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AMERICAN ROCK GARDEN SOCIETY BULLETIN

Albert M. Sutton, Editor

VOL. 30 APRIL, 1972 No. 2

COMMENTS ON NEW SPECIES, VARIETIES AND THE NAMING OF PLANTS

ALBERT DE MEZEY, *Victoria, B. C.*

In last year's January issue of the ARGS *Bulletin*, on page 14, a question was asked "Are They New Species or Varieties?" In response to this, the present notes may contribute information on the subject.

The classification of plants and the naming of new discoveries continue on a course of progressive improvement. Taxonomic re-work from time to time helps to clarify the confused status of many plants involved in excessive and complex synonymy.

We have to look at the situation from a realistic standpoint of relativity. All plants, representing many thousands of species, have developed from a relatively few primordial prototypes through progressive evolution over millions of years. Compared to this, the divergence of forms progressing to varieties, the subsequent development of distinct characters and their fixation, or, in other words, the process of speciation is slow in terms of a human life span, but nevertheless observable.

The International Botanical Congress of 1956, and another later, have formulated distinct and precise demarcations between species, variety, form, clone, cultivar, etc. in specific terms, and present day descriptions are becoming clearer and more accurate. What happens to a new plant after discovery? A botanist will press it and send it to the nearest Herbarium. Due description will follow which may vary from inadequate to excellent. The publication appears in some Annals of Science or frequently in an obscure Botanical Journal. Here the matter rests, and nothing happens further until the plant is re-discovered by some keen amateur or nurseryman, or its status challenged by a revisionist. The study of work accomplished by others on a specific plant is a formidable task, often awkward and slow due to the remoteness and difficulty of access of the related records.

The effort of a conscientious collation requires both devotion and perseverance. Often a scant check was made instead of a systematic search, and this is the reason of the perplexing synonymies still hanging on to a substantial portion of unrevised genera. Cactus fans will know that *Mammillaria longimamma* has 118 synonyms! This means that as many descriptions appeared by different people on the same plant. Descriptions are on record of non-existing plants such as *Sempervivum vincentei* Pau. Some plants be-

come extinct soon after discovery through habitat destruction, for example, *Penstemon nelsoni* Thomps. Some were exterminated by collectors and rediscovered many years later, such as *Biebersteinia orphanidis*. There are signs of improvement in toxonomy noticeable almost from year to year, thanks to the devotion and patience of some of our hard-working botanists.

As a conclusion of the few points raised on such a broad subject, there should be no cause for uneasiness over the status of a plant worthy of interest, be it species or variety. The difference is only time, the yardstick of evolution. The species of today was a variety in the past and the variety of today is a species of the future. We should love and cultivate these plants on their merits which brought them from the wilderness to our gardens.

TRILLIUM HIBBERSONII Wiley was found first by the late J. A. Hibberson of Victoria, B. C. in 1938 while on a timber-cruising trip on the storm beaten, rugged west coast of Vancouver Island in British Columbia. Years later, botanists of Victoria and Vancouver, while searching for it, have located additional colonies. About six stations are known to date; probably more exhist in its inhospitable and rugged habitat. It is a plant of the fjords or inlets of the western coastline of Vancouver Island; a true rock plant, favouring horizontal crevices and pockets among rock outcrops, resembling *T. rivale* somewhat, but more compact and more floriferous, and upon closer examination, quite distinct.

Compared to the deep-rooted *T. rivale,* it is shallow rooted; to be remembered when planting. Loose, gritty soil with leafmould as preferred by the evergreen Lewisias will suit it best. The prolific dainty flowers open a blush pink, turning white, but some forms remain pink. They have a peculiar charm of their own, appearing in late March in coastal gardens, and later inland. The plant is hardy in the cold interior of British Columbia, but perhaps yet untried in the East.

Cultivation presents no particular problem. Too much shade will cause etiolation and loss of character. It should not be allowed to dry out completely. *Trillium hibbersonii* need not remain a rare plant for too long since propagation is not difficult from offsets of the crown and from seed. The round capsule may contain as many as 100 seeds, which are best sown as soon as ripe. As usual with other plants, the percentage of germination is reduced with storage. The seed should be covered with about a pencil thickness of grit; the seeds will not then be lifted out by the pressure of the developing roots. In height this plant is seldom as much as 4 inches.

Those who are interested in more details are referred to the seven pages of eulogy in the excellent book by Leonard Wiley, of Portland, Ore., *Rare Wild Flowers of North America.*

The original question in the *Bulletin* also mentioned availability of new species and varieties. The logical course is to contact the discoverer or author, or cultivators on record. Clues are usually obtainable. Fortunately, *Trillium hibbersonii* is cultivated horticulturally by the son of the discoverer, Mr. Robert J. Hibberson, 877 Byng Street, Victoria, B. C. from whom nursery grown plants are obtainable.

Species or variety? The definition of a species is a plant possessing clearly distinguishable characteristics compared to another, which are per-

Trillium hibbersonii Wiley is the rarest of all species *Trillium*. This planting, taken in a private garden in Victoria, B. C., may be the only group of its kind in existence.

Leonard Wiley, copyrighted.

manently fixed, proven by breeding true from seed through several generations. *T. hibbersonii* has been continually propagated from seed for over 30 years now without any deviation from its character. As such it stood the test to be welcomed as a new addition to the most cherished gems of our rock gardens.

It will be found that discoverers of very rare plants may be reluctant to reveal the sites, and for a very good reason. Some 18 years ago, the writer inspected a site of *Trillium ovatum* containing about two dozen doubles with petals in various multiples, a teratological mutation. The petals were sound with no evidence of deformation or transformation of other floral parts. Others may have stumbled on the site, or knowledge of it may have leaked out, because the place was raided and all the doubles were taken. There are only two gardens in Victoria now with some of these in existence. Further north, scattered colonies of doubles occur, one quite extensive. This area, if thoroughly searched may yield additional colonies. Subdivision of farm lands and general urbanization are rapidly obliterating these habitats.

The doubles here are entirely different. Instead of pure white true petals in a flower head resembling an Esther Reed Chrysanthemum, these have rather globular flower heads of a greenish yellow tint with farina and with the

generative flower parts transformed into petaloids as in some Camellias.

Mutations and polyploidy are noticeable also in other plants on the southern coast of Vancouver Island.

LEWISIA STEBBINSII. In a collection of geographical forms of *Lewisia columbiana,* an odd rosette was noted with multipinnate basal leaves. Another plant of a friend showed this characteristic on all leaves of the entire rosette right up to the tips. To make a crude comparison, the plant had the appearance of a pre-flowering rosette of *Gilia aggregata* in a state of obesity. Certainly very distinct, the flowers appeared to be similar to those of *L. columbiana.* It was rumored that this thistle-rosetted Lewisia is about to be described as a new species. It may or may not be *Lewisia stebbinsii.* Further work is in progress on this subject and the results will appear in a separate article—"On Lewisias New and Old."

The number of new species and varieties arising from discoveries and reclassifications during the last few years is considerable. To do reasonable justice to most, the various genera of interest are best treated individually. The genus *Sempervivum* was worked over by revisionists again and many new discoveries have been described since the publication of Dr. Praeger's Monograph of the Genus in 1932. The next discussion is intended to deal with this subject with the endeavour to bring to the attention of the members the new species and the latest changes in taxonomy.

* * * * *

SHORTIA (SCHIZOCODON) SOLDANELLOIDES INTERCEDENS — Roy Davidson, of Seattle, needs information. He writes as follows: "My recent paper on the several aspects of the members of the Diapensiaceae as garden subjects was illustrated by a not-very-good drawing of one of the lesser known. At the time of writing, I had not found reference to *Shortia (Schizocodon) soldanelloides intercedens* in any English language publication, and was therefore much surprised to discover in recent rereadings of our own *Bulletin* that seed of this little-known, white-flowered form was contributed in 1957 to the seed exchange by Mr. Ozawa. I wonder, for the record, if this (or some other attempt) might have established this plant in western horticulture, or if material I sent back in 1969 constitutes its "introduction." The latter were shared widely to insure that it persists for someone. A garden visitor, Stephen Doonan, spied capsules on newly established plants the same season, seeds set in Japan and surviving the long trip home. There are a number of good seedlings coming along from these capsules. Steve, expert gardener that he is, germinated them by the closed-jar method which gives him such good results. Selection is called for at flowering time, for this flower could be improved upon and increased, perhaps, in size a bit in proportion to the plant. But then as I was not able to select flowering plants as it was too late, perhaps very fine ones could be found were one fortunate to be there at the right time. I would appreciate hearing from anyone who might have succeeded in obtaining plants from the Ozawa seed of the 1958 supplemental list, as published in April of that year."

ALPINES OF THE SUSUNAI MOUNTAINS OF SAKHALIN ISLAND

VLADIMIR VASAK, *Pruhonice, Czechoslovakia*
ELENA EGOROVA, *Novoalexandrovsk, Sakhalin, URSS*

Part II

Let us turn to that plant family which gives us the most beautiful flowers —the orchids. It is true that the most beautiful of them are of tropical origin, but one must admit that there are delicate plants among them which delight the rock gardeners of northern latitudes. For example there is *Spiranthes sinensis* (Pers.) Ames, a little pink orchid, flowering from May to August (with reference to its locality) as it is widespread from Sakhalin to Australia. We collected the living plants. Some of them I brought to Czechoslovakia, but to my sorrow, they perished. Let us hope their introduction next time will be more successful.

As for the tway blades, so abundant in the tropics, we found only *Liparis sachalinensis* Nakai. After all, the other species of this genus do not grow on Sakhalin at all. *Platanthera* was represented on the Susunai Mts. by two species, *Platanthera chorisiana* (Cham.) Rchb. fil, with the little tender flowerets and *P. sachalinensis* F. Schm., with flowers a bit larger. But in comparison with the European common butterfly orchis, *P. bifolia,* the flowers are not as large and the fragrance is missing. One more reason for us to appreciate our home flowers!

Another inconspicuous species was *Coeloglossum viride* (L.) Hartm. var. *bracteatum* (Willd.) Richt. with the green flowerets, as the name suggests. Now we come to the strikingly beautiful *Orchis aristata* Fisch. Takeda (1938) recommends it be cultivated in half shade and that it should be manured well, otherwise it would not bloom at all. Its typical form has spotted leaves, forma *maculata* Takeda. The plants which we collected, being a var. *immaculata* Makino had leaves without spots, — untypical but more frequent.

We found a bulky (up to ½ m high) rein orchid, *Gymnadenia camtschatica* (Cham.) Miyabe et Kudo, which is widespread from Kamchatka to the mountain forests of central Honshu. The last orchid species, *Oreorchis patens* Lindl., with its evergreen leaves reminds us of the tropical orchids. Regretfully, it does not remind us of them as its flowers, in European culture, are only small, yellow-brown and they do not prosper. It is one of the few warmth-loving plants left on Sakhalin, where it is kept happy only because of the thick, long-lasting and constant winter snow covering.

