers quickly.

"Oh, what a nice specimen of *Discombobulus alpinus!*" She says sweetly, "where did you find it?"

"Seed," you answer noncommittally.

"How clever of you," she concedes, and then moves on, to deliver the thrust backward at you, as you walk along behind her:

"I have the white one," she says, over her shoulder. "Have you seen the white one? I like it rather better than the type."

Of course you haven't seen the White One. You never till this moment dream-

ed there was any White One. You feel deflated. Your pet, that seemed so perfect before, is only purple; it's the "type."

But in this moment of depression, whether you realize it or not, you have started a new quest. From now on, you are hard on the trail of the White One.

The first thrill I ever got over a White One was when a forest ranger who knows my fondness for wildflowers sent me a Cream of Wheat carton containing a rather withered plant of *Penstemon diffusus*. All the rest were blue, he explained, but there was one white one.

I believe it was described and published by Edith Hardin English as *P. diffusus albiflorus*. It lived several years, but it was never as vigorous in growth as the blue-to-purple type plants that seed themselves all over the garden. I speak of it in the past tense, for alas, it finally died. It was the forerunner of quite a procession of White Ones, including *P. cardwelli* and *P. menziesi davidsoni*, but I have never seen a white *P. rupicola*.

Never yet have I found a white flower of *Synthyris*, either *rotundifolia* or *reiniformis*, though both are in the garden. They do about as well as their colored relatives, but they are a little less vigorous looking, wear a certain air of delicacy. I move them about, dividing them and rescuing them from moles, so perhaps they have not had a really good chance to establish themselves.

But I have found a white iris — sev-

eral, in fact — of the species *tenax*. It is great fun to walk all over a meadow, up and down, searching the drifts of rosy or bluish lavender blossoms and suddenly come upon a White One — one in a million, literally. It is easier to find a white *Iris missouriensis*.

We have in the garden a white *Iris douglasiana* that has an interesting story. Two really good gardeners, one an amateur of more than ordinary professional skill, the other a collector of western plants who has written a book about them, went to the coast of Southern Oregon for one thing: a pure white *douglasiana*. They traveled miles and miles, they waded through acres of iris, and they found it. They divided it between them and started it in their gardens.

But the White One languished. One half died: the other half, all dead except for one little green fan, and no roots on that, was taken in desperation to one of those really inspired gardeners who make no fuss about things but just love flowers and can make them grow. It rooted for her and she grew it till it was a great circle nearly three feet across, and then started dividing it among her friends. She herself is gone and her garden has all changed, but the lovely white iris prospers in many another garden.

Those who have seen the bright scarlet of *Gilia aggregata* dancing in the wind under the Western Yellow Pines can imagine the thrill I had when we came out on a mountain top and saw hundreds of plants in bloom, all pure white. This *gilia* is a true biennial and it hardly ever does well if lifted while in bloom. The best thing to do is to come back for seed, sow it in autumn outdoors where it is to bloom, and wait two summers for the flowers.

But there was no chance of getting back there, and the little rosettes that

were the young plants for next year's blooming would probably die before we reached home, so that is a mountain top to remember and hope to revisit.

Sisyrinchium douglasi, that little northwestern flower with the satiny petals of lavender, not infrequently is pure white. In meadows or on grassy hill slopes along the upper Columbia River you may walk for miles and never see one, yet the chances are that if you take one section of flower-studded ground a few acres in extent and work over it carefully, with eyes alert, you will send up the cry, "I've found a White One!"

This flower, which the English adopted before we did and call the Satin Flower, goes by the name of Grass Widow out here in Oregon, where it grows wild. "Grass" because of its grass-like leaves, "Widow" because of its lavender petals, a color sacred to widows not so many years ago. But "widow" is inappropriate for its white form, so in our garden we call them Brides.

The list goes on and on. There is the white form of *Iris stylosa*, exquisite in winter whiteness of *Iris cristata* and *gracilipes*, the white form of *aquilegia caerulea*, found in the Rockies, the rare white forms of many violets and wild roses and ladyslippers. Most of the brightly colored lupines have an occasional albino. A woman of my acquaintance, walking across the dry gravelly slope below the glaciers in one of Uncle Sam's recreational areas and looking down at that lovely dwarf blue lupine, *L. lyalli*, suddenly stopped.

"I just gave a little scream of pure joy," she tells it. "It was as white as a lily, there in the midst of all that deep blue. I looked around to see if there was one of those young rangers stalking me, and as there wasn't, I just said right aloud, 'It's

mine, so help me Harold Ickes!' ”

She took it home and set it into a pot in the rock garden, where it bloomed itself to death. But it never made any seed, she says, and died without issue. So the answer, she thinks, is to go back to that same spot, collect

a great lot of seed, sow it, and wait till the seedlings bloom. Perhaps — just perhaps — there will be a White One in the lot!

*Reprinted from
Real Gardening
—April, 1940.*

(We are indebted to Miss Anne Lemmon, daughter of the late Robert S. Lemmon, founder, publisher, and editor of Real Gardening, for permission to reprint articles from this excellent garden magazine which, unfortunately, ceased publication over 30 years ago. — Ed.)

IRIS VERNA ALBA

RICHARD W. REDFIELD

Scotland, Conn.

In May, 1973, on one of our periodic visits to the southern Appalachian region, my brother, Herb, and I located a very good stand of *Iris verna* in full perfect bloom. Among the many plants of typical color, one, good sized and with pure white flowers, immediately caught our eye. We had never seen or even heard of such a plant before and, quite naturally, were greatly excited by our discovery.

Since we were planning to return home to New Jersey the next day, we decided to collect a small piece of the plant. This was potted in the mixture that we customarily use for ericaceous material: equal parts of sphagnum peat, oak leaf mold, and sand. As the plant increased in size I simply removed it to a larger pot. Finally, in the spring of 1975, the original plant had increased to the point where I felt it could be safely divided and, immediately after

blooming I did so, making four divisions. Two of these were given to good growers, since it is my firm belief that safety (for plants as well as people) lies in numbers. One of the remaining divisions was eventually planted, in the late summer of that same year, in our new garden in Connecticut to which we had recently moved. In the open ground the plant increased much more rapidly and, in the spring of 1977, this clump was once again divided, this time into twelve separate plants. It is now in the hands of some twelve gardeners and will, we hope, become a common and permanent sight in wild flower gardens.

Here in northeastern Connecticut we are growing it in acid, well drained soil on a west facing slope with plenty of light. The site is, however, protected somewhat from afternoon sun by fairly large trees on the opposite slope.

ALBINO DICENTRA EXIMIA AND ITS ADVENTURES

EDGAR T. WHERRY

Philadelphia, Pa.

The flowers of the Appalachian Bleeding-heart, *Dicentra eximia*, are usually bright pink, but paler forms occasionally occur. Some 50 years ago the late Mrs. J. Norman Henry collected north of Covington, Virginia, a near-white form, and grew it under the name cv. 'White Pearl.' About the same time I observed nearby a complete albino, which I dubbed 'Purity.'

In the 1930's, becoming interested in rock gardening, I felt that this form would be worth introducing, and asked one of my students, Dr. Carroll A. Wood, if he could collect it for me. Although his home in Salem, Virginia, was many miles away, and there was a war-time restriction of gasoline use, he was able to take the trip and kindly

sent me a plant. This I gave to Marcel Le Piniec for propagation, and he divided it with Edgar L. Totten, then President of the American Rock Garden Society, who lived nearby; he shared it with Henry R. Fuller of Easton, Conn., who further distributed it, naming it 'Snowdrift'.

The question has been raised as to how this differs from cv. 'Sweetheart,' the albino of the western Bleeding-heart, *Dicentra formosa*. The latter is distinguished by having the outer petals united well above the middle, and exceeding the inner pair. So far as is known, they do not hybridize.

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WHITE DICENTRA EXIMIA IN THE GARDEN

RICHARD REDFIELD

Scotland, Conn.

Some ten or twelve years ago, I acquired from Read's Nursery in Paramus, N.J., a "White *Dicentra*," which I now believe must have been the plant that Walter Kolaga describes as *Dicentra eximia*, var. *alba* — "White flowers, usually suffused with pink." About a year later I obtained from Ed Totten, through Mrs. Read, a division of Dr. Wherry's true albino form of *D. eximia*, which Dr. Wherry had called 'Purity.' This was planted in close proximity to the other form, although, at that time, I had no thought of deliberately trying to cross the two plants.

Seedlings began to appear very quickly. At first they were all pink, even though I had no typical pink

plants in my garden. Finally, a single pure white seedling appeared. To me this plant was indistinguishable from the original albino. The following year several more white seedlings appeared. I then removed all of the pink plants, including the original var. *alba*, to a different part of the garden, to see if I could increase the percentage of albino seedlings. This tactic proved quite successful, since, out of scores of seedlings that I now get each year, at least ninety percent are true albinos. To my eyes at least, they cannot be distinguished from the original. The albinos can be distinguished even before blooming, since they have no hint of pink coloring in the leaf stems.

Two years ago, Henry Fuller gave me a division from his supply of the original clone. Although Henry indicated that his plant had never set seed, this division did immediately set seed, thus bearing out Dr. Ownbey's conclusion that cross pollination is necessary in order to produce seed.

In my view, this form of *D. eximia*, by whatever name it is called, is an excellent garden plant. It is hardy, a robust grower and will stand shade

or sun, provided the location is not too hot and dry. Although the most attractive stage is the first full bloom in the spring, it will continue to bloom all summer and into fall. If the old leaves become too shabby, they can all be trimmed off and the plant will send up a complete new set of leaves and flowers.

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(The question of the correct name for the Dicentra eximia discovered by Dr. Wherry and originally named by him 'Purity' is slightly vexed. The plant was distributed without name attached and when a division was sent to England by Henry Fuller, the recipient asked if it was named as he wished to show it. Henry discussed the matter with Dr. Wherry and the clonal name 'Snowdrift' was decided on. It was under this name that the plant won an Award of Merit in England in the spring of 1974. The name is perfectly acceptable to Dr. Wherry and in the interests of international understanding and nomenclatural clarity should be kept for this clone. Seedlings, even though pure white should probably not, however, be dubbed 'Snowdrift' as that name can only be given correctly to vegetatively produced offspring of the original plant so named. They should, I believe, be more correctly named simply Dicentra eximia alba. — Ed.)



Dicentra eximia 'Purity'

PHLOX STOLONIFERA AND ITS WHITE FORM

H. LINCOLN FOSTER

Falls Village, Conn.

A plant of open woodland in the Appalachian highlands from Pennsylvania to northern Georgia, *Phlox stolonifera* provides us with a handsome and floriferous mat-former of rather simple culture. Even well to the north of its native range, it will produce in abundance, during May, loose clusters of long tubed, flat faced blossoms atop stems of 6 to 8 inches. These flowering stems arise from a clump of oblanceolate leaves that form along the stoloniferous stems at rooting nodes. After flowering, there are sent out from each leafy clump new stolons that in turn root and produce new flowering plants to flower the following spring. In this manner and in ideal situations of light shade, leaf-moldy but well drained soil, a single clump might in time march on to infinity.

A mat so formed may be endlessly divided for propagation in late summer after the new stolons have developed leafy clumps rooted beneath. Or stolons may be rooted as cuttings. Individual plants vary in their vigor, abundance and length of stolons, height of flowering shoots, size of flowers, and color of blossoms.

The general run of plants in the wild will produce flowers tending toward a rather dense purplish pink, but clones of distinctive color have been selected and named. 'Blue Ridge', a strong grower, has a color leaning more to blue than purple. 'Pink Ridge', less vigorous, is at the pale pink end of the scale. Dr. Wherry, our authority on the phlox genus, selected two outstanding clones which are slowly getting into the trade: 'Melrose', named for a town in Louisiana near which it was found, a rapid grower with large

flowers of a glowing deep pink; and 'Daybreak', whose name suggests the delicate pink of its blossoms. There is another clone of a glowing deep violet color of considerable distinction. The source of this plant is not completely known. I received a division of it from Henry Fuller of Easton, Conn. who thought he, in turn, had gotten it from Edgar Totten, an early secretary of ARGS. Though not officially christened, this stunning clone of slow and rather weak growth, is referred to in my garden as 'Sherwood Purple' to commemorate Fuller's Sherwood Road where I first acquired the plant.

For many years admirers of *P. stolonifera* had been wishing for a white-flowered form. It seemed reasonable that eventually a white sport would turn up. In the early 60's John Osborne of Westport, Conn. received a shipment of the species that had been collected in Tennessee. Amidst the tangle of plants which resulted from close planting of these collections there appeared among the predominantly good pink forms one that carried flowers whose circular faces were definitely white. On close inspection, to be sure, there was a flush of pink on the reverse of the petals and on the tube. But here, at last, was in effect a "white stolonifera." This plant was teased out of the snarl of its companions and propagated for distribution, and it was greatly admired.

Soon there arose the rumor of a true albino *P. stolonifera* without a trace or flush of color. In fact, such a plant seemed to appear rather simultaneously at the Arnold Arboretum in Boston, Mass., at the University Bo-

tanical Gardens at Ashville, N.C., at Harold Epstein's nursery in Larchmont, N.Y., and in at least one private garden in Wilmington, Delaware about 1969.

Because of its outstanding beauty Mr. Epstein propagated this clone and began distributing it, and because it had not been previously named, he christened it 'Ariane' for a favorite granddaughter. It was through the perceptive eye and propagating skill of Mr. Epstein that this splendid white-flowered *P. stolonifera* began to be made available to growers in the northeast, and in fact has been carried to England to grace the gardens there.

Because it seemed unlikely that an albino form so long sought would appear simultaneously in so many scattered gardens, I became curious as to the wild source of this plant. As I had previously done with the double Bloodroot and the double pink Anemonella, I began trying to trace down the original discovery of this new phlox. My intention was not to pierce the veil of mystery with which most owners of the plant wished to shroud this new Moby Dick, nor to diminish their rightful priority to its distribution. I just think it is of scientific interest to know that the double Bloodroot was first found wild near Dayton, Ohio and that the double pink Anemonella, now in general cultivation was first found by a Mr. Oscar Schoaf in a graveyard in Minnesota.

When the name Thomas Shinn came up more than once in discussion of the albino *P. stolonifera*, I wrote Mr. Shinn. He was at that time the president of the North Carolina Wildflower Preservation Society. His reply to my letter about the white phlox is dated February 14, 1973 and gives the following background history.

"April 23, 1959 was a real Red Letter Day for us. On that date Mrs. Shinn

visited a spot in the western part of Haywood County, N.C., where we had seen what was taken for *P. stolonifera*. It was then in bloom. The most of it was in varying shades of blue, and there were some which were definitely pink. What really stood out prominently, however, was a small patch of pure white. We were both highly elated over her find, but not until later did we realize just what a prize it was. The habitat was a wide level area bordering a mountain stream. A mixed growth of hemlock, birch, and alder made it moderately shady. The soil was somewhat sandy, but very rich in humus. Other plants growing in the same area were galax, hepatica, trillium, phacelia, violets, and ferns. Later, the same day, she found both the white and the pink forms of double Anemonella on a hillside of mixed hardwoods.

"In May 1967 the American Rhododendron Society held its annual meeting in Asheville. Quite a number of the delegates visited our place to see our wildflowers. One morning Mr. and Mrs. Epstein came out, accompanied by Mr. and Mrs. Lukins. When told that we had a white form of *Phlox stolonifera* since 1959, Mr. Epstein stated that he and Dr. Wherry had been looking for such a plant for more than twenty years, and that he would have slept easier for the past eight years had he known of its existence. He was given a start for his own garden and a second clump for Dr. Wherry. He wrote me the following spring to say that the phlox was growing nicely, but that it had not bloomed. At about the same time he sent me a number of plants, including double Bloodroot and double rose-colored Anemonella.

"During the summer of 1969 I had a number of rooted cuttings on hand. These were given to friends and to

gardens attached to the various branches of the University of North Carolina. In addition we made donations to other botanical gardens along the eastern seaboard, between and including Arnold Arboretum and Callaway Gardens.

"In 1970 I began propagating cut-

tings early in the season, so that by late spring I had between four and five hundred rooted cuttings on hand . . . In the fall of that year . . . I set out as many of the plants as I could handle and donated the rest to garden club members or other interested people."

PHLOX DIVARICATA 'FULLER'S WHITE'

HENRY FULLER

Easton, Conn.

Phlox divaricata 'Fuller's White' originated as a chance white seedling in a bed of the normal lavender blue *divaricata*. *Phlox divaricata* had long been a favorite flower in our garden. With my wife, Selma, this love affair started when she was a little girl in Kentucky when the grown-ups were only puzzled by her passion for the "wild Sweet William" that grew in straggly fashion near her home. Some twenty years ago we got from a little nursery in Vermont (run by an unusually good plantsman, Fred Abbey), an especially strong growing and especially blue strain of *divaricata*, and developed a big bed of it in what we called the Jewel Box. Then our house burned, and we moved into the barn and gardened around the ruins. Early one morning about ten years ago, Selma went out to the garden and came back in great excitement to tell me that a very lovely pure white *divaricata* had bloomed in the Jewel Box. (We had had white *divaricatas* before, but invariably they had been disappointing, smaller and weaker than the type, and always they just went away.) So, I went out to see this marvel, this big white *divaricata*. It wasn't there!

There had been just one blooming stalk on a new seedling plant, and some devil in rabbit's clothing must have

eaten it when Selma went to the barn for me. But careful search revealed a small plant with the stump of one eaten-off blooming stalk. So I dug this plant and put it in a pot. When the next spring came it was the beautiful white, and the following September we brought it in this same pot to our present home and started propagating it. It is a strong grower, and propagates easily and swiftly by division and by cuttings. The strongest and most beautiful plants are grown from cuttings. They are easy to make, and a few every year will keep the garden constantly supplied with good strong plants.

It will not come true from seed, though a large batch of seedlings will produce a few white plants, not necessarily identical with the original. Like all strong growers it is also a hearty eater. I have not found it finicky about position or diet. It will get along almost anywhere, but appreciates and responds to good food, and some relief from the hot summer sun. Like other *divaricatas* it tends to rest during the summer and grows in late summer and in early spring.

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MORE WHITE ONES

EDWARD B. LEIMSEIDER

Westport, Conn.

Among the American and Japanese plants that I grow are albino forms useful for providing contrast, acting as foils for the brighter, more dominating blooms. Adding these variations of nature to one's garden is a most satisfying extension of the collecting urge.