On the peak of Mt. Czechov in the Susunai Mts. the rose family was represented by a typical alpine of the Arctic region, i. e. a fine little trailing red dewberry, *Rubus pedatus* Sm. widespread largely in America. It is found even in east Asia. Its fruits are palatable, but so small. It took so much time to collect a sufficient quantity that one would be out of patience before getting enough to taste. In these mountains we preferred to obtain refreshment from the fruit of the currant, *Ribes latifolium* Jancz., looking like a common red currant and from the shadow-loving *Ribes sachalinense* (F. Schm.) Nakai, with the very aromatic, hairy berries. Also from the sweet fruit of *Actinidia kolomikta* (Maxim.) Maxim., of the pleasant acidulous berries of *Trillium camtchatcense,* and some of the species of *Vaccinium: V. hirtum* Thunb., *V.*

ovalifolium Smith, *V. vitis-idaea* L. var. *minus* Lodd., and of the fruit of sharp-acid but aromatic *V. praestans* Lamb.

We found there, also, the cloudberry, *Rubus chamaemorus* L. but the yellow, aromatic fruits were already gone. It was a pity that we could not taste the favored berry of the poet Puschkin there on Mount Puschkin which would certainly have been interesting to us. We found a strawberry in some places, *Fragaria iinumae* Makino, past fruiting which was interesting in another respect. Takeda included it in his chosen list of rock plants suitable for pot culture. It is quite possible that European, American, Australian and New Zealand rock gardeners might not be fascinated with its appearance, but the Japanese like nogo-ichigo *(Fragaria iinumae)* with its modest beauty. It is, after all, a little special strawberry that confirms its synonomy—*Potentilla daisenensis* Honda.

Let us continue with our list of edible plants as Rosaceae is very rich in such fruits. In our plant hunting we met two species of *Sorbus*. The first one, a tree, *Sorbus commixta* Hedl. var. *sachalinensis* Koidz, which reminded us of the mountain ash *S. americana,* did not entice us with its appearance nor with its bitter fruits, which may be more acid than the fruits of the European species, *Sorbus aucuparia.* On the contrary, the second one, *S. sambucifolia* (Cham. et Schlecht.) Roem. gratified the dendrologs, the rock gardeners and all pilgrims looking for refreshment as it offered to them its refrigerant fruit. It is a low shrub with nice deep green and lustrous leaves and with rich, small shield panicles of coral-red, palatable, acidulous fruit, without any bitter taste. In Rehder's opinion (1962) stated in the dendrological literature, *S. sambucifolia* lives only a short time in culture and is not easy. In gardens it has been a rarity since 1905. It is uncommonly frost resistant. *Sorbus sambucifolia* is often confused with *S. decora* and *S. sitchensis.* We cannot confirm this fact as up to this date its seedlings are growing excellently and as two-year plants they have reached a height of 3-4 cm. If any of the readers are interested in this plant, we could send them this little shrub from Pruhonice, near Prague. Pavlov (1942) states that its fruit is much collected in Kamchatka and is edible after frosts.

Now we will continue with the shrubs, mostly too tall to draw the rock gardener's attention with, perhaps, the exception of *Prunus nipponica* Matsum. var. *kurilensis* (Miyabe) Wills. Its Japanese name, chischima-zakura, recalls a Japanese celebration of cherry flowers. Two species of *Spiraea* were found but already faded, consequently quite inconspicuous. They were *Spiraea betulifolia* Pall. and *S. media* F. Schmidt var. *sericea* (Turcz.) Regel. On the Kurile Islands we collected an interesting variety of *Spiraea betulifolia* Pall. var. *aemiliana* (C. K. Schn.) Koidz. being shrubs of only 10-20 cm in height. We shall write more about it in our article describing the Kurile alpines.

Another decorative shrub we collected was the fertile *Sorbaria sorbifolia* (L.) A. Braun. We met there also perennial goat's beard, *Aruncus americanus* (Walt.) Fern. var. *kamtschaticus* (Maxim.) Hara. The next to last species of the Rosaceae to be mentioned is not small, but it is very pretty and very variable and recommendable, besides other numerous authors, also by Seiffert (1969), especially in its pure white form. It is quite wide-spread in Sakhalin. This is *Sanguisorba tenuifolia* Fisch. var. *alba* Trautv. et Mey., with the long brushes of dense rich blossoms. Its most valuable property is its

Arnica sachalinensis

Vladimir Vasak

ability to flower nearly all through the summer.

The last one to mention is a true alpine, suitable for ground covering, somewhat like the gold-thread we have already mentioned. It is *Waldsteinia ternata* (Steph.) Fritsch., only 5-8 cm high. Together with the American *W. fragarioides* (Misch.) Tratt. they are the best species for the establishment of a green carpet in the alpine garden, being decorated in spring with yellow, bright flowers. They are highly recommended by Farrer. In garden literature, *Waldsteinia ternata* is better known under the name *W. trifolia* Roch. Its occurrence is widespread from the southern Alps to Sakhalin, Kunashiri and Japan. Likewise, as in *Coptis trifolia,* its leaves keep green in winter. In culture it wants shade or half shade, light humusy leaf-soil and plenty of dampness.

From the classical rock family of Crassulaceae were spread at the brooklets the not very nice stonecrop, *Sedum verticillatum* L. and on the rocks near the peak, *Sedum sachalinense* (Boriss.) Worosch., reminding one of the well-known *Sedum kamtschaticum.* Only in one place grew *Sedum roseum* (L.) Scop. ssp. *integrifolium* (Raf.) Hult. This is the first time this plant has been recorded as found in southern Sakhalin. According to the literature it had previously been found only in northern Sakhalin. This subspecies is widespread in east Asia and in North America. The thick, pulpy roots have for a long time been known as a good remedy. The leaves and roots of *Sedum roseum* are edible, even the Eskimos appreciated them.

Of the seven species of the bush bamboos we found more than half on Sakhalin—four species. *Sasa paniculata* (Makino) Makino et Shibata; *Sasa kurilensis* (Rupr.) Makino et Shibata; *Sasa sugawarae* Nakai and *Sasa tesioensis* Tatew. The shrubby bamboo is widespread in the whole of Sakhalin and the Kurile Islands. Perhaps for this reason we did not collect their rootstocks

in time that we needed for their introduction in Pruhonice in Czechoslovakia. Because it was so plentiful we had decided to collect them on the last days of our stay on Sakhalin and in those days we could not find them. It is a pity, for they are really very nice decorative bamboos, suitable even for the middle-European winter. Let us hope we shall have a chance to visit Sakhalin once more to redress this mistake of ours. Especially *Sasa sugawarae,* being only 30-40 cm high in comparison with the other up to 2 m high, which is very suitable for culture. In the stands of Sasa we found also the tiny *Viola variegata* Fisch. var. *nipponica* Makino with rather gay, shapely cordate leaves, a species not previously found on Sakhalin. Its nearest known locality is on the Japanese island of Honshu in Kanto Province.

Along the brooklet we found rockfoil, *Saxifraga reniformis* Ohwi, a hygrophilous plant with nice toothed leaves. Close by and abundant was the interesting *Cortusa pekinensis* (Richt.) Kom. et Alis, having deeply partite leaves. A gigantic butter-bur, *Petasites japonicus* (Seib. et Zucc.) Maxim. var. *giganteus* (Schmidt) Nichols, the large, wide leaves of which we used once as an umbrella in a sudden Sakhalin rainstorm. It appears in its blooming period as a lovely little plant which flowers immediately after snow thaw. Owing to this characteristic it is often met with in alpine gardens. In Japan, its basic species *Petasites japonicus* is cultivated as a vegetable.

In the moistest places was the ubiquitous *Viola biflora* L. which can be met with everywhere in the mountains of the Northern Hemisphere where sites are sufficiently cold and damp. In those damp places also grew two species of lady's smock, *Cardamine yezoensis* Maxim. and *Cardamine scutata* Thunb. whose miniature and pleasing flowers were welcome. And finally we recall that most beautiful plant which is abundant at the brooksides. It is *Lysichiton camtschatcense* (L.) Schott., a white-flowering related species of the American *Lysichiton americanum.* In its blooming period it is really splendid. This is confirmed by the Japanese botanist, Ohwi who presents *Lysichiton camtschatcense* as the most attractive plant of the Japanese islands. In his book, *Flora of Japan,* he places its picture in the most prominent place —truly in honest appreciation.

Now I think that it is time to shorten our story though it is not easy for us since we were surrounded all of the time with so many interesting and pretty species. First the plants enjoyed the nice weather and the sunshine with us but later it was the plants only that enjoyed the unexpected rainstorm, not we. It was no common heavy rain but the rainy border of the powerful typhoon "Polly's" veil, bringing the great floods on the continent. It was a little milder on Sakhalin, nevertheless it was heavy enough so that we became wet to the skin and had to pour water out of our plastic collecting sacks.

In the humus soil of the mixed forest there was growing in some places the wild ginger, *Asarum heterotropoides* F. Schmidt which was less desirable than the European relative, *A. europaeum.* Also there was the starflower, *Trientalis europaea* L. var. *arctica* (Fisch.) Ledeb. and *Cornus canadensis* L. The last species is less attractive for the American alpine plant grower as it is a common plant of the American woodlands and mountains. But for the European rock gardeners *Cornus canadensis* is a very attractive and desirable species as it is quite uncommon in alpine gardens. Like the genera *Coptis, Waldsteinia* and *Maianthemum* it is valuable as a suitable plant for soil cover-

ing near decorative shrubs and trees.

Speaking of plants living in a soil rich in forest humus, we must mention the trees which grow in the Susunai Mountains. They are predominantly *Abies sachalinensis* (F. Schm.) Mast. related to *A. veitchii* (its synonym is *A. veitchii* var. *sachalinensis* F. Schm.); *Abies mayriana* Miyabe et Kudo; *Picea ajanensis* Fisch.; *Acer mayrii* Schwerin and *A. ukurunduense* Trautv. et Mey.; *Ulmus propinqua* Koidz. and at the higher altitudes mainly the birch, *Betula ermanii* Cham., its crown recalling rather a plane tree than a birch. On their venerable trunks there is growing a nice liana, *Hydrangea petiolaris* Sieb. et Zucc. We can boast that this liana is cultivated in Pruhonice near Prague. It is located at two central places in the alpine rock garden and covers there the salient vertical rocks. During almost all of its vegetative period it is uncommonly pretty.

In the undergrowth of these forests which are frequently restricted, even destroyed by fires whose spreading is supported by the bush bamboos, grow some pretty shrubs. At the time of our visit *Hydrangea paniculata* Sieb. was in full blossom. Spindle-trees were already in mature fruit. Of the three species we met—*Euonymus sachalinensis* (F. Schm.) Maxim., *E. macroptera* Rupr. and *E. miniata* Tolm., the prettiest fruit was on the first. It was most beautifully colored. They were of a bright purple-red color. *E. miniata* is probably a hybrid of *E. sachalinensis* and *E. macroptera.*

Acanthopanax senticosus (Rupr. et Maxim.) Harms is not only a good-looking decorative shrub of the Araliaceae family but is an important medical plant containing tonicum. Sometimes in the bushes we found small lianas, *Actinidia kolomikta* (Maxim.) Maxim. and *Schisandra chinensis* (Turcz.) H. Bail. Both plants produce edible fruit; the fruit of the latter is of a sharper taste and they are used by the local hunters as a tonic during their long exhausting marches.

In the dense growths of the deciduous forests (where we found Trillium) was growing an admirable plant of the family Berberidaceae, *Diphylleia grayi* F. Schm. We usually see only woody plants in this family, but *Diphylleia grayi* is a perennial herb resembling in its flowers the well-known house plant, *Sparmania africana.* We found fertile plants of *D. grayi,* but their seeds are a little lazy in germinating. But we have not yet lost hope as it is known that they may lie for two or three years.

As usual we are leaving the most beautiful to the end: a lovely plant association growing on the summit of Mount Czechov. On the rocks spread *Thymus japonicus* (Hara) Kitag., having a pleasant spicy fragrance similar to the European *Thymus serpyllum.* It recalled to us Europe and our distant native country. In the narrowest crevices there was sheltered an alplily, *Lloydia serotina,* already mentioned. In areas open to the strong winds grew a hardy evergreen crowberry, *Empetrum asiaticum* Nakai, differing but little from *E. nigrum,* and a small bellflower, *Campanula dasyantha* M. B. While Voroshilov (1966) states that this species grows only on the Asiatic Continent, according to Ohwi it is identical with *Campanula chamissoi* Fed. and grows only on the east Asiatic islands and in Alaska. It would be difficult to decide which of these two opinions is correct as one would have to compare the bellflowers from all these large and hitherto only little floristically investigated territories. But there is no doubt that it is a campanula

suitable for the alpine garden. It is only 3-5 cm high and has large violet-blue flowers.

We found there also an evergreen holly, *Ilex rugosa* F. Schmidt, which is abundant only on the south of Sakhalin and Kurile and Japan. It is a low shrub with leaves containing a substance, similar to indigo, which on drying, turns black. In Japan it is cultivated as a decorative shrub and its fruit is put to an interesting use; to alleviate toothache. We found there several evergreen shrubs; a low *Juniperus sibirica* Burgsd., a relative of the European high shrub, or small tree, *Juniperus communis* L.; a tiny stone pine, *Pinus pumila* (Pall.) Rgl., analogously related to the high tree Siberian stone pine, *Pinus sibirica.* and the most beautiful of all was a little evergreen shrub, *Rhododendron chrysanthum* Pall., having besides the matured seeds some secondary light yellow flowers. Notwithstanding their being secondary flowers they did not lack charm. Together in the rocky crevices with *Rhododendron chrysanthum* was *Rhododendron camtschaticum* Pall. ssp. *intercedens* Hult. with leaves already shed. We could write many interesting facts about these two species but it has already been done in the *Bulletin* of the American Rhododendron Society (No. 4, 1970). Perhaps a short notice about this golden rhododendron: it is an important medical plant, the leaves, withered brown, are used by local hunters as a substitute for tea. It seems rather incorrect to call it only a substitute for tea for it has the same effects as genuine tea. Only its green leaves in large quantities are poisonous. In accordance with the experience of Mr. D. G. Hobbie, the rhododendron grower of Germany, *Rhododendron chrysanthum* has already been successfully used for crossing in order to obtain the frost-hardy hybrids with evergreen leaves and yellow flowers. For this purpose plants from Japan were used. We hope for this purpose our plants collected on Sakhalin will be even more desirable. Let us hope that sometime in the future we shall have a chance to meet a nice little rhododendron having in its veins the sap of the golden rhododendron from Mount Czechov.

We believe that if this is the only reminder of our journey to the Susunai Mountains of the island of Sakhalin, we will be satisfied, but we do hope that in the alpine and rock gardens of the future, plants seen there will further remind us of our wonderful plant hunting.

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SOME NEGLECTED WILDFLOWERS

PALMER S. CHAMBERS, *Guilford, Conn.*

During the last several years I have become fascinated with the activity of adding suitable wildflowers to my collection of alpines. I have found that many of these flowers are given very little notice by gardeners, by dealers, by the seed exchange, or at plant sales. My listing them does not imply that I have been successful in getting them all through successive winters or in making them bloom year after year. This article is rather a plea to other gardeners to give these plants some attention.

Arabis lyrata—I have to confess that I did not realize that there were indigenous *Arabis* varieties in New England until the spring of 1970, when I found a single plant on a high ledge here in Guilford. I brought it home and it did wonderfully well in poor soil covered with ¾" gravel. It made a large, compact, glaucous rosette and sent up many stems of white flowers in an attractive lacy pattern. Unfortunately, this plant withered away after blooming, but I have since found another patch and hope to do better with it.

Arenaria caroliniana—A very satisfactory pine barren plant with fairly large, white flowers and thick bristly stems.

Ascyrum hypericoides—Called St. Andrew's Cross because the four petals form an X, like the cross on the British flag. This is a really lovely low-spreading plant with foliage of a sort of misty aquamarine color, and yellow blossoms. It is dubiously hardy here in Connecticut, but I have known it to go through the winter, and it always does some self-sowing.

Aster spectabilis—Many plants dug up in the pine barrens will have seeds or seedlings of this one come along with them. It has quite large lavender blossoms with yellow centers and grows easily in the worst kind of soil.

Cassia fasciculata—The partridge pea is an easily grown legume which becomes an almost solid mass of beautiful large yellow flowers late in the summer.

Centaurea masculosa—A prolific Bachelor's Button, which can thrive in the most dreadful kind of soil. It grows large and sprawly, but can be cut back and will supply a lot of out of season color (pink).

Diapensia lapponica—This gem is not so much neglected as avoided due to its reputation for impossibility. It is undeniably difficult, perhaps impossible to make bloom, but it is worth having just for its foliage. My plants are in a tiny artificial bog of solid sphagnum peat, covered with live sphagnum. (I am much indebted to an article in the ARGS *Bulletin*—Oct. 1963—for instructions on making such a bog). It bloomed last spring, as it was dug after the buds had formed. It has come handsomely through the summer but I have looked in vain for the formation of more buds, but shall never cease to hope.

Gerardia—There are several similar varieties of this attractive plant. I haven't done well at all in moving it, but would welcome information on how it can be done. It is a late summer bloomer.

Hudsonia ericoides and *H. tomentosa*— These plants seem to be able to survive in pure sand in the driest imaginable conditions. They have enormous root systems. To move even a small plant, a big spadeful of sand must be dug and disturbed as little as possible. This probably can not be done successfully without soaking the sand well to a depth of a foot before digging. They are well worth the trouble, however. In garden conditions, with the whole spadeful of sand set into a hole in the ground and covered with gravel, they stay much greener than they do naturally. The name "poverty grass" does not suit such plants at all. *H. ericoides* is a profuse bloomer. A plant about the size of my fist must have had a thousand hypericum-like blossoms last spring.

Ludwigia alternifolia—I have had very little experience with this member of the evening primrose family, but I think its waxy-looking, yellow blossoms are so attractive that I want to do something with it. It grows quite tall naturally and may look a bit like a weed when not blooming, but I have hope for it.

Pedicularis canadensis—I will certainly not dispute those who find the flowers of this plant too ragged, but the unique, fern-like foliage makes it worthwhile in my estimation.

Polygala lutea—A delightful annual with its orange, clover-like blossoms which keep going well into the fall. I would be glad to hear from anyone who knows how to get seeds from it, as I don't want to go to the pine barrens for it every year.

Rhexia virginica—This well-named Meadow Beauty is one of the most beautiful of wild flowers. It has very large pink blossoms with prominent yellow anthers. It can grow quite tall but if cut back will make a candelabrum of low blossoms which can be a welcome addition in late summer. Some plants of mine, cut very low, have spread out almost horizontally in the best rock garden tradition.

Trichostema dichotomum—My most recent acquisition. I found a bunch of it by the road not far from home. They are quite short, with nice little blue blossoms, from which extend long, curled stamens, giving them the appellation "bluecurls." A group of them can add some September color.

Spiranthes—There are several varieties of this plant that are similar. They can easily be transplanted into a wet place. The spires of tiny orchids are similar to those of *Goodyera.*

Vaccinium oxycoccum and *V. macrocarpum*—Why cranberries are not more often included in rock gardens, I do not understand. They don't have to be in a bog. I first encountered them in the cinders of a railroad fill. The blossoms are interesting, as they are entirely different from the other Ericaceae. They are of the dodecatheon type. They run along the ground, but cutting them back makes them quite bushy.

Arnica mollis—I suppose that this is just another daisy, but if you can't grow *Arnica montana,* you can console yourself with this one. It needs a bog.

A number of other wildflowers, which will bloom in a well-mowed lawn, such as blue, white, or pink *Cichorium intybus, Silene virginica, Sisyrinchium angustifolium,* etc., can be used to provide blooms in off seasons. They can be kept cut back almost to ground level.

SEED GERMINATION OF ROCK GARDEN PLANTS

The ARGS's Latest Publication

J. P. ZOLLINGER, *Kingston, N. Y.*

It was quite a surprise to me at the Annual Meeting of the Society in Stockbridge that the Seed Germination Record was now available in print. It seemed such a long time since I had sent in my own observations. I had actually forgotten about the matter. A perusal of Mr. Dana E. Emery's Introduction explains why the publication took so long. It was practically a one-man job. Mr. Emery deserves the thanks of all our members for having taken upon himself the long and tedious labor of compiling this record.

Considering that the 1970 Seed List of the ARGS offered seeds of 2668 species, subspecies and varieties, contributed by 205 members, it seems somewhat disproportionate that the material on which Mr. Emery could go to work was supplied by only 26 members (aside from the records of the Santa Barbara Botanic Garden, of which Mr. Emery is a staff member). Perhaps such quasi-scientific observations as are required to establish the germination behavior of seeds are not within the main interests of gardeners in general, nor indeed of all of us at certain times. We are usually satisfied as long as we get some results. But we also remember the disappointments when a certain kind of seed on which we had set great hopes failed to yield any seedlings.

The data now available should cut down the percentage of these disappointments and prove very valuable, especially to new members; also to more experienced gardeners in the case of species they have never tried, or tried unsuccessfully, or whose precise germination requirements have been forgotten. As Mr. Emery points out, "good seed propagation techniques and near optimum germination temperatures can mean the difference between a few seedlings and none at all."

The Introduction itself contains information which should prove welcome to many, though it is information usually supplied by the books on rock gardening. Parenthetically, I would remark here that, as far as the recommended germination media are concerned, I have in recent years given up milled sphagnum moss because, in my experience, it is never free of moss spores or spores of algae, and these, in cases of seeds of a long dormancy, can cover a seed pot or flat with a tight green carpet or film which seems to choke off germinating seeds. I, at least, have never had any germination in such pots.