Among my first few acquisitions were *Aquilegia flabellata nana alba*, a moderate self-sower for light shade, and *Mertensia virginica alba*, a refined, most attractive plant that goes dormant quickly without the long period of aging foliage typical of the type.

Growing locally are two rather weedy plants useful in woodland areas: *Geranium maculatum album*, which has good flowers but bad manners in its indiscriminate seeding about, though it is readily removed from unwanted positions, and a white flowered form of *Tradescantia virginiana*, whose blossoms are extremely beautiful, glistening in the half shade. I have planted ferns around the latter to obscure the impossible gawkiness of the stems; the blooms, almost orchid-like, keep opening for weeks. Once there was a six-petalled flower.

Some failures may represent the purported weakness of albino forms. I could not keep a white flowered *Gentiana andrewsii*. The color was not good and the plant seemed disinterested. An expected failure was the white *Cypripedium acaule*, worthy of all the tenderness lavished on it but staying just a year or two. Another plant that sulked for me was *Iris gracilipes alba*. It is well worth trying again, however, and I assume that it

can withstand more sun than I had it in before, plus mulching. I do not know if the white flowered form of *Lewisia rediviva* is recognized as distinct; it had a beautiful flower, as memory serves.

Far easier is the good white flowered form of *Phlox stolonifera*, a little ram-bunctious but an ideal ground cover in shade. Another is the Japanese *Iris tectorum alba*, about 15 inches high with lovely flowers. I bought 'Bountiful' under the impression I was getting a white *Dicentra eximia*, but it is over two feet tall. Its flowers go on for months, however. (*This may be a form of D. formosa, which is taller than D. eximia. D. eximia 'Bountiful' is a fuschia-red form of D. eximia. There is a white D. formosa called 'Sweetheart.'* — Ed.)

More choice are *Primula modesta alba*, neat and refined; an intriguing *Andromeda polifolia*, with pure white flowers; and *Kalmia angustifolia alba*. A favorite of mine is *Stokesia laevis alba*, with a large flower in July, very showy among the blue blooms of the species. It needs division every three years or so to maintain good flowering.

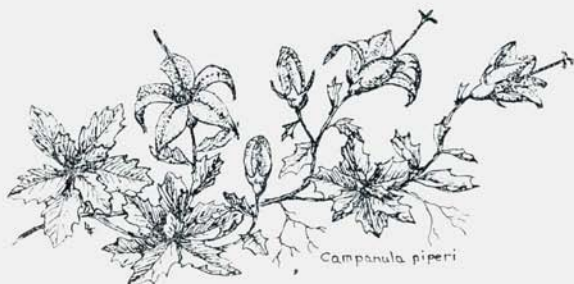
Among my new untried purchases are a white *Lobelia syphilitica*, tall and for use as a background. The white flowered *Thymus quinquecostatus*, a color variation of the Japanese form of *Thymus serpyllum* was obtained from George Schenk's nursery, The Wild Garden, in Bothell, Wash. According to his catalog, this plant originally came from the Nikko Botanical Garden. Another newly acquired ground cover is *Mazus japonicus albiflorus*, flat

growing and attractive, but perhaps of doubtful hardiness here. *Bletilla hyacinthina (striata) alba* will be treated as half hardy and *Iris missouriensis alba* will be planted out in a damp spot.

Someday I hope to possess a plant of a white berried *Mitchella repens leucocarpa*. I wonder if there exists a white berried *Gaultheria procumbens*? I would like white forms of *Polygala paucifolia*, *Glaucidium pal-*

matum, *Viola pedata*, of the hepaticas . . .

(Perhaps some of our members can produce for Ed some of these plants on his wish list. He might also like to lay his hands on the white flowered *Sisyrinchium angustifolium* 'Macounii Alba' written up by Roy Davidson in the ARGS Bulletin, Vol. 34, No. 2. —Ed.)



Dorothy Ebel Hansell

It is with a great sense of loss that we record the death, on January 17, 1978, of Dorothy Ebel Hansell in her 78th year at her home in Morristown, N.J.

Dorothy was one of the organizers and founding members of the American Rock Garden Society in the spring of 1934 and has since been closely identified with the Society, accepting many positions and responsibilities during the intervening years. During its first eight years, the affairs of the Society were published in a few pages of the "Gardener's Chronicle", of which Dorothy was publisher and editor. When Dorothy disposed of the family interest in this magazine, which had been founded by her father, the American Rock Garden Society commenced publication of the *Bulletin*. Dorothy served as its editor from June 1948 until December 1950 when she became editor of the "Journal of the New York Botanical Garden." For a period she also served as secretary of the Society.

She has been active in many other horticultural organizations, in recent years as editor of the "American Bonsai Society Journal" and also that of the American Holly Society. Her last efforts on the evening prior to her death was the completion of the current Journals of these two societies.

The American Rock Garden Society has lost its godmother and horticulturists everywhere will miss her kind and devoted personality. Our sympathy is extended to her daughter, Mary, and her family.

Harold Epstein

DWARF CONIFERS IN THE ROCK GARDEN

REX MURFITT

Victoria, B.C.

One of the most valuable groups of dwarf trees and shrubs for the rock garden is the evergreens. They do a great deal more for the alpine landscape than provide pleasant contrasts with different colors and shapes. They can turn the gardener's creative efforts into a natural picture, transforming the lifeless stones and soil into a living landscape in miniature. Undesirable distractions can be effectively screened-off with varieties that are in keeping with the plan. Larger kinds that would quickly become too big for the scale of the garden can be planted nearby to become isolated specimens which help carry on the mountain atmosphere. In the dull winter months a glimpse of their green, solid, ageless lines is a pleasant relief. It is an assurance that the garden will again become a green, living thing. When the first flush of green spring growth breaks, especially on the spruces, it is a sight to behold.

Foundation plantings in the rock garden are difficult to plan. It is not the sort of planting for which you can draw a plan, like a basic planting around a building. The rocks and informal contours defy any dogmatic formula. We must, as with the garden itself, take our lead from nature. The tall forest trees are at the lower elevations. Trees become smaller, more scrubby as they climb the mountains, finally becoming completely flat before disappearing entirely at timberline. True, there are exceptions; once in a while some odd shaped specimen,

twisted and stunted, will cling tenaciously to a ledge or crevice at elevations no tree should rightfully be. This is precisely how we must plant the evergreens in our landscape; planting the upright, tree-like varieties at the lower levels, close to a large outcrop where it can help create the illusion that this is a great cliff. It is sometimes possible to group several in one area, where they will suggest a forest on the slopes of a mountain. Do not overdo it; the suggestion is enough. As we ascend in the rock garden the tree-like forms give way to more rounded, flat-topped forms with tight, dense growth and smaller needles, yielding finally, to completely flat, creeping varieties at the summit. Try to allow at least one of these procumbent evergreens to drape itself over an outcrop, to flow down a steep incline. This is so typical of the mountain junipers. It is in these pockets of the higher reaches that the very choice, slow-growing varieties can be planted, where they are easily seen at this more convenient level.

While dwarf conifers are indispensable, they must not be overdone. It is perhaps better to under-plant than to plant too many. They should never be allowed to dominate the scene. Remember when you are deciding where to plant them, that they will grow larger, so allow room for this growth, then they will grow into your plan and not grow too big for it.

Selecting dwarf evergreens is a difficult task, especially if one is not familiar with them. The names they

bear are terribly confusing, and descriptions of them in trade lists do not help the beginner too much. Many varieties are so similar and the names so often confused that you may not always order what you want. It is much wiser to visit a nursery that grows them. There you will be able to choose the plants which appeal to you personally. Be sure to inquire what will be their ultimate height and spread. Beware of fast-growing families, no matter how tempting they may look as youngsters. Buying from a source in your own area will ensure that you obtain varieties which will grow in your climate too. Among dwarf conifer fanciers it is a general rule to avoid plants which are grafted. Where possible they prefer a plant on its own roots. There is always the chance that a grafted plant will "break out" of its dwarf nature. It takes a good many years to grow a dwarf conifer from a cutting, so cost is not proportionate to the size in comparison with a grafted plant.

Soil fertility is not a vital factor providing the physical condition is good. It should always be a well-drained soil. Heavy, cold soils which hold moisture for long periods are not to be desired. If the soil is prepared as recommended for typical rock garden plants, it is rich enough to keep the conifers alive and healthy. That should be sufficient, as rapid growth is not desirable in a rock garden evergreen. To be precise, slight acidity is preferable, although evergreens are very tolerant of a wide range of soil pH.

Take a little trouble to plant and locate them properly and they will reward you with years of trouble-free pleasure. To prevent bare spots or bare sides on an evergreen do not plant it too near a high rock or cliff. If it is too close to or under other trees and shrubs this too will cause dying

back on branches. When planting herbaceous material in close proximity to them, always select a smaller species. Never allow a plant to dominate a "tree"; it will spoil the tree and the scale.

To plant a rock garden conifer, first remove it from the pot, can, burlap or whatever container it arrives in. Loosen all compacted soil from around the root ball gently with the fingers. There is no need to remove all the soil, just enough to allow the roots freedom. Set the plant where it is to be planted and mark a circle in the soil slightly larger than the actual ball. Then dig the hole a little deeper than necessary and put back several inches of good top-soil mixed with a little peat moss — tamp it a little to settle it. Place the tree in the hole so that the original soil level of the ball is just an inch or so below the surface. Then turn the plant around slowly until the side you think is best is facing in the direction you prefer. Step back and view the effect from several directions. When you are satisfied, partially fill the hole with prepared soil and firmly tamp it around and under the root ball. Take care you get it firm all around. Poorly packed soil with cavities and loose soil will spell trouble. Gradually fill with the remaining soil, packing as you go. Finally, shape the surface of the hole, leaving a cup several inches deep to receive and hold water while it soaks down to the roots. Fill this cup gently with water several times, allowing it to disappear before adding more. If thoroughly watered in there will be no risk of it dying. Many plants die at this initial stage through improper watering-in. It takes a lot more water than is imagined to soak a balled or potted plant. If size permits, it pays to soak the whole plant in a tub for a few hours before planting,

allowing it to drain for convenience in handling. If thoroughly watered at planting time, it will require little more than a fine spraying night and morning for a few days until the roots become active. During drought and hot spells it is good practice to shade lightly with a few boughs. In times of severe

drought it is well to check carefully at regular intervals. Do not be satisfied to scratch the surface, dig down a few inches and be sure. An evergreen does not show it is suffering from lack of water. When you notice signs of distress, it is usually too late.

SOME DWARF CONIFERS

The following few species and varieties described are only a guide. Even to try and cover the field of dwarf conifers would be impossible. There are so many, anything approaching a summary would leave the poor gardener hopelessly bewildered.

Abies balsamea

Abies balsamea var. 'Hudsonia' is very similar to and often named *A. balsamea* 'Nana'. It is a dwarf balsam found in the White Mountains of New Hampshire. It has all the character of the balsam fir, the dark lustrous foliage with silver undersides. It is a slow-growing, flat-topped bush, quite hardy in the colder climates. It will eventually grow to about 2½ feet over a period of many years.

Chamaecyparis

Chamaecyparis or False Cypress as the botanists call them provide literally hundreds of forms and varieties for the rock garden.

C. lawsoniana

The Lawsoniana forms are derived from the *Chamaecyparis lawsoniana* or Port Orford Cedar from parts of California and Oregon. Many of the dwarf forms are hardy in the more severe eastern and northern states. Some of them tend to get a little too big for the average rock garden, so

select your choice with great care.

Chamaecyparis lawsoniana 'Forsteckensis' (sometimes listed as 'Forsteckiana') is considered to be the smallest. It is also hardy and will not endanger the smaller garden. Forming a globular bush rather than a pyramid shape, its foliage is scale-like, blue-green and the branchlets are twisted and crowded. *Chamaecyparis lawsoniana* 'Minima' is a broad conical treelet of light green cedar-like leaves. The form *C. lawsoniana* 'Minima Glauca' has blue-gray foliage. Both can be considered safe for the rock garden.

C. obtusa

Chamaecyparis obtusa, the Japanese Hinoki cypress as it is known in the horticultural trade, must have hundreds of dwarf forms named. Enthusiasts spend years assembling a collection of them from all corners of the world. They go to immense pains to locate and transport them back to their gardens. On casual acquaintance with these little plants they all appear to be the same. After a few minutes with the proud owner you soon become fascinated by the neat compact little trees. Generally speaking they have dark green cedar-shaped foliage borne on fan-shaped stubby branches. They range in shape from tiny domes (hence one of their common names "Tennis Ball" cypress), to graceful irregular trees. This tree has long been recognized as

valuable in miniature landscapes by the expert Japanese. As a whole they are fairly tolerant under most garden conditions. The smaller varieties prefer some protection from too much scorching sun and will definitely need some shielding from biting winds.

Chamaecyparis obtusa 'Nana Gracilis', the variety most familiar to rock gardeners, has the typical lustrous green foliage. The habit is basically upright but very irregular. It is quite slow-growing but over a period of years will make a bold plant. *Chamaecyparis obtusa* 'Nana', if the true form can be obtained, without doubt is the finest for rock gardens and miniature work. It should have the fan-shape branchlets and be dark green. The growth is extremely slow and the shape might well be described as an irregular mound. Other varieties to choose from have names like *C. obtusa* 'Compacta', 'Minima', 'Juniperoides'. There are golden-leaved forms, pale green forms, even mixed or variegated varieties.

C. pisifera

Chamaecyparis pisifera is another Japanese cypress with many diverse forms. Some are a little too big and must be ruled out. However, they are worth investigating for other garden projects. For a pleasant contrast in the rock garden place a plant of *C. pisifera* 'Filifera Aurea' so that it can fall over a large rock. The long, pendant, threadlike branches are touched with gold. It makes a dense, rounded hump and will cover several feet in a few years, but if carefully positioned, it will become a valuable feature in the rock garden.

Chamaecyparis pisifera 'Plumosa' and *C. pisifera* 'Squarosa Nana' or *C. pisifera* 'Squarosa Pygmaea' and 'Minima' are all worthy of the rock garden.

Picea abies

Picea abies, the Norway spruce, has many dwarf forms. There are dozens and dozens of names to confuse one. This is often true of a plant that has been in cultivation for many years. Horticulturists find seedlings that show some different characteristics, or mutations occur in batches of plants. They are selected, grown and propagated, given a name and distributed to the trade. Often these differences are so slight that it is hardly worth creating a new named variety. The Norway spruce is one of the commonest European conifers planted in the United States. Both the species and the dwarf forms are very hardy and as a result can be used safely in the rock garden in the most severe climates. They prefer a good soil, well-drained (rather than a thin poor diet) and open sunny locations.

Picea abies 'Pygmaea' is a very slow-growing dense, little conical bush as wide as it is high. *P. abies* 'Remontii' makes an informal pyramid, broad at the base. The foliage is rich green on short stubby branches. Slow growing. *P. abies* 'Clanbrasiliana' is reputed to be one of the oldest dwarf forms in cultivation. In time it will make a round flat-topped bush. It has very attractive bright green needles. *P. abies* 'Echiniformis' is a prickly leaved spiky cushion of an irregular symmetry, similar to but much slower growing than the popular Bird's Nest spruce.

Picea glauca

P. glauca 'Albertiana Conica' — The dwarf Alberta spruce could not possibly be left out of any discussion on dwarf trees. This handsome, natural dwarf was introduced from the Rocky Mountains. It makes a perfect cone that remains in scale as it grows. Instead

of the harsh, prickly needles of most spruces it has soft foliage, the color is a grey-green. When the spring growth breaks on this tree it is a picture. It is best planted in a spot not open to cold winds as there is a tendency for it to suffer from winter wind-burn. Over a period of 20 years or 30 years it can attain a height of 5 to 6 feet.

Pinus

The pines are a noble addition to any landscape and this is especially true of the rock garden. There is nothing quite as interesting as the lines of a twisted, gnarled, weather-beaten pine. However, my advice to all but the largest scale rock gardener is not to plant them. The temptation is overpowering when one sees rows of neat youngsters in the nurseries or the specimens in a rock garden. The familiar Mugho pine is an example. It looks ideal but it can grow as much as 20 feet and spread as much. Some gardeners prune them to keep them within bounds, or shape and thin the branches until they resemble a mountain top survivor. This is an individual matter of taste, some purists would not approve. There are dwarf varieties of the pines, but as a rule they are quite rare and difficult to find. In my opinion they are for the collector rather than the rock gardener.

Juniperus

For the higher places in the alpine landscape the junipers are splendid: their flattened ground-hugging habit is most appropriate, suggesting the very austere life of the summits. Unfortunately many of the prostrate kinds are much too fast growing for the smaller garden. They are wonderful for large banks and the boundaries of big rock gardens, but for the choicer places they are useless.

J. squamata

Juniperus squamata 'Prostrata' is one, however, that can be permitted to enter the most select landscape. It is a slow-growing, blue-grey mat of close, tight habit, very attractive when it tumbles through and over stones. After several years it will cover several square feet, but do not fear that it will cover the whole garden. A plant of a yard or so square is a great asset.

J. procumbens

Juniperus procumbens from the mountains of Japan is almost identical. There is also a much dwarfer form *J. procumbens* 'Nana'.

J. horizontalis

Juniperus horizontalis from the American species, is a carpet making, ground-hugging plant that will cover an area of several square feet in a very few years. There are numerous forms on the market, selected mostly for their blue and grey hues. All are readily available and quite modestly priced. Look them over carefully and choose a plant that has close foliage, not leggy and woody.

Juniperus horizontalis 'Bar Harbor' and 'Wiltonii' are two very good colored forms.

J. communis

Juniperus communis 'Compressa', the Noah's Ark juniper, unfortunately may not survive in colder regions, but it is well worth mentioning for those who are lucky enough to be able to winter it. A perfect spire of close grey-green, with completely proportioned needles and closely pressed, upward-growing branches. Very slow growing, even under the most favorable conditions, it will rarely exceed three feet. Invaluable for miniature gardens and pot culture where it can be given winter protection.

SUMMARY

Many lovely conifers have not been mentioned. Some, because they might prove a little unsatisfactory in some climates. It is difficult to advise across such a wide continent with so many climatic zones. Others have been omitted on the grounds that they might prove too large for the average garden. The object of these notes is simply to introduce the dwarf conifers to you, from then on the reader will be armed and prepared when entering the maze of their varieties and confusing nomenclature.