Mr. Emery's notes concerning germination temperatures are also very valuable since these seem to be the most determinative factor. In the alphabetical list of entries they are, accordingly, given for all species, together with the germination times at the respective optimal or unfavorable temperatures. These two data combined, temperatures and germination times, constitute perhaps the most valuable part of this publication.

I was in a position to put some of this information to an immediate test. A week before I received Mr. Emery's pamphlet, I had sown some alpine seeds obtained from the Botanical Institute of the University of Neu-

châtel, Switzerland. Seeds from this source had often proved problematic because the list usually reached me rather late in the spring, and the seeds themselves generally arrived when in our northeastern climate the weather already had become too warm. Giving these seeds the refrigerator treatment for a few weeks never seemed to help and germination was usually delayed till the following spring, sometimes for two or three years, or even indefinitely. This year I had, for one reason or another, avoided the refrigerator treatment and merely kept the seed pots in the cool basement. The seeds were mostly Dianthus. Coming home from Stockbridge with Mr. Emery's pamphlet, I consulted it immediately and found (what I should have known) that Dianthus seed germinate better at "warm" (50-60 degrees) or even "hot" temperatures (60-70 degrees). I at once transferred the seed pots to the coldframe, where *Dianthus alpinus, D. noeanus,* also *Hutchinsia alpina,* germinated within two days, and *Dianthus nitidus,* and *D. neglectus* a few days later.

Even if a species is not listed in Mr. Emery's compilation, a quick glance will usually show that germination behavior is generally (though not always) characteristic of a genus rather than of a species. Knowing the genus germination peculiarities, therefore, is often sufficient and can furnish reliable guidelines to the gardener. The Campanulas are a case in point. Forty-four names are listed, and they all, according to the data collected, germinate more readily at higher than at lower temperatures. Even Penstemons seem to belong to this category. There are 84 entries in this class, and germination temperatures given are mostly in the "cold" range, with germination times between 30 and 90 days. Yet in a few cases, where the seeds were germinated in "warm" or "hot" temperatures, germination time is notably below the average for the "cold" range. These cases are paralleled by those of *Lewisia cotyledon* hybrids, also germinating sooner at warm temperatures. Sometimes, then, we may have to modify our customary notions. However, as Mr. Emery points out, the total of the data available was not always sufficient to permit unambiguous conclusions. Fortunately, many seeds exhibit a rather wide temperature toleration, so that even haphazard methods often enough yield good results.

There is the further complication that the seeds of some species have an "internal dormancy" which must be broken before germination can be expected. Under natural conditions, winter freezing takes care of this situation. But the gathering of seeds by humans and storage before sowing under conditions differing from those of the plants' natural habitat may interfere with the innate rhythm and call for "cold stratification" before sowing. A still more complicated case is that of *Ceanothus prostratus,* which needs hot water treatment first to break down the impermeable seed coat, followed by three months of cold stratification. I understand now why seed of this species had never germinated for me. The Daphnes, concerning which the publication furnishes no data, seem to present a similar case. There is thus always occasion for more experimentation.

No attention is given to the problem of light conditions. This is readily understandable and probably a minor factor with the majority of seeds. Systematic experiments testing the light preferences of germinating seeds require facilities not available to the average amateur gardener. Some in-

formation on this subject, based on research done at the Boyce Thompson Institute, is contained in the Brooklyn Botanic Record *Plants and Gardens*, Autumn 1952, devoted to rock gardens. From a work on alpines to which I was directed by M. Ruffier-Lanche—Claude Favarger, *Flore et Végétation des Alpes* (Delachaux & Niestlé, Neuchâtel, Switzerland, 1962), Vol. I, p.50 —I gather that this subject has been extensively investigated by a German botanist, Kinzel, as long ago as 1913-1920. Since there are seeds which germinate in complete darkness (Lewisias, for instance) and perhaps (?) must have complete darkness, and others, those usually germinating better at low temperatures but which will germinate well at higher than optimal temperatures if exposed to light, the subject remains to me, at least, intriguing.

Some day, one of our members on the botanical faculty of a college or university might have a graduate student write a thesis on this theme, or at least have him compile the facts already available in publications never available to "mere" gardeners. Meanwhile, Mr. Emery's compilation will do yeoman's service for many years to come. It should be in the hands of all our members.

PIONEER ALPINE BOTANISTS OF THE COLORADO ROCKIES

GORDON ALEXANDER, *Boulder, Colorado*

On the afternoon of July 14, 1820, at about four o'clock, Dr. Edwin James, botanist and geologist with Major Long's Expedition to the Rocky Mountains, reached the summit of Pikes Peak. This was the first ascent by a white man of any of the more than sixty 14,000-foot peaks of western America. And it was the first of many "first ascents" made by scientists rather than mountaineers, for mountain climbing in America began for scientific purposes rather than as a sport.

This first climb began on the previous day, about noon, when James and his two assistants left their horses in the care of two other members of the Expedition and set out on foot from what is now Manitou Springs, Colorado. They had spent the night below timberline and on the way to the summit had stopped frequently to collect plants. In James's own words: "We met, as we proceeded, such numbers of unknown and interesting plants, as to occasion much delay . . ." These plants were most impressive in the lower tundra, of course: "As we approached the summit, these became less frequent, and at length ceased entirely . . ."

James's account of the alpine flora, though a bit quaint—and embellished with the commas he used too profusely, is as good a description as we who love the alpine tundra could devise today: "A little above the point where the timber disappears entirely, commences a region of astonishing beauty, and of great interest on account of its production; the intervals of soil are sometimes extensive, and are covered with a carpet of low but brilliantly flowering alpine plants. Most of these have either matted procumbent stems, or such as including the flower, rarely rise more than an inch in height. In many of them, the flower is the most conspicuous and the largest part of the plant, and in all, the colouring is astonishingly brilliant . . ."

After about an hour at the summit the men commenced their descent. They bivouacked just below timberline, reached their horses at the "boiling spring" the following afternoon, and arrived back at the main camp of the Expedition shortly after dark on the 15th.

James had been collecting new plants all along the route of the Expedition. Just three days before the ascent of Pikes Peak he had collected a new columbine near what is now Palmer Springs, Colorado. This is the beautiful blue, which he named *Aquilegia coerulea* in his 1823 report, and which is now the state flower of Colorado. But June 14, the day he reached the summit of Pikes Peak, was a red-letter day. We may say that day marked the beginning of the alpine plant exploration in western America. On that day James collected specimens of more than a dozen previously unnamed species. Most of these were described and named by John Torrey, though James himself applied the name *Pinus flexilis* to the "flexile pine," as he called it, our Limber Pine, which he first collected that same day. Not all of the new species were alpine, but several, including *Androsace carinata, Boykinia jamesii, Castilleja occidentalis, Mertensia alpina,* and *Primula angustifolia* were.

The next important figure in the botany of the Colorado Rockies was Charles Christopher Parry. He, like James, had studied botany under John Torrey. While Joseph Ewan, in his scholarly *Rocky Mountain Naturalists* (1950), referred to James as Colorado's first botanical explorer he called Parry her "foremost pioneer botanical explorer." Parry's interests in plants were catholic, and his collections were from the plains as well as the mountains, yet the mountains held a major fascination for him. Though a trained physician, botany seems to have held more interest for him than medicine, and he had collected in the American Southwest before his first trip into Colorado. His first trip to the Colorado mountains was in 1861, and he spent several summers in Colorado during more than ten following seasons, coming out each year from his home in Davenport, Iowa. At least during the latter part of this period he owned a cabin in Grizzly Gulch, Clear Creek County, Colorado. This general area, west of Denver and in the headwaters of Clear Creek, was his favorite collecting locality. It was almost certainly somewhere in this area that Parry collected, in 1861, the beautiful, semiaquatic *Primula parryi* that was named in his honor by Asa Gray.

Parry's collections from the summer of 1861 were sent to Asa Gray, who published, in 1862, a list of 397 species of plants collected by Parry in Colorado. This included the largest collection of Colorado alpines made up to that time. Common alpines we know today were included, for example *Dryas octopetala, Eritrichium aretioides, Geum rossii, Polygonum bistorta* (now *P. bistortoides*), *Silene acaulis* and two that have not been collected since their original discoveries, *Hymenoxys grandiflora* (then called *Actinella grandiflora*) and *Primula angustifolia.* Gray's paper also included descriptions of several previously undescribed species, among them being *Claytonia megarrhiza, Sedum rhodanthum,* and the previously mentioned *Primula parryi.*

It should be noted that Parry's contributions in Colorado were not limited to botany. He made geographical contributions as well. It was he, more than any other individual, who made the group of mountains west of

Denver so famous during the 60's and 70's of the last century. It was Parry who first climbed Grays and Torreys Peaks, the highest peaks in the Front Range; and it was he who named them for the two most eminent American botanists of the Nineteenth Century. At the "christening" in July, 1872, Dr. and Mrs. Gray and Edward L. Greene, as well as Parry and various local representatives, gathered on the summit of Grays Peak for the ceremony. John Torrey visited the area in September that year, and he saw both peaks, but he was 76 at the time and did not attempt the climb. His daughter, who was with him, did climb Grays. Among the distinguished scientists who climbed Grays Peak during the 1870's and 1880's were Arnold Guyot, Sir Joseph Hooker, and Alfred R. Wallace.

Parry named other mountains, but his names were not always accepted. He named a 13,000-foot mountain near Grays and Torreys for his botanical friend, George Engelmann, but that mountain is now called Mt. Kelso. Parry's memorial to his friend in the name he gave the widely distributed Engelmann Spruce, *Picea engelmannii*, was more successful. Later geographers have, however, given the name Engelmann Peak to a major mountain not far north of Grays and Torreys.

Parry and James have both been recognized in this same fashion. These two early alpine botanists of the Colorado Rockies are honored in James Peak and Parrys Peak, two 13,000-foot mountains scarcely two miles apart on the Continental Divide in the northwest corner of Clear Creek County, Colorado. It seems singularly appropriate that the mountains named by later geographers for these two pioneer botanists, Edwin James and Charles Christopher Parry, a generation apart in Colorado history but related in botanical interests and activities, should constitute a pair of related peaks—just as do the two higher peaks named by Parry for John Torrey and Asa Gray.

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WHERRY MEMORIAL GARDEN—Excerpts from Mr. Henry Fuller's letter, "Dr. Wherry is getting full of years but his zest and interest in flowers is unabated and the Wherry Memorial Garden is giving him a great deal of pleasure. It is a splendid thing that it is being started while he can see it and take part in it." Commenting on the plants that should be in the Garden, Mr. Fuller writes, "We happen to have most of the world's supply of a lovely pure white *Dicentra eximia* which Dr. Wherry found years ago on a Virginia cliff—quite unlike the western white Dicentra. I am propagating it as fast as I can and getting it spread about (McDonald has it in Oregon). I will have as many as they want for the Wherry Garden, and, of course, Phloxes—Dr. Wherry is Mr. Phlox!"