Although many have been left out

as too large or too fast-growing, this is an individual problem. Who can say what is too large and what is not? It depends on the gardener to say how long he wants to wait for a plant to grow large enough to fill a particular function. After all, it is possible to remove a plant or perhaps transplant it when it becomes too big for its job. Time is the all important factor to many of us. Few, I feel, will rule out a particular species because it might grow to be five feet high in twenty or thirty years.

(Alfred Evans, Horticulturist at the Royal Botanic Garden in Edinburgh, Scotland, has some strong opinions on this matter of size. He says it is ridiculous to deprive yourself of a choice specimen because in twenty or thirty years it will outgrow its allotted space. By all means put it in and when it gets too big root it out and replace it, is his advice; all proper gardens should be redone periodically anyway. Courage and a strong back are essential, however. — Ed.)

A Memorial Garden

On Chichester Road in New Canaan, Conn., there is an outstanding garden, the Olive Wagner Lee Memorial Garden, so named and maintained in memory of his wife by George S. Lee. During Mr. Lee's life-time thousands of visitors were welcomed to the garden by a sign reading, "Garden Open — Walk In," and frequently by the owner himself. Here they could wander, either alone or under Mr. Lee's guidance, through superb plantings of azaleas and rhododendrons, view thousands of prize daffodils, and linger past beds of ferns and other herbaceous plants.

George S. Lee died in January of this year, but his will assures that his garden will remain open for the enjoyment of all by leaving his property on Chichester Road to the New Canaan Garden Center. Thus the Memorial Garden will continue to serve, not only as a memorial to Mrs. Lee, but also as a fitting tribute to the great plantsmanship and generous spirit of George Sterling Lee.

A SANDY GARDEN

PAMELA HARPER

Seaford, Va.

I do not have a rock garden. As a matter of fact I have yet to turn up so much as a pebble on these two sandy acres. I don't even, really, have a "garden" yet, for this assumes some pretension to landscape design. I do have a collection of plants, many of them so constantly on the move in attempts to discover the best location that I think they must groan when they see me coming.

To set the scene. Six years ago we bought a somewhat dilapidated sixteen year old house on the once wooded banks of a saltwater creek off the Chesapeake Bay . . . Zone 8 with an extra half zone advantage in sheltered areas near the water. The site runs back 350 feet from road to house in a long, flat, characterless rectangle, with a sand driveway slap down the middle and circling a pine-dotted island near the house. Behind the house is a water surrounded apron of land, dotted with high branched Loblolly Pine, *Pinus taeda*, and an understory of holly, *Ilex opaca*, Wax Myrtle, *Myrica cerifera* and, below tideline, a sprinkling of Saltbush, *Baccharis halimifolia*. Here, too, grows the Sea Oxeye, *Borrchia frutescens*, sparsely yellow rayed, cone centred and succulently grey leaved, regularly submerged and not in the least troubled about this. To garden here would detract from the view, and anyway this is the boating terrain of husband and son.

The front is my province. The former owners were not gardeners, so from them we inherited only two camellias, five azaleas, one Burford Holly, some

scrawny Pfitzer Junipers growing in shade, one *Lagerstroemia*, and a fine patch of Lily-of-the-Valley . . . in the wrong place, of course. There was also a fifteen foot juniper hedge right along one boundary. Remaining natural vegetation includes several handsome oaks, mostly the bell-leaved *Quercus nigra*, some dogwoods, and a few sweetgums, one of these clad in what I was told with pride was "a very rare ivy" . . . actually the arborescent form of *Hedera helix*. Until last year *Campsis radicans* festooned one pine. Have you ever counted the seed flakes in one bean-like pod? I made it 487, give or take a few, and every one germinates and grows lustily, not to mention suckers thrown up over half an acre. So this year, reluctantly, I sawed through the arm-thick ropes at the base and painted the stumps with brushwood killer. I doubt that the struggle is over yet.

Apart from those in the driveway island, no Loblolly Pine remained, these having been replaced by ten Red and Silver Maples. Both are impossible to garden under and the last one came down this year. Back will go the pines, a plantsman's dream, growing three feet a year, high branched, and with no noticeable surface roots to compete for moisture and nutrients. "A shower of rain every night and a shower of manure on Sundays" is an unanswered gardener's prayer, but the pines come close, spreading an even layer of needle mulch around the plants (mainly azaleas) at their feet.

Plantsmen the former owners were

not, but "yard proud" they were. For sixteen years every falling leaf was conscientiously swept up and burnt, thus the soil we acquired is a starved and eroding sand, pH 5 and lacking any measurable nutrients or humus. Most of my energy (and money) these last six years has gone into adding truckloads of pinebark mulch, sawdust, leaves, chicken manure, and anything else which might restore some degree of fertility to this barren patch of ground. My only garden plan is that it shall be devoid of grass, in my opinion the worst of weeds, and in eastern U.S.A. an insult to the word "lawn." In places this has been smothered out with mulches of newspaper topped with sawdust, but Bermuda grass proliferates and has to be laboriously forked out.

Tidewater Virginia, is an area of unexploited horticultural potential. The many government bases in the area make for a transient population and, as might be expected in such water-girt surroundings, boating and fishing are the main hobbies. Plantsmen are few and there is little advice to be had. Books don't help much either, the south needs its own literature. Elizabeth Lawrence's *A Southern Garden* is invaluable, as also is Christine Kelway's (English) *Gardening on Sand*.

Discarded labels lie in a pile on the garage shelf — tombstones to the dear departed. *Achillea* 'Little Beauty', rotted to mush in summer heat, and ditto wooly thyme; *Aetheonema grandiflora*, moved in July before I learned that this is always fatal; crocus of many kinds, some sunk to China down the mole tunnels which criss-cross the garden and some, no doubt, eaten by the mice which follow in their tracks, but most succumbing to the constant mowing off of their foliage by rabbits; *Cornus canadensis*, intolerant of sum-

mer heat and drought; dryas species, tried in several places, happy in none; *Anacyclus depressus*, its sudden demise a puzzle after two years of seeming good health. Azaleas are rhododendrons, so why have I succeeded with every azalea planted and failed with every rhododendron? *Ledudendron* 'Brilliant' also perished, seemingly of slow starvation.

But enough of this saga of woe. There have been a few successes. What is evolving is a series of island beds. The water table is high, so most of them are raised, providing good drainage but doubling my problems in periods of drought. Only the driveway island is planted as yet, the little things on the outer edges, so let's stroll round it. The part near the house faces south and gets full sun. Some plants like this poor, sandy soil, among them *Conradina verticillata*, resembling a miniature rosemary with its dark green, rolled back, needlelike leaves, pungently camphor scented. One vernacular name is Rabbit Bane, and indeed it is one of the few things they have failed to sample. The yard wide mat, a few inches high, is now four years old and has from the start sheeted itself with deep lavender labiate flowers for most of the month of May. *C. canescens* is greyer and bushier, about 18" high, the flowers ghostly pale, almost grey, and rather few as yet, borne at the stem tips late in the year. One-year plants are virtually indistinguishable from those of the narrowest leaved rosemary, 'Benenden Blue', not yet of proved hardiness here but looking promising, as also does the taller, dark green 'Tuscan Blue'. The sprawling *Rosmarinus* 'Lockwood de Forest' emerged unscathed from the 1976-7 winter, thus proving somewhat more hardy than the species (which was partially defoliated) and much more so

than *R. officinalis prostratus*. Undamaged, too, was my smallest and most silvery lavender, *Lavandula lanata*.

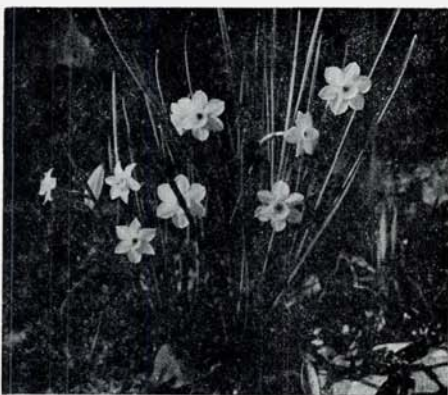
It was Will Ingwersen, I think, who said that there are two kinds of plants, those you can't get started and those you can't stop. But the same plant can belong in either category, it depends on soil and climate. Several attempts to grow *Nierembergia rivularis* in the clay of my English garden met with failure. Here it ranks with the unstoppable. Worse still is *Oenothera speciosa*, ousted from the raised bed but now romping along the sandy drive. *Potentilla tridentata* now covers two square yards and is travelling fast, the flowers insignificant but the leaves such a glossy green, and prettier still in their autumnal reds and oranges.

I see Linc Foster says that *Oenothera acaulis (taraxifolia)* is not long lived, which is one crumb of comfort. Linc describes it as white fading to pink, and so it was in a friend's English garden, where the large flowers opened in the morning. Mine was yellow, and it flowered only at night. It made a hearty clump of dandelion leaves the first year and flowered itself to death the next. (*O. taraxifolia* is a synonym for *O. acaulis*, which is white fading to pink. *O. a. lutea* and/or *O. a. aurea* are yellow flowered. — Ed.)

Beneath a carpet of *Sedum hispanicum minus* in this sunny raised bed grow little bulbs of several kinds. *Rhodohypoxis baurei* likes my garden. I began with the small magenta flowered species (Parks had this, inexpensively, one year, but never since), then added the larger pink and white named kinds such as 'Pictus', 'Dawn' and 'Susan Garnet Botfield'. Ron Evans, who identified it for me, says *Sedum hispanicum minus* has pink flowers. Mine doesn't flower at all. Does yours? I have also used *S. sexangulare* as

a carpet for little bulbs but it has proved too dense and tall. Furthermore, the yellow flowers fight with those of *Rhodohypoxis baurei* which come at the same time. In this bed, as everywhere, moles are a problem, so little bulbs are planted in plastic berry boxes.

In Mrs. Rourke's Seattle garden I was entranced by a tapestry planting of *Frankenia thymifolia* intermingled with *Linaria aequitridoba* and this I am attempting to copy. Both, here, are evergreen. Why the rabbits have ignored my choicest crocus I cannot imagine, unless because the leaves come with the flowers in October and by then their appetites are sated. From one corm *C. niveus* has increased to a dozen, and they make a brave show in the generally warm and sunny autumn days, looking more like a sturdy white Dutch crocus of spring than the generally fragile, toppling autumn kinds. *C. laevigata* 'Fontenayi' has also survived the rabbits, only to be nearly smothered when I planted above it a too vigorous thyme of unknown species.



Narcissus rupicola

Harper

Of several little sun-loving daffodils I like best the flat faced, slender leaved *N. rupicola*. *N. canaliculatus (tazetta* 'Lacticolor') ran to leaf in better quar-



Iris 'Rosedown Strain'

Harper

ters but in a dry, walked over spot the sweet creamy jonquils are borne in abundance. *Zephyranthes candida* prefers wet years but is doing well and slowly increasing, the leaves evergreen, the white vase-shaped flowers appearing suddenly after rainstorms through summer and fall. *Z. atamasco* is native to the area (though rare) and a bucketful came my way, rescued by a neighbour from an about-to-be-bulldozed site. They grew, he said, in mud under trees. This I cannot offer, and though kept well watered they diminished each year and finally disappeared. *Z. "rosea"* (as sold) did better but seems now to have taken itself off. *Lapeirousia cruenta (laxa)* flowered the second year from seed and was not winter-killed. Does anyone have the white form?

Behind the bulb patch grows *Prunus* 'Hally Jolivette', a bushy cherry massed with pale pink tutu flowers in spring and again in September. Through its

branches clammers *Clematis texensis*, bearing quaint scarlet flowers like radishes with curled back tips. It disappears in winter, re-emerging in March to flower off and on from June to frost. I have distributed seed of this much sought species here and there, including the seed exchange. Only John Wurdack reports success. He sowed his seed in February and it germinated in October. Further reports would be welcome.

Snuggled against the south-facing base of a pine grows *Iris unguicularis*, an old friend, for a tiny start came from my English garden. Two plants from ARGS seed flowered for the first time last year and were of identical lavender color. They were not winter damaged, though they flowered a bit late in February. Several other forms are on trial here and there, too young yet to bloom. Another iris which likes the sun and sand is Roy Davidson's 'Rosedown Strain' of this Pacific Coast hybrid in delicate pastel colors, per-

fectly hardy here. *Iris tectorum*, in blue and white, did well in sun but faded rather fast. In part shade it lasts longer and seedlings spring up all around. *I. cristata* gets sun until early afternoon, and *I. verna* only intermittent sun for a few hours. This last is very drought resistant and I rotted out the center of a thriving patch by over assiduous summer watering. The Reticulata irises (full sun) may also have suffered this way. In a moment of extravagance I bought (direct from Holland) every kind I could get. They have diminished, but not before I decided that the pale blue 'Cantab' and violet blue 'Joyce' (or the similar 'Harmony') are the best of the lot. Moles and dogs have been responsible for some losses. Our own retriever/shepherd cross ("mut" his dog license says) and his visiting setter/retriever friend operate as a highly efficient team. Ears pricked, front paw poised, they wait immobile a yard apart. Some secret signal triggers off a furious digging, and earth flies everywhere as they move in from either end. Death to the mole, usually, but even more certain death to any plant which gets in the way.

Winter hardiness here is quite similar to that in my English garden but with interesting differences. *Salvia greggii* is not considered hardy in England. Here, usually evergreen, it shed its leaves in 1976-7 but grew with even more vigor thereafter. *Daphne odora* 'Marginata' was also defoliated, which did not happen in England's coldest winter of recent years, 1962-3. *Salvia greggii* grows two feet high and bears crimson flowers from July on, saving its best for the cooler days of September and October. Nor is *Othonopsis cherifolia* considered hardy in England, but here the grey fleshy leaves of this sprawling plant were not even singed. The flowers are yellow daisies

in early summer.

Three or four years ago I grew *Dierama pulcherrimum* from ARGS seed. It is evergreen here with handsome swordlike leaves the year around. Came what I think of as the Albany (study week-end) winter and the leaves were killed. I thought to see it no more, but by May new growth appeared and it flowered splendidly, the arched "fairy fishing rods" looking too slender to remain upright without staking, yet they do. Now I am on the track of other colors and smaller kinds.

Chrysopsis mariana is wild here, welcomed for the bright yellow daisies in late autumn but far too big to be considered a rock garden plant, and a bit too generous with its progeny, like so many of the composites. It is a clue, however, to the likely success of such smaller kinds as *C. villosa*. Similarly with *Phlomis fruticosa* of the grey felted leaves and whorls of pineapple yellow flowers, a fine shrub for sandy soils and of proven hardiness here; so seeds of the little *P. alpina* will be sown in February. *Sisyrinchium*s have generally done well, but I lost the best (planted in July after travelling from England with roots washed bare), *S. macounii album*, and am anxious to reacquire it.

Among various dwarf shrubs there are two outstanding successes. *Clinopodium georgianum* (or *Satureia*) and *C. coccineum*. Both have the typical sage flowers in September, October, even November if the weather stays warm, and both are evergreen. *C. georgianum* makes a foot high mat of spreading eighteen inch woody stems, clad the whole of their length with whorls of mauve flower. The dark green leaves turn chocolate brown with cold weather. *C. coccineum* is taller, about eighteen inches, and upright, the leaves smaller and brighter green, the flowers

scarlet, exactly matching those of the dwarf pomegranate, *Punica granatum* 'Nana', which here usually dies back in winter though it may stay evergreen in the milder ones.

Even in the south January isn't much of a month for gardeners. Quite the most attractive thing here is *Nandina domestica* 'Nana Purpurea', at five years old a fifteen inch hummock of chubby trifoliate leaves which turn cardinal red in late November and stay that way through winter. 'Harbor Dwarf' is another small *Nandina*, the leaves more finely cut, but winter coloring is not as bright. Japanese Holly, *Ilex crenata*, is probably the most extensively planted shrub on this peninsula and, frankly, I don't care if I never see another, but I make an exception for the tight little 'Dwarf Pagoda' ranking it with dwarf conifers in character. I feel much the same about "Old English Boxwood," featured ad nauseum in southern gardens, but would make an exception for the little 'Kingsville', if only in memory of a good friend, the late Henry Hohman, who gave me the freedom of his nursery when I lived nearby.

Most ivies are hardy here and at one time or another I have grown nearly a hundred. Few proved sufficiently interesting and individual to be retained and I now grow only about a dozen. Among them is the tiniest ivy I know. It came to me from Scotland as 'Minima', and whilst it is not the much bigger leaved and not particularly interesting "Minima" of the American trade, I believe it may be the true 'Minima' of Shirley Hibberd. Most ivies like shade but climbing a pine in full sun I have the cream and green 'Chicago Variegated'. 'Gold Heart' also grows in sun, supported by a large hunk from a cut down tree . . . not such a good idea that, termites have eaten out the center and other support must now somehow be inserted.

More successes than I thought . . . we are not yet round to the shady side of the island, but more about the shade lovers later. If you see this as a threat rather than a promise, get busy with pen and ink and provide your hopefully waiting editor with an alternative.



NOTES FROM ALASKA

Teller Road Trek

HELEN A. WHITE

Anchorage, Alaska

Over three hundred species of wild flowers may be found along the road from Nome, Alaska to Teller, a distance of about 75 miles. One need go no more than a few feet off the road to find delightful floral surprises. Of course, it is advisable to browse a bit further and perhaps to stray up the slopes of the coastal mountains. Some of the flowers are in great abundance but others are scarce.

We struck it rich not long after leaving Nome as we approached the alpine tundra, 'we' being Aline Strutz, Maxcine Williams, Paul Leslie and myself. We left Nome on a rainy July 1 with picnic lunch and lots of mosquito repellent; all of us carried cameras as a matter of course.

It pays to stop almost anywhere after reaching the uplands; everywhere one turns there are flowers — most of them unseen unless one gets out of the car and searches for them. The most productive part of the road begins at about mile 16. Here a large patch of solifluction soil supports a number of interesting plants. Among others is the lovely *Saxifraga oppositifolia* ssp. *smalliana* with its tightly knotted foliage. Here, too, is *Eritrichium arcticoides* and a couple of good potentillas.