Dr. Wherry, in a letter to Mr. Paul H. Boswell of Ohio, comments on the Memorial Garden. "Some friends," he wrote "are organizing a Wherry Memorial Garden to comprise species or cultivars which I have discovered or brought to rock gardeners' attention. And it is not to be static, but to have propagations made and sold at standard sales of horticultural and rock garden societies so that everyone can enjoy the plants. This morning I went to one of the primary sites at the local Barnes Arboretum. They had just set in some good, slabby sandstone looking like natural strata. It will be allowed to settle through winter and will be planted next spring."

REQUESTS BY MEMBERS

Will the members who are able to fulfill any of the requests below please contact directly the person making the request?

Frances Lubera (Mrs. Edw. A.), 15 Bedford Avenue, East Hartford, Conn. 06118, wants to purchase plants of *Loiseleuria procumbens, Androsace carnea laggeri, Saxifraga retusa,* and *S. petraschii,* also seeds of *Campanula raineri* (true), *Dianthus alpinus,* and *D. callizonus.*

Please help Herr Armin K. Hummel, 57. Eschholtzstrasse 78, Freiburg, Germany to obtain seeds of *Aristolochia sipho, Agave virginiana,* and *Nelumbo lutea.* The exact wording of Kerr Hummel's request was American Aristolochia, *Agave virginiana,* and American Lotus, *Nelumbo americana.*

Will sell a complete file of ARGS Bulletins from 1949 to 1971 with one exception. Vol. 7, No. 1 is missing. All are in good and clean condition. If interested, write to Mrs. Lester Gross, Rt. 2, Osborn, Mo. 64474.

To those who are looking for books, this note from Mrs. Pamela Harper, 219 Robanna Drive, Seaford, Va. 23428. She writes, "I am in fairly close touch with both the garden and book world in England and can usually locate books printed there, both old and new, though prices are high for some of the rare ones. I am English, we still have a house there and visit most summers. So I would be glad to try to track down anything ARGS members are having difficulty in finding."

Seeds or bulbs of *Allium beesianum* wanted by Bernard Harkness, Box 264, R. D. L, Pre-Emption Road, Geneva, N. Y. 14456.

Yes, they do get results—A letter to Sallie Allen from Mrs. Hans Asmus, in Wisconsin, tells of her husband who requested a source for a certain gardening book in the October 1971 *Bulletin.* Almost immediately after this issue had reached the members, ten letters arrived in response. During the time lag between making the request and its appearance in the *Bulletin,* Mr. Asmus had been able to obtain the book he wanted. Mrs. Asmus writes, "From all these letters we have learned of many new sources for books, even some offered to sell their own copies and one offered to loan their copy for sixty days. We were quite overwhelmed that so many people took time to write to us."

Wanted, information on Plant Manuals with good drawings of the plants of the genus *Penstemon* covering the states of Arizona, Nevada, Utah, New Mexico, Colorado and the Republic of Mexico for a continuing project on a Penstemon Field Identifier, being published as a supplement of the American Penstemon Society's *Bulletin.* Information should be sent to Mr. Kenneth Lodewick, 2526 University Street, Eugene, Oregon 97403.

Please send your requests for seed, plants, books, slides and information to Mrs. Sallie Allen, 18540 26th Ave. N. E., Seattle, Wash. 98155. For inclusion in a specific issue of the *Bulletin,* requests must be received by the first of the month, two months prior to publication date. It is not possible to acknowledge receipt of requests. We would like to hear the results from those who have utilized the "Requests by Members" column.

THE SEARCH FOR CAMPANULAS

ROBERT M. SENIOR, *Cincinnati, Ohio*

I was ruminating last week on my evolution as a rock gardener, and I was wondering whether some of my readers may have had a similar experience.

Many years ago, shortly after my marriage, we bought a small house on possibly a little more than a half an acre. Mrs. Senior asked me to start a small garden in order to raise a few annuals which could be picked and brought into the house for decorative purposes. Like many beginners, I started with such annuals as Marigolds, Calendulas and similar plants that even a child could raise.

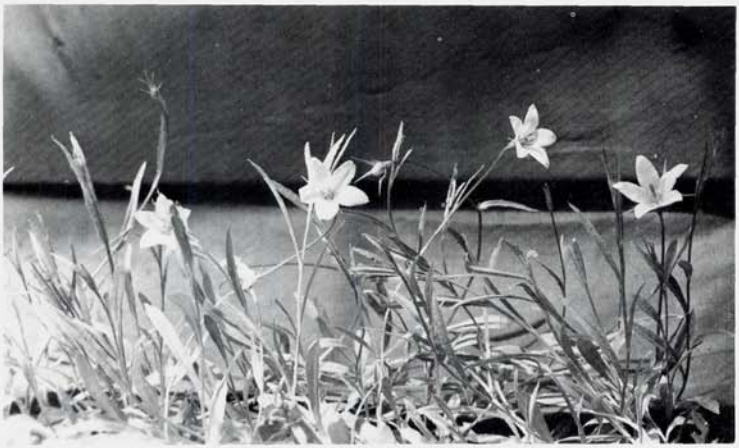
It wasn't long after this that our aesthetic sense was stimulated, and we started a border where we endeavored to raise plants that would harmonize with each other and please the eye.

In those days we occasionally made trips in the woods and brought home wild flowers for which we set aside a small plot of shady ground. Thus, our interest in wild flowers slowly increased.

Finally, we decided to have a small rock garden. To my mind this is the most difficult form of gardening because here we must have some knowledge of plants, their idiosyncrasies, their adaptability to various exposures of sun and shade, their ability to stand our climate. It is true one may have a very acceptable rock garden using plants that are adaptable to almost any soil and exposure such as *Phlox subulata,* various low-growing Sedums, several Campanulas, such as *C. carpatica,* the yellow *Alyssum saxatile, Veronica repens, Ajuga reptans,* Aubrietas and many Dianthus, as well as some of the low-growing bulbs.

In our first rock garden we grew a number of Campanulas, such as *C. carpatica, C. garganica* and *C. portenschlagiana,* which latter plant used to be called *C. muralis.* For some reason or other, we took a fancy to Campanulas, and finally decided to get a number of different species. As time passed, we devoted more and more time to these plants. I even thought that some day I might attempt to write a book on this subject. There had not been a fairly complete book on this genus. The closest to attaining this objective had been written almost 150 years ago by A. de Candolle, one of the famous botanists of his day. The book was written in Latin, and a fair number of Campanulas were first named by this man.

If I ever had an idea of starting a book, I changed my mind when, about 20 years ago, a book on Campanulas was written by A. Clifford Crook of England. The American edition was published by Charles Scribner & Co.,



Campanula parryi from seed gathered in Colorado.
Robert M. Senior

New York. Whether this company still has copies for sale, I do not know. Anyone interested should endeavor to get a copy of this book, which incidentally is copiously illustrated.

Our first step in attempting our objective was to contact nurserymen in this country who handled Campanulas. We did not really secure many species in this way—certainly not over 30 different ones. Most of the growers raised only the ones fairly well known by the general public.

A short account of two or three experiences that we had may be of some interest. There is a perennial Campanula growing on the banks of the Yukon River in Alaska. It is *C. aurita* and is probably the rarest perennial growing in North America. We had no plans for securing this rare plant, growing only in this out-of-the-way section of the continent, but it so happened, many years ago, when we spent a day at Juneau, the capital of Alaska, that we were introduced to a lady—a Mrs. Lucile Stonehouse. In the course of conversation, we asked her if she could suggest any way in which we might secure seeds of *C. aurita*. In reply, she stated that she and her husband were planning a trip the following summer to the Yukon and that once there she would hunt for seeds. Imagine my surprise when many months later we received a letter from her containing some seeds. Briefly, we succeeded in raising the plant and taking a picture of it in flower. But our climate was not to its liking and within a year or two it perished.

An Englishman, Dr. P. L. Guiseppi, a great traveler and student of alpines, who in his travels visited the Caucasus, Iran, and particularly Greece, discovered a number of plants not then in cultivation. Anyone interested in his explorations should consult the first index of the Alpine Garden Society of England. Many of his articles are there indexed.

It was in the latter part of the 1930's that we first entered into correspondence with him. At that time we used to spend our summers in the Rockies, and I remember that we sent him a number of seeds of western

Penstemons and in return he sent me several Grecian Campanulas of which one was *C. oreadum,* which we managed to raise. Mr. Crook, in his book, shows a picture of it and mentions that this very attractive species received an Award of Merit in 1948 from the Royal Horticultural Society. Of course, our plant has long since perished. I wonder if anyone in this country has it today.

One of the finest gardeners that I have ever met was Mrs. A. C. U. Berry, of Portland, Oregon. Her garden was filled with rare plants that I could not hope to raise outside in our climate, with alternate freezing and thawing winter weather and summer temperatures that often soared in the high 90's. I remember that she gave me seed of *C. cashmiriana,* which also is too tender to raise outdoors but which we were able to keep in our little alpine house.

When we were in California, possibly 20 years ago, we met Mr. J. T. Howell of the California Academy of Science, who wrote a book entitled, *Flora of Marin County*—a county north of San Francisco. I remember that he gave me some old seed that he had gathered in Marin County. He told me an interesting story about these seeds; that after they lie in the ground for many years and fail to germinate, there may be a brush fire in the Chaparral and then some of them germinate. He then suggested that after I had planted the seeds he had given me, I should burn some straw on the pot. We did this and much to our delight several of the seeds germinated.

Many years ago, when we were at Carmel, California, we met Miss Lester Rowntree, and visited her interesting garden located on a hillside not far from the town. She gave me some seeds of Ceanothus, which, I believe, is called California Lilac. Though later, after our return home, some of the seeds germinated, ultimately they all died. As far as I know, no one in our part of the country has ever succeeded in raising any of these shrubs. Incidentally, Miss Rowntree asked me to send her a plant of *Campanula rotundifolia* that grew wild in our part of the country. I don't remember why she wanted such a common plant. Perhaps she was making a study of the endless number of varieties of this species growing in the United States.

Speaking of *C. rotundifolia,* I might mention that Mr. Crook says in his book, "this is undoubtedly the largest and most disputable section of the whole genus of Campanulas." A large number of botanists, observing the plants they were studying, have given specific rank to their plants. Given sufficient time, I think I could name 20 plants that botanists have given specific rank which are probably varieties, or subspecies of *C. rotundifolia.*

There are some annual Campanulas growing in the United States that are very rare, and generally grow only in one locality. Two of these are, *C. reverchonii,* found in a small section of Texas, west of Austin, and *C. wilkinsiana,* growing on Mt. Shasta in California. How to get seeds of these plants was a problem. Fortunately, we were acquainted with a man teaching at the State College at Pullman, Wash., who, I believe, generally spent his summers near this mountain. He secured some seeds for us.

One spring, we decided to spend a short vacation in central Texas, and to hunt for *C. reverchonii.* We went to Austin, where we hired an auto, and headed westward. The fields were ablaze with *Lupinus texensis* and other wild flowers. We searched in vain for the plant we wanted; however, when we returned to Austin we met a professor of Botany from the University of

Texas, who was kind enough to give us a half dozen seeds which he had collected. We raised this species and, I believe, a picture of it appeared some time ago in the *Bulletin* of our Society.

Many years ago, Mrs. I. M. Renton sent us seeds of a Campanula that she found on Mt. Stuart, in the State of Washington, and asked us to raise it, and if possible, to identify it. Briefly, we raised it and we decided it was a new species. Accordingly, we wrote a complete description and this was published in a botanical magazine. Many years later when Hitchcock, Cronquist and others published their *Vascular Plants of the Pacific Northwest* they stated it to be a synonym of *C parryi.* I should like to mention, however, that if this plant were placed next to *C. parryi,* as it grows in Colorado, one could see very little similarity in the two flowers. Incidentally, I might say that *C. parryi,* seen in Colorado, is a delightful, low-growing plant. Many years ago we kept it in our little alpine house.

Many years ago, we had some correspondence with Professor McVaugh of the University of Michigan, who had made an extensive study of the Campanulaceae. As a result we had about fifty pictures enlarged and sent them to him. He was kind enough to write that we must have the largest collection of Campanula pictures in North America.

When we were in southern Texas, over twenty years ago, I gathered seed of what I believed to be *Phlox nana.* Some of these seeds I sent to Dr. Edgar Wherry of the University of Pennsylvania who was the outstanding authority on this genus. Dr. Wherry mentioned that it was often called *P. triovulata* and that there were several varieties that often had been given specific rank.

I wonder if any of our older members remember Dr. Fritz Lemperg, living in Austria. He was an outstanding horticulturist, and with others had a large horticultural garden. During the 40's we had a considerable correspondence with him, and often sent him some of our Campanula seeds. Some of our rarest seeds came from him, including *C. oreadum* and *C. orphanidea.* I wonder if any of our readers are raising these plants today.

Long ago we bought a number of packets of seeds from a Japanese nurseryman, Tanaka Boekibu, Osaka, including *C. lasiocarpa alba.* I do not know that this man is still in business. In former days, we had correspondence with Dr. Worth, and traded seeds with him. When Mr. Peter Davis headed an expedition to collect seeds and bulbs in some of the islands of Greece, Dr. Worth and I subscribed to the expedition and divided the seeds we received. If I remember correctly, we received seeds of several interesting Campanulas.

About twenty-five years ago we wrote the Botanical Department of the University of Palestine asking if some student would be interested in securing seeds of plants growing in Syria and Israel for us. Our letter must have been handed to a student in the department. To make a long story short, he collected a number of seeds, including some, I dare say, that some of our readers have never grown, such as *Campanula hierosolymitana* and *C. camptoclada.* In return, we sent him some American books that he sought. I would like to mention that Mr. Zohary is now a professor of the above mentioned university and has recently published a *Flora Palestina,* in two volumes and written in English. The book is profusely illustrated, and no doubt will be found in every

Campanula sulphurea from seed gathered in Israel and Syria.
Robert M. Senior

botanical library in the world.

We used to try raising hybrid Campanulas from seed, but in many instances the resulting cotyledons of the hybrids were yellow, and invariably these plants died. It is very possible that many of our readers have had similar experiences in attempting hybrids. We wrote to the Boyce Thompson Institute For Plant Research, Yonkers, N.Y., asking what we could do to correct this trouble. In their reply, they stated that they often had similar experiences with hybrids, resulting in the loss of chlorophyll in the leaves — that putting iron sulphate in the soil was useless since the iron remained insoluble. They suggested that we try raising them in a slightly acid soil, although they did not promise that it would be effective. Some of our readers who have bought Campanula hybrids may have observed that occasional leaves of some of them have had a slightly yellowish cast.

Many of our hybrid Campanulas we imported from England. Those interested in securing such hybrids should look up the names of English nurserymen who advertise in the *Bulletin* of the Alpine Garden Society of England.

In our little alpine house we installed a small air conditioner which stopped running about six o'clock in the evening. This kept our plants reasonably comfortable during the day. When we had a hot summer night, we often took our high mountain plants into our cool basement for the night, taking them back to the greenhouse the next morning.

All this time our main object was to see the plants bloom and take pictures of them. Thus, we obtained a large collection of photographs. After that we put the plants outdoors, or in the coldframe. Other than watering them on warm summer days, we left them to their fate.

And now we come to the sad part of our story. Of all of those plants which we raised twenty and thirty years ago, how many have survived? Just about as many as can be counted on the fingers of one hand—old standbys like *C. carpatica, C. portenschlagiana, C. collina* and a few others. And so, our quest came to an end. While it lasted, it afforded us great pleasure and undoubtedly enriched our lives.

BOOK REVIEWS

SAXIFRAGES by Winton Harding. Published by The Alpine Garden Society, Publication Manager, 30 Sheering Lower Road, Sawbridgeworth, Herts, England. 134 pages. 10/9d.

It is fortunate that this book comes along at a time when an interest in Saxifrages is increasing so rapidly among alpine growers in the United States. While most books on rock gardening include some information on Saxifrages, to my knowledge, there has not been a book entirely devoted to this genus since Walter Stone did his book years ago.

It is an excellent book dealing with all fifteen sections of this complex and fascinating group of plants and obviously Winton Harding was the ideal man to write it. He is a good botanist who has made a special study of Saxifrages, but happily he has written it for the benefit of intelligent gardeners rather than botanists. He has travelled extensively and seen them growing in the wild as well as in cultivation.

Over 400 species and hybrids with cultural hints are described which makes an authoritative and yet eminently readable guide to the genus.

For the alpine enthusiasts this book fills a long felt want and I highly recommend it.

John P. Osborne, *Westport, Conn.*

DIE HOHE TATRA, BLUMEN, BAUME, BERGEN by Oldrich Stanek. Published by Verlag Sport, Bratislava, Czechoslovakia.

Fabulous is the word for the color plates of this volume on the flora of the high Tatras, many of them in the natural size of the living plants. In most illustrated books on flowering plants the small color reproductions do show the bloom of the plant clearly enough for identification purposes but the form of the plant, its habitat and background, must perforce be disregarded due to the limitations of space and costs. But not in this volume.

Many of the 21 by 22 centimeter photographs clearly delineate the structure of the flower, the leaf venation, the etching of the rock structure, the robin's egg blue of the sky, with the forbidding 3000 m peaks of the Tatras in the background. What more could a rock gardener or high mountain buff ask, not merely for identification purposes, but for a winter's evening perusal and pre-spring inspiration?

Of the photographs, which are predominately alpines, about half are represented in the ARGS seed list, due in considerable part to the contributions of the Czechoslovakian botanists who are members of our Society. Certainly, anyone who will see for the first time the life-size color reproduction of *Anemone narcissiflora* and *R. montanus* will put down those two species foremost on his seed list. And many probably would like to beg for *Sieversia reptans* and *Pinguicula alpina* amongst the others.

Since all but a few pages are devoted to color reproduction, the form of communication transcends national boundaries and languages for it is an

appeal of beauty directly to the eyes of the beholder. To be sure, a brief description of each species has been printed on the last six pages in a language unintelligible to most of our members, but who needs fifty words in any language when a superb, life-size photograph in color is available?

The botanical scientists of the Czechoslovakian Republic together with the photographers and the publisher must be congratulated for this expansion of flower photography to heroic and therefore easily recognizable dimensions. It is to be hoped that this will be a forerunner of similar offerings on alpines throughout the world.

Incidentially, since kronen could not be shipped out of the country, this book was presented in lieu of cash to the winner of the third prize in the wild flower category of the photographic contest held in Prague some years past. The price of 65 kronen makes the volume a bargain for the 50 square feet of color plates, if one dare measure photography in those terms. For the rock gardener and random bibliophile who have everything, this book is a "must."

A. J. Brownmiller, *Gibsonia, Pa.*

BOG TROTTING FOR FUN

A. J. BROWNMILLER, *Gibsonia, Pa.*

Come along with the Botanical Society of Western Pennsylvania next July to see the rare bog orchids if you would not be averse to emptying your hip boots several times in an afternoon or getting stuck in quicksand to your waist, or suddenly descending to your arm pits. Someone will always be on hand to rescue the unwary should he not heed the warnings of the field leader.

My first experience in a bog came many years ago when the Society took a field trip to the Mercer bog. It is located almost at the southern limit of the once glaciated area of western Pennsylvania, a few miles west of the county seat of Mercer. At that time I had assumed a bog was a wet place, somewhat like a marsh or a swamp. Consequently, remembering the many warnings my mother had given me about getting my feet wet, I provided against all eventualities by taking along a pair of what we used to call rubbers.

From our field parking lot on a hilltop, one could see a pond in a depression in the center of a sward which was surrounded by trees. Once down in the hollow the ladies of the group laughingly feigned a sloshy disaster as they slowly trod the planks which led to the interior. Since fools rush in where angels take precautions, I rashly went alongside the periphery of my "marsh" for two hundred feet to get out to the center before the slow crowd got there.

With my first few steps on the hummocks of vegetation my rubbers proved to be sadly inadequate. Farther on, open water separated the hummocks so I had to stretch my legs to keep from going in over my shoe tops. Since the little bushes and trees of the hummocks impeded my progress I thought that, since my feet were already wet, I might as well wade directly

through the water. Fortunately, I tested the depth with a broken limb but could not reach the bottom. Thereafter I clung for dear life to the little trees which were a considerable distance apart and pulled myself from one hummock to the next. Finally, I reached the cleared sward.

With each step it undulated like thin ice so I realized I was standing on the fabled sphagnum moss, in this case *Sphagnum magellanicum*. One of the group in the distance shouted, "Are you subject to poison sumac *(Rhus vernix)?*" When I replied that I had never even seen that rarity I was told that I had been clinging to it all the way out to the sphagnum. Our leader, the late Dr. O. E. Jennings, Curator Emeritus of the Carnegie Museum of Pittsburgh, had been sufficiently provident to bring along a cake of strong laundry soap for such a contingency. He told the group that the eight acre pond was fifty feet deep with an almost total covering of a ten foot layer of sphagnum which grew at the top in the sunlight but died underneath so that it would eventually fill in the depression. No sooner had he warned us not to congregate in groups than one man descended vertically to his armpits, silently and eerily before he could open his mouth.

The sphagnum supported the small cranberry *(Vaccinium oxycoccus)*, the pitcher plant *(Sarracenia purpurea)*, the roundleaf sundew *(Drosera rotundifolia)*, but we saw no orchids that day although some had been reported growing along the margins. As a lamentable footnote, this bog has now been drained for its peat moss.

This bog was exactly what an encyclopedia said a bog should be — a body of water covered with sphagnum. The absence of nitrogenous salts encourages plants to trap insects with recurving hairs or with sticky secretions. But I found that botanists and other knowledgeable people called other areas bogs which did not fit this description.

A well-known bog outside Waterford was swampy but without a pond. It contained sphagnum in spots, *Caltha palustris* with leaves as large as dinner plates to one's waist, water avens, willows, *Coptis trifolia* and *Habenaria dilatata*. Another, the Blair Swamp, was admittedly a swamp even though it also contained sphagnum. A stand of the small yellow lady's slippers, *Cypripedium calceolus* var. *parviflorum*, was reputedly there waiting to be photographed. This particular terrestial orchid is extremely rare in Western Pennsylvania, there being only four known stands. Our group leader, Werner Buker, Research Associate of the Carnegie Museum, immediately found *Cypripedium reginae*, still in bud, the yellow clintonia, *Clintonia borealis*, but the small yellow one was elusive. Since traversing the islets at the rate of one hundred feet per hour was too arduous for most of the group, many clambered to dry land to await results. Two of the most indefatigable took to the waterways, emptying their hip boots occasionally but eventually finding their quarry.

In soggy leafmold at the base of a birch a clump of *Cypripedium calceolus* var. *parviflorum* with eight blooms was located with a scattering of singles 'round about. Since the soil was marl, the pH factor and the preference of the plant corresponded. *C. c. parviflorum* likes the marl and *C. reginae* is said to prefer neutral sites.

The next bog under consideration was built to the encyclopedia's specifications, a pond covered with sphagnum. The farmer who sold it to the

Western Pennsylvania Conservancy said that it had been open water when he was a boy. Reputedly in it was that rare and spectacular orchid, the dragon's mouth, *Arethusa bulbosa.* Dr. Jennings had once remarked, but before this bog had been discovered, that no man's life had been entirely in vain if he had even seen but one *Arethusa bulbosa.*

Here we parked our cars on the edge of a potato field to wend our way to a flat field of green that was a bog. A twenty foot moat of water fenced it in, in which grew *Iris versicolor,* willows, cattails and alder. Since no bridge could be found across the moat, Mr. Buker waded blindly into the water and found that the bottom fortunately was solid, the water only thigh deep and the bushes on the bottom side quite passable. And the first tyro reaching the sphagnum found an *Arethusa* at her feet with her first step. Within the twelve acres every square yard seemed to contain a specimen. Let me quote from Correll's description, "It has the appearance of a fanciful little beast, with ears distended and lolling tongue, straining to recognize the intruder of his peaceful haunts." The mottled gold and cerise of its throat are sufficiently hypnotizing to delude the beholder into believing it would be a pleasure to be swallowed by such a colorful dragon.

Again we trod carefully on the hummocks of *Sphagnum magellanicum* which supported the small cranberry and sundew, with only one man going down to one knee. Five other species of sphagnum grew on the periphery. Only one other orchid grows in the bog, the white-fringed *Habenaria blephariglottis,* in three stands of about four hundred each, but it blooms three weeks later than the *Arethusa.* In another bog not a mile away, neither of these two orchids grow but nine different species do, for this bog is neutral and the former acidic. Two other bog plants at the moat were cotton grass, *Eriophorum virginicum,* and the tufted lysimachia, *Lysimachia thyrsiflora.*

The most remarkable bog of them all, the one not far distant, extended to the guardrail of a highway across from a farmer's dwelling where it had been skirted by pioneers, if not by Indians, for two centuries without its wealth of orchids having been discovered and reported until the wife of Mr. Buker happened to see cotton grass, which is indicative of boggy conditions, in a tangle of brush when passing in their car not more than a decade ago.

When I was in this bog for the first time I told the leader, Miss Betty Brown, that this bog was not a bog since it was sloping and definitely not a pond covered with sphagnum. Upon plunging her formidable walking stick down six feet through the sphagnum without encountering resistance, she asked what I thought was underneath. She had previously warned her group not to go near a certain corner where dirt had washed down from the road for she once had a nun who was with her sink into the quicksand up to her waist and consequently had had a traffic jam while the nun was drying off on the berm.

Since that time I have read *Britain's Green Mantle* which describes three kinds of bogs, not all of them complying with the encyclopedia's definition. One begins on a pond, usually glacier formed, with the sphagnum spreading into the valley. Another type begins in a slow running stream. A third can begin on a not too steep slope where evaporation is not too great. The bog I had insisted was not a bog was sloping, had canals leading to a beaver lodge, with an occasional white pine and aspens on its fringes.

The flora consisted of plants tolerating neutral conditions, such as blue vervain, *Verbena hastata,* witch hazel, the little running strawberry, *Fragaria virginiana,* the high bush cranberry, the red Canada lily. and the only reported inland stand of bayberry, the roundleaf sundew and *Dalibarda repens* among others. Of the orchids in bloom that weekend were *Habenaria psycodes, H. dilatata, H. meadia, H. lacera, H. hyperborea,* a hundred plus *Cypripedium reginae, Liparis loeselii,* and those two gems, the grass pink, *Calopogon pulchellus,* and the rose pagonia, *Pogonia ophioglossoides.* The former has its fringed lip at the top, the latter at the bottom.

Believe it or not, upon coming home from these trips I carried not a plant. Not that I have never dug up an interesting specimen nor bought an endangered species. When I was seven years old, I had all the passion of the ignorant amateur, dragging home a barerooted huckleberry bush for the garden. At present I have four expanding clumps of *Cypripedium reginae* which I purchased, *C. calceolus* var. *pubescens, Habenaria psycodes* and others. Yet they suffer in contrast to the more amenable rock garden plants and are something of a *tour de force* rather than a happy and contented member of the woodland garden. I would be relieved if I had them not at all.

Of the terrestrial species, the large yellow lady's-slipper is reputed to be among the more readily cultivated, together with the yellow fringed orchid, *Habenaria ciliaris,* and *H. psycodes. Epipactis helleborine (latifolia)* is invading cleared damp places southward and the inconspicuous but utterly charming lily-leaved twayblade, *Liparis lilifolia,* definitely increases in the wild flower garden without bother.

With professional attention under laboratory conditions, I might be able to keep a trumpeter swan in an aviary, or a bog orchid in a sunken bathtub as a conversation piece, but there are so many beautiful plants available through the ARGS seed list that will reproduce themselves and at the same time challenge the skill of the rock gardener that there is no need to burden oneself by trying to prevent the demise of an endangered species in five days or fifty years. Curiously, fewer is more; the fewer of the painstakingly difficult I have, the more I enjoy those which flourish under normal conditions. Since giving is getting, I have a marvelous sense of freedom, knowing the rare plants I did not take are free, too, in their boggy haunts.

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THE TIME TO VISIT ICELAND—A letter from Mr. Olafur B. Gudmundsson, whose article, "A Day to Remember," appeared in the January *Bulletin* has this to say on the subject, "You are asking when would be the best time for visiting Iceland. I think July would be the best month, especially for studying plants. But concerning the weather, one can never take anything for granted here. That reminds me of an American soldier just home from Keflavik Base being asked about the weather in Iceland. 'In Iceland there is no weather,' he said, 'only samples of weather.' "

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A POSSIBILITY!—1976 might be the year of the next International Rock Garden Plant Conference and Show and the United States might be the locale. There are many who find that ten years is too long to wait.

WHICH ARE THE FRAGRANT TRILLUMS?

GUS N. ARNESON, *Seattle, Wash.*

(Editor's Note) — There seems to be a growing number of native plant enthusiasts who find pleasure in growing Trilliums and knowing about them and the fragrance of some species has come into question.

Though the fragrance of flowers, if any, is one of the most pleasing of their many attractions, with a few exceptions, the presence or absence of fragrance is missing from the ordinary botanical description. There are good reasons for this omission. Individual species' fragrance or effluvium, as the case may be, is difficult to describe in the English language other than to mention that the invisible emanations of any plant are either pleasant or unpleasant or lacking. There are other reasons. Most botanical descriptions are written from herbarium specimens from which any original fragrance, if any, has long since been dissipated. Also, no two individuals (botanists) tend to react similarly in the matter of detecting, evaluating or describing fragrance, odor or scent, hence they ignore this factor in their descriptions. The same seems true to a lesser degree in the description of flower color. Color seems only of minor importance in the differentiation of species; fragrance or odor, none at all. Nevertheless, many botanical names of plants reflect color and sometimes odor. Examples: *Rhododendron albiflorum, Primula rosea,* etc., *Heleborus foetidus,* and in common names, Skunk-cabbage and Wet-dog Wake-robin, (*Trillium erectum*).

This brings us back to Trilliums. Recently there has been mention of fragrance in some Trilliums. Dr. Wherry started it by mentioning, in the ARGS *Bulletin* of January, 1970, the fragrance of certain Oregon Trilliums. This was picked up and carried on by Roy Davidson in the *Bulletin* of July, 1971. Now comes Gus N. Arneson, of Seattle, another Trillium enthusiast, who continues the discussion.

The editor, being a native Washingtonian, and having a lifelong association with Trilliums, especially *Trillium ovatum,* has no memory of Trillium fragrance, though he remembers well the delightful fragrance of *Moneses uniflora* and the almost overpowering fragrance of *Calypso bulbosa.* However, from now on he will become an ardent "Trillium Sniffer" who can hardly wait for springtime and the Trillium season. He may not be alone in this! Following is Mr. Arneson's discussion, his 1945 letter to the Nature Editor of the Sunday Oregonian and that editor's reply:

The article, "On Sniffing Trilliums" in the current issue of the ARGS Bulletin (July, 1971) calls up a question that is often in my mind.

Trilliums entered my life near the end of the first decade of this century when my parents settled, amid the residual timber and the stumps left by the first wave of loggers, on the hill about three miles south of Puyallup, not far from Tacoma, Washington. Trilliums bloomed there in profusion and I am sure they were fragrant.

I now "sniff" Trilliums in vain for sweet fragrance that I remember.

It might be that memory is playing tricks and it is only the general fragrance of spring, the forests, and youth that I have come to associate with Trilliums, but I doubt it. Flowering currants were ornaments of those spring days and their fragrance comes down the years distinctive and unimpaired. So also Skunk-cabbage, which I loved then and still love; and Twin Flowers—and Wild Cherries. If my memory of the odor of these flowers is true to present experience, why should it be blurred with respect to Trilliums?

A thought that comes to mind is that in those days of abundance we picked bouquets of Trilliums and brought them in to brighten the living room of our modest home among the stumps. Perhaps the distinctive and pervading fragrance resulted from large numbers of blossoms slowly withering in a confined space.

I was located in Madison, Wisconsin during World War II and several

Western Trillium, *T. ovatum*—a group in the author's garden near Seattle, Washington.
Gus N. Arneson

of my associates had wild flower gardens with collections of Trilliums. Trillium fragrance became the subject of good-natured debate which prompted me to write to the nature editor of the Portland Oregonian. Following is the letter I wrote and the paper's editorial which constituted its reply:

ARE TRILLIUMS FRAGRANT?

To the Editor: For a number of years I have read the comments you have been prompted to make by news of discovery of the season's first trillium and I have recognized in you a kindred spirit because the sentiments you have expressed have always been shared by me so completely that I have felt certain that had I, like you, the genius to put my thoughts into words I would have written exactly what you wrote.

Trilliums are associated with my memories as far back as my memory goes, but it is not alone the appearance of trilliums that has impressed me—and here I approach my question—my recollections of the clean, sweet fragrance of the trillium are as cogent as those of its clean, sweet face so that I cannot think of one without the other, and yet, I am told that those accumulated memories of more than 35 years are all illusions, and that trilliums are less than fragrant—they stink! Is this true?

There are several fine trilliums that grow in this interesting place. One is a little fellow so modest that it bends its neck down and hides its head beneath the three green leaves; another is red and has such a short neck that its petals almost lie against the leaves; another is a flower that much resembles our western trillium except that it has no fragrance. But when I confess that this trillium is to me but half a trillium because the other half — the perfume—is missing, eyebrows are raised and when I consult my 1940 edition of the Encyclopedia Americana I read: "The flowers have a most disagreeable odor, probably attractive to carrion flies however. . . ."

The evidence appears to be against me, but I am standing pat for the time being on the assurance of all the nostalgic memories that contradict the Americana, and I will say that western trilliums are fragrant until the editor of The Oregonian tells me it's not true.

(Signed) Gus N. Arneson
113 Elm Street, *Madison, Wis.*

IT WASN'T HIS TRILLIUM

A little in advance of the trillium season—but not much—comes a letter from an exiled Oregon trillium fan in Wisconsin, the gist of which is his contention that western trilliums are fragrant, despite the belief of his friends that there is a certain trillium which, scentless to him, truly—out with it—stinks. To be sure, we know nothing whatever of this trillium fancier's olfactory endowment, and scarcely more than this of the varieties of trillium that are found in Wisconsin—but with such confidence as seems warranted by a trillium reference work we may say that the wake-robin trillium, the carrion-scented, is accredited to quite another region—from Nova Scotia to North Carolina and Tennessee. Thus the fetid wake-robin ought not to be found in Wisconsin, and either the book, his friends or the flower are mistaken.

It is all very confusing against its Badger state background, for since we

have decided that none of the Wisconsin trilliums can be in bad odor, we are equally at a loss—or the book is—to account for a scentless trillium in those parts. There is such a flower, but it welcomes the springtime from Missouri and North Carolina northward to Quebec. Setting aside the sessile-flowered trillium of the Oregon country, our true queen of trilliums is *Trillium ovatum,* and quite as Mr. Arneson wistfully recalls, back in Wisconsin, it is fragrant through all its range from British Columbia to California. In defending the well-remembered trilliums of his boyhood, against the charge of malodor, our exile had in truth all the better of the argument. What does it matter if they do not believe him? Oregon is a region of many wonders.

THE SUMMER SEED EXCHANGE

We have decided to discontinue the Summer Seed Exchange for this year (1972). Although it was popular with some members, we feel that the amount of work and expense involved is not justified by the response. For example:—

1. Our requests for reports on germination resulted in two casual references, with no specifics.

2. The few inquiries we made about the value of the exchange, in terms of complexity equated with results, have had mostly negative reactions.

3. Inquiries concerning germination of seeds with short term viability brought us non-committal answers, or no response at all.

4. Many members who wrote praises of the Summer Exchange did not request seed in 1971.

5. The majority of seeds listed in this summer list are not seeds of short term viability.

If you have thoughts on this subject, please take a few minutes to communicate by writing to the director. There is a way in which seed may be sent directly from the donor to the recipient. If there are enough members in both categories, we shall make every effort to formulate a workable plan.

Roxie Gevjan and Committee

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A MAGAZINE RECOMMENDED—To those of our members who read German, there is in that language a rock garden magazine, *Der Alpen-garten,* published in Graz, Austria. A note from Mr. Hans W. Asmus, an ARGS member, says that he has found it very interesting. For further information write to him at 8525 W. Holly Road, Mequon, Wisc. 53092.

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NURSERY CLOSURE NOTICE—Mrs. Alice Hills Baylor has sold her home and Primrose nursery, known as Sky Hook Farm in Johnson, Vt., and can no longer supply Primrose lists. Mrs. Baylor has conducted the only nursery specializing exclusively in Primulas in the East for the last sixteen years. She had grown Primroses in her home town, Davenport, Iowa, in Newton Highlands, Mass., and for the last twenty years in Vermont. She is now living in Stowe, Vt.

BEAUTY IS SOMETIMES A FRAGILE THING—Mr. Gus N. Arneson, a Seattle member of the ARGS, contributed this lovely picture with this message: "Enclosed is a small picture that has nothing to do with rock gardening. Perhaps, however it symbolizes in an abstract sort of way the perfection, beauty, and fragility of much that appeals to us in nature."

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PENSTEMON RUPICOLA—Mr. J. P. Zollinger, R.D. 3, Box 199, Kingston, N. Y., writes, "From a package of seeds of *Penstemon rupicola* obtained from the Seed Exchange about fourteen years ago, I got among more typical specimens one plant with unusually silvery blue leaves. But this specimen, which grew about a foot wide, never flowered and was finally smothered by *Erica carnea*. A cutting of it, however, still thrives in a flagstone paving. It is now about eight or ten years old and has never flowered either. Since the mother plant was grown from seed, this blue form must occasionally flower somewhere. It is a pretty little foliage plant, quite flat and a good accent to the dark flagstones. Some day, however, I should like to see it flower. I would be interested in hearing from members whether they have had similar experiences."

MORE SOUTHERN MINTS

LEONARD J. UTTAL, *Blacksburg, Va.*

From time to time in our *Bulletin,* articles by me and others have appeared which drew attention to the flora of the southeastern United States as a rich source of potentially fine rock garden plants.

These articles, I am sure, have held our readers' attention. We have evidence that occasionally they have helped widen interest in certain plants. For instance, *Pyxidanthera* is now fairly widely known and some of its problems in cultivation are now better understood. *Gentiana porphyrio*—there is hardly a more beautiful gentian, and that is saying something provocative of this genus, I know—of the pine barrens, is receiving increasing attention. I have encouraged people to try Ruellias and have some correspondence that there is limited continuing interest in these "wild petunias." While I do not actively garden now, from time to time I send out plants I encounter to cooperators, but this is a very limited thing and I can not encourage it due to personal limitations.

Yet, it is obvious that the lore of rock garden plants from the Deep South remains, with cardinal exceptions, largely primitive. This should be a great challenge in itself—a reservoir of little-known plants exists in our own borders, close to several metropolitan areas. Sponsoring expeditions to far-off mountains is, of course, noble, proper, and desirable, but what we do not know about home is almost embarrassing.

In trying to analyze why our Southeast does not attract rock gardeners more, I realize it is far-fetched to try to equate this vast region of flat pinelands, savannahs, rolling sand hills, and red clay with what most people have in mind when they contemplate rock garden habitat. The region may be more remote to members than I realize, for most of our membership is concentrated in the Northeast and Northwest. When they have time, they naturally gravitate to the screes and peaks for a *tour de force* of hunting rock plants. But I have not known anyone who has botanized on the Southeast's coastal plain who regrets it. As I write, I visualize a vast savannah, with the tawny sedge undulating in a sun-drenched breeze, hummocks of palmettos etched against a brilliant sky, quibblings of wild ducks in a quiet creek, a rush of snow egrets flushed from the rushes, the inane chattering of the red-billed woodpecker and the tinny trumpeting of a nutcracker, and all about, in late summer and fall, a riot of color of myriads of wild flowers.

Then, in October, appears Mr. Heep's excellent article on the rare *Conradina verticillata* of the Cumberland Plateau of Tennessee and Kentucky. He mentions that I hoped to find this plant in that part of the Cumberland Plateau in extreme southwestern Virginia. I have not yet found it, and do not really expect to. It is a rare plant in its native home, and quite threatened. Therefore, it is gratifying to know that it is proving amenable to cultivation.

Though I have roamed the Cumberlands and have found many characteristic plants of the region, this *Conradina* has still eluded me. But I know other species of this plant in the gulf region of Florida and Alabama, and

they are handsome plants which I have long thought ought to be under cultivation.

It may be argued that just because success has been achieved with a Tennessee plant, which is really a hardy continental species, is it not asking a bit much that its more southern relatives might prove hardy?

I do not think so, and this is why. The southeastern coastal plain is of relatively recent geological origin, and the large majority of its plants are derived from continental ancestors. That many retain an ancestral hardiness and adaptability is demonstrated by the common inclusion in catalogues intended for northern gardens of such plants as *Franklinia, Gordonia, Stokesia*, deciduous azaleas, mock oranges, rhododendrons, *Staphylea, Halesia,* and so on. Most of these are standards, but there are few rock garden plants among them. Yet some handsome dwarf plants are equally at home on coastal sands or on high peaks—two which come to mind at once are *Leiophyllum* and *Hudsonia.* There are many more, *Galax* for example, will grow most anywhere. Our *Iris cristata* of the relatively mild southern slopes is very closely related to *Iris lacustris* of the severe climate of the northern Great Lakes. Many more items of such parallelisms could be cited but I would then only be wordy. I think I have made my point: that the potential adaptability of many fine southern plants makes them worth the effort of trial. Just leave out those plants of obvious tropical origin, and I dare say chances are on the side of the experimenter.

Since *Conradina* is a mint, and the low, heath-like plants of the mint family make rock garden subjects in general, I would like to mention a few more southern mints which I think should be investigated. I confine myself to mints because I was led to that family by the article on *Conradina*, because they are good garden subjects, and perhaps, because I just plain like them. The list of potential rock garden plants in the south would be cyclopedic. I just want to whet your appetites with a sample of just one family.

To get back to *Conradina,* the several species of the Gulf Coast are closely related to the Tennessee species. *Conradina canescens* and *C. puberula* are quite similar in general habit and stature, but as their names indicate, both are more pubescent. If anything, this adds to their appeal. *C. puberula* is a striking species as it has bright red flowers. *C. grandiflora* is a dense shrub, twice as high as the others, with very large white to pink flowers. They are called Pennyroyals in their region and all emit a snappy fragrance in the sun.

Pycnothymus rigidus is closely related to the Conradinas, grows a little further south on the Florida peninsula, on the sandy hills. It is low and diffuse, with closely-set, needle-like leaves, like those of a juvenile juniper, and large, thumb-shaped heads of light purple flowers, the whole plant sprightly fragrant. It is also called Pennyroyal.

There are several species of showy Saturejas, Basils, in Florida, Alabama and Georgia, formerly placed in a separate genus *Clinopodium.* The most striking is *S. coccinea,* with scarlet flowers. In *S. georgianum,* the flowers are white to pink-purple, and in *S. ashei* the flowers are light purple, with darker spots. All