All along the way we saw myriads of creamy *Dryas octopetala* (three ssp.) and much *D. integrifolia*. In many places along the route, the nodding yellow blossoms of various poppies were also seen and among them we discovered the rare *Papaver walpolei*, which has such strange looking foliage

for a poppy. The flowers are white and sometimes yellow. *Diapensia* was everywhere. What large blossoms it has compared to the tiny leaves. Several interesting *Ranunculus* were found as well as *Primula tschuktschorum* which was plentiful though about finished blooming. In various places were other *Primulas*: *PP. sibirica*, *cunefolia*, and *borealis*. Large plants of rose-red *Silene acaulis* dotted the landscape and *Phlox sibirica* was abundant in certain areas. We stopped so often and were so interested in our finds that noon came and went before we realized it was time to eat our sandwiches. (If you should travel this route, be sure to bring food for there are no facilities along the way. It is well to carry a thermos of something thirst-quenching.)

The light rain had stopped and after lunch we became more enthusiastic than ever, if that were possible; it was late in the afternoon when we made our way on to the village of Teller, which is almost entirely populated by Eskimos. We were damp, weary, and hungry and the sight of the Teller Commercial Company building, where we were to stay, was welcome; the warm, dry rooms looked mighty good to us and it wasn't long before we gathered at the counter in the corner of the trading post to enjoy dinner. It was early to bed for all of us that night.

The next day was sunny, clear, and warm and we idled on the return trip to Nome, stopping at new places and revisiting others; this was a much better day for picture taking and a great

deal of film was used. Birds are rife along the road as many nest on the tundra; we were also lucky enough to see a small herd of reindeer. The scenery is spectacular and in places there are some fantastic rock formations.

For the information of anyone wishing to make the Teller Road trek here are a few suggestions:

There is no highway connecting Nome with the rest of Alaska; access is by air only. Be sure to make hotel reservations through your travel agent before you come to Nome; sometimes everything is filled up. The Nugget Inn is the most likely place and it also has a restaurant and coffee shop. All prices are high in this area due to the high freight costs.

Rental cars are available in Nome at the Board of Trade Saloon. There is no use in trying to make car reservations ahead because these people do

not answer their mail; one just has to take one's chances on getting a car. Pack rain gear and warm gloves and be sure to have a good mosquito repellent (Cutter's is recommended) and readily available. Carry a picnic lunch and something to drink. If you plan to stay overnight in Teller be sure to call ahead from Nome. The Teller Commercial Company has the only accommodations available.

The evenings are long in late June and early July and you can botanize until late; be warned, however, that the mosquitos are more vicious in the evening. Photography is certainly possible until late evening. There are few roads in the Nome area but of them all the Teller Road is the most productive.

The following list is of some of the plants, not previously mentioned, that we were fortunate enough to see and recognize on our July 1 trek:

<i>Andromeda polifolia</i>	<i>Salix</i> (dwarf), 17 species
<i>Cassiope tetragona</i>	<i>Arnica</i> in variety
<i>Polygonum bistorta</i>	<i>Draba</i> , 13 species
<i>Cornus canadensis</i>	<i>Iris setosa</i>
<i>Cornus suecica</i>	<i>Eriophorum</i> in variety
<i>Pyrola asarifolia</i>	<i>Lupinus arcticus</i>
<i>Claytonia acutifolia</i>	<i>Campanula lasiocarpa</i>
<i>Caltha palustris</i>	<i>Campanula uniflora</i>
<i>Allium schoenoprasum</i>	<i>Androsace chamaejasme</i>
<i>Lloydia serotina</i>	<i>Dodecatheon frigidum</i>
<i>Empetrum nigrum</i>	<i>Armeria maritima</i>
<i>Ledum palustre</i> ssp. <i>decumbens</i>	<i>Artemisia</i> in variety
<i>Senecio</i> in variety	<i>Valeriana capitata</i>
<i>Mertensia paniculata</i>	<i>Pedicularis</i> in variety
<i>Aconitum delphinifolium</i> ssp. <i>paradoxum</i>	<i>Erigeron humilis</i>
<i>Myosotis alpestris</i>	<i>Luetkea pectinata</i>
<i>Epilobium angustifolium</i>	<i>Geum glaciale</i>
<i>Epilobium latifolium</i>	<i>Geum rossii</i>
<i>Delphinium brachycentrum</i>	<i>Parrya nudicaulis</i>
<i>Anemone richardsonii</i>	<i>Cardamine</i> in variety
<i>Anemone parviflora</i>	<i>Saxifraga</i> in variety
<i>Anemone narcissiflora</i>	<i>Sedum rosea</i>
<i>Anemone drummondii</i>	<i>Castilleja</i> in variety
	<i>Oxytropis</i> in variety

(Color photographs and descriptions of most of these plants, along with delightful drawings by Virginia Howie of Millis, Mass., can be found in The Alaska-Yukon Wild Flower Guide, edited by Mrs. White. — Ed.)

UNTAPPED TREASURE ISLANDS

PANAYOTI PETER CALLAS

Boulder, Colorado

There is an unspoken consensus among rock gardeners that things Japanese are necessarily good things. Not only is Japan that other island fountainhead of our art, but unlike England, which was fortunately wiped clean by glaciers (otherwise they might not have sought so assiduously to reassemble the world's flora in their backyards), Japan harbors one of the richest collections of unique wildflowers in the world. Many of Japan's own favorite cult plants have been enthusiastically adopted in the West; camellias, azaleas, iris, flowering crab-apples and cherries, peonies, even bonsai and bamboo, are as passionately pursued by aficionados in America as they are in Japan. But the unimprovable wildflowers, which any Japanese may simply walk out his front door to visit, have been left to the province of the rock gardener to introduce.

The number of rock gardeners is finite, but the floral bounty of Japan seems so infinite that only a tiny percentage of choice Japanese plants can even be said to be on the fringes of cultivation in the West. With so many knowledgeable Japanese members swelling our ranks, I hope that this situation will change.

For any ARGS members who have not done so, I suggest a search for a Japanese flora in your local library. I am especially fond of Jisaburo Owhi's recent and lavish *Flora of Japan*, published in English translation by the Smithsonian Institution. Although it is far too meagerly illustrated, even the

barren, scientific descriptions can't help but breathe poetry as they describe *Schizocodon*, *Kirengeshoma*, *Glaucidium*, *Ranzania* and the hundreds of rare and endemic plants in which Japan is so rich.

Japan, for instance, has some four hundred Pteridophytes — twice as many as the entire United States — and most of these have hardy clones that extend well into Honshu and even Hokkaido. The Painted Fern, *Athyrium iseanum* (*A. goringianum pictum*) and *Dyopteris erythrosorus* have proven hardy over most of the United States. Imagine what treasures have never been introduced! Fathom, if you can, forty-two species of Jack-in-the-Pulpit, *Arisaema*, all of them exotically beautiful and fantastic elaborations of our native Jack. Or what do you make of thirty species of Wild Ginger, *Asarum*? If *Primula sieboldii* is increasingly grown in America, what of the other twelve Japanese primulas, all endemic and first rate garden plants?

The Japanese rock plants that have managed to reach our gardens have largely impressed American rock gardeners by their resilience and hardiness. The possibilities that would be provided to our gardens if a representative selection of Japanese wildflowers were available are awesome. Asa Gray may have been the first to remark the floristic parallelism of our deciduous eastern forest vegetation with that of Japan; we as rock gardeners may perhaps bend these parallels so they meet in our gardens.

• • • of Cabbages and Kings • • •

*'The time has come,' the Walrus said,
'To talk of many things:
Of shoes — and ships — and sealing-wax —
Of cabbages — and kings —
And why the sea is boiling hot —
And whether pigs have wings.'*

Lewis Carroll

It is with considerable trepidation that I follow in the pathway already trodden by such eminent editors of the *Bulletin of the American Rock Garden Society* as Edgar T. Wherry, Dorothy E. Hansell, Edgar L. Totten, G. G. Nearing, Dr. Carleton Worth, Albert M. Sutton, and Howard N. Porter; certain it is that I can claim neither their botanical knowledge nor their scholarship. However, with your help I shall do my best to turn out a presentable publication.

And your help will be needed. A beautifully set dinner table and eye-appealing dishes may set the taste buds atingle with anticipation but if the fare is tasteless or scanty we will rise disappointed from the table with appetite unsatisfied. A nourishing, succulent stew on a chipped plate will linger longer in stomach and memory than an insipid dessert no matter how artfully decorated. Just so the format of a publication may enhance its appearance and persuade a reader to open it, but it will be the content he savors.

The "Bulletin" resembles a pot-luck supper. The editor can only set the table and try to be sure the table cloth and dishes are clean; it is you, however, who provide the dinner. Unless sufficient food is brought to the supper, we shall all rise hungry.

As editor, I should like to see the "Bulletin" stuffed with nourishment:

articles on gardens and on plants and how to grow them. We have members in every state of the Union and in thirty-five countries other than the United States; thus our rock gardens are situated in very varied climates, soils, and sites. In this the "Bulletin" can be of great assistance. Let us know what plants you grow in your gardens, frames, alpine houses and on your light benches. Tell us what you have done to make them grow under the particular set of circumstances you have to cope with. Your experience could solve someone else's problems or lead them to try a plant they might otherwise hesitate to attempt in their area. Let us know what natives suitable for rock gardens appear in your area, what they look like, and what the soil, site, and climate conditions are where they grow. Tell us if you have tried to bring them into cultivation and if so, whether by transplanting, seed, cuttings or division. Have you succeeded with them? Where? How? Our gardens are filled with plants from all over the world and yet individually most of us grow only a small number of these. Let us know what is available and how we might add them to our collections of plants.

Let us know, too, about interesting gardens you have built or visited. Every garden is a conglomerate of plants and ideas gleaned from elsewhere and

adapted to suit our own particular situation. A new suggestion for a garden plan, plant combination, or landscape detail may be just what someone else needs to solve a problem previously insoluble.

And in addition to longer articles let us have brief paragraphs of informative tid-bits: comments and additions to the articles you have read in the "Bulletin" and, where necessary, corrections and disagreements. Let us know how you have succeeded in your area with plants mentioned in our articles.

Have you particular problems? Are you seeking particular plants, seeds, or cuttings? Send us a note and perhaps someone else, on reading your query, will write in a reply. Such an exchange of information would benefit us all.

Every gardener knows, or should know, that there are more ways than one to sprout a seed and grow it on successfully. What works for you may work for someone else — or not as the case may be. A valued and difficult plant in one man's garden, may become a weed to be ruthlessly extirpated from another. Let us learn from your experiences, successes and — yes, even your failures.

None of us are born expert gardeners. It is a skill which grows over the years in bits and pieces by reading, talking to others, and by doing. It is added to daily, sometimes quite accidentally and not infrequently from unexpected sources. A neophyte may stumble on a new and successful method of growing a plant that has never been tried before. An old-timer who has struggled unsuccessfully for years to grow a much desired plant, may, by mistake, make some minor change in its culture that finally leads to success. Do not be timid about sending in your experiences because you do not consider

yourself an expert.

Very few of us are talented authors, and though it does certainly add to the pleasure of reading an article if it is skillfully written, yet in a publication such as the "Bulletin" it is not the well turned phrase nor a brilliant vocabulary that we seek. So do not let modesty inhibit your pen.

Many container grown shrubs in nurseries are grown in a special mix containing very little soil as such. This is, perhaps, most true with rhododendrons, azaleas and broad-leaved evergreens. It is wise, when transplanting such plants from container to garden soil, to break up the root-ball rather thoroughly or to slash down vertically and fairly deeply through the tangled mass of roots and soil in several places with a sharp knife. This permits the roots of the plant to come in direct contact with the soil into which it is planted, encouraging the roots to grow out of the root-ball and permitting the root-ball to absorb moisture from the surrounding soil more easily.

Such drastic action is usually not necessary nor particularly advisable with container grown conifers or herbaceous material, though a gentle loosening of the outer surface of the root ball is usually advantageous if the roots have wound themselves into a hard packed mass against the side of the container.

If your *Daphne cneorum* looks winter burned and miserable this spring, hold back those clippers. *Daphne* hates being cut back just as the sap is beginning to flow and may dwindle and even die if so treated. Many of those apparently dead branches will sprout new leaves if given the chance and you can wait until July or August to cut out the obviously dead bits.

When selecting dwarf conifers at a nursery be sure to check the length of the past year's growth. The shorter the annual growth, the more slowly your plant will grow. Remember, too, that pot grown material, unless heavily fed, is likely to have shorter than normal annual growth (in a sense it is bonsaied) and may take off once it is established in the open garden.

When planting shrubs and trees it is wise to leave a depression in the soil around the trunk to catch moisture. Be sure, however, whether or not you leave a cup, not to pile soil around the trunk or trunks higher than the original soil level in which the plant was grown. Planting too deeply can cause bark rot and the eventual demise of the tree.

Late May and early June is the best time to get that edging done before the grass roots have had a chance to sneak into the beds. With a sharpened spade cut down along the edge of the turf. Then sit down as comfortably as possible and dig out those invasive roots and stolons with fingers, claw, and trowel. You may have to be a bit rough on some of the mats in which grass has become fairly well established. But better to get the grass out now before the plant is completely and hopelessly infested and this time of year it will usually go through the operation without turning a hair if it is pressed back into the soil firmly. It can even be a rather pleasant chore with the spring sun warm on your back and your eyes and nose close to the flowers.

Selma Fuller

It is with deep sorrow that we report the death, just after Thanksgiving, of Selma Fuller, alternatively known to her friends as Sally. She and her husband, Henry, became members of ARGS around 1950 and, though in the past few years Sally's health did not permit her to take an active part in the Society's affairs or even attend many of its meetings, she maintained a tremendous interest in its activities. In 1969-70 and 1970-71 she greatly assisted Henry when he was chairman of the Seed Exchange. Her correspondence with gardeners all over the world was voluminous and generous with suggestions and offers of seeds, cuttings, and plants.

It was always a pleasure to visit Sally and Henry at their home and lovely garden in Easton, Conn. Her hospitality, learned no doubt in her childhood home in Kentucky, was truly southern and her cooking delicious. Sally held strong convictions and felt no compunction in expressing them. Her wit was sharp and quick and she could keep a group of friends entertained for hours with her comments and anecdotes. Her sympathy and concern were warm and immediate. No sooner had Sally learned that a friend was troubled or had a problem than off would go cheering letters filled with encouragement, helpful advice, and amusing gossip about people, books, and the state of her garden and the world.

And Sally had an eye for plants. She could instantly spot a particularly happy combination of plants or, perhaps more important, in a welter of flowers and foliage, an outstanding form. Many of our gardens here and abroad are enriched as a result of Sally Fuller's discerning eye and great generosity.

For Thicker Groundcovers

There is a small group of excellent, evergreen plants for acid soil whose full success in the northeastern garden as good groundcovers is determined by nothing more difficult than the addition and maintenance of a heavy mulch extending out a foot or two over the adjacent soil.

This group would be typified by *Pachistima canbyi*; *Vaccinium vitis-idaea* (majus), the Cowberry or Lingenberry; and *Vaccinium vitis-idaea* 'Minus', the Mountain Cranberry or Mountain Cowberry. These plants have one distinct characteristic in common: they spread by stolon or rhizome-like runners just beneath the surface. If the soil under which these runners wish to advance is fully exposed to the sun, the runners are discouraged from advancing by the great extremes of heat and cold and wet and dry. If these extremes are too great in a given location, the runners will not advance at all from the crown and the plant will grow larger from the original stem or stems and become quite top heavy and vulnerable to mechanical damage and the entry of disease. Moreover, instead of having a continuing mass of foliage, the appearance will be more that of a series of spaced out clumps. The application of a goodly mulch (no soil visible at any time) of woodchips,

shredded bark, pine needles (heavy) or the like will serve to moderate temperature and moisture and encourage the runners to move out and rapidly fill in the spaces between the plants. The result in the case of all these three plants is a visually pleasing and effective groundcover. The importance of this mulch can be demonstrated dramatically by putting it on only one side of a planting, even the uphill side. In two or three years the mulched side will be beautifully full and the unmulched side will have advanced little or not at all.

The same factor should be considered in acquiring plants for your garden. The longer a plant has been in a plastic container (with the sun heating up the sides) the more slowly it will send out runners and the more it will tend to grow entirely from the main stem. If possible, select a small plant in a large container, a young plant in a peat pot, or a plant with new runner tips already showing at the rim of the plastic container. These will spread out in the least amount of time.

When once well established, these plants are competitive but they can be confined to a limited space as the invading runners are easy to lift and snip off as desired.

James E. Cross, Cutchogue, N.Y.

Be sure to keep your calendar clear of other activities over the weekend of May 12 to 14, the dates of the Annual Meeting to be held in Stamford, Conn., this year. In addition to the activities scheduled for the weekend itself, rock gardeners in the area will have Open Garden Days both before and afterwards and will welcome you if you stop by for a visit either on your way to Stamford or on your way home.

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LV/1: NEPAL—THE LANGTANG VALLEY—6 to 26 May: £660

Oleg Polunin accompanies this trek, on which fifteen nights are spent under canvas and are preceded and followed by a day or two in Kathmandu for acclimatising and resting respectively. The Langtang is famous for its rhododendrons and for its splendid views of Langtang Lirung and other peaks. A few days are spent at Shingdum, the head of the valley, from which there are several enticing walks and climbs.

SB/62: SPAIN—BEILSA—VALLE DE PINETA—31 May to 14 June: £216

This small village lies at the foot of the Valle de Pineta in the Spanish Pyrenees at about 3,500 feet, close to the National Park of Ordesa and is an excellent centre for making expeditions into the high mountains, where an interesting flora is to be found. We stay at a pleasant family hotel on the slopes at the edge of the village from which there are lovely views and delightful walks.

SB/63: SPAIN—SIERRA DE CAZORLA—13 to 27 June: £251

The Sierra de Cazorla spreads over most of the Jaen Province and is crossed from North to South by the great network of the river Guadalquivir which flows swiftly through a series of gorges and ravines turning into waterfalls of dramatic beauty. We stay at over 6,000 feet in a beautifully placed Parador from which there are walks leading to a remarkable variety of mountain plants including the *viola cazorlensis*, an extremely rare species of violet to be found only in these parts, and locally known as the Andalusian Edelweiss. This region is also famous for its birds and wild life in general.

SB/64: ITALY—PONTE DE LEGNO—27 June to 11 July: £249

This very attractive centre lies at about 4,500 feet, at the head of the Val Camonica in the norther part of the Province of Brescia and is very well equipped with transport to the high places where flowers grow in variety and abundance. It is in fine walking country, and the hotel is particularly recommended.

In addition to the holidays mentioned above we shall also be operating two tours to LADAKH—India's Little Tibet—in July and September, as well as our special and unique pony-trek in Kashmir and two tours to Nepal and Kashmir in May and October. Our tour of South Africa leaves in September.

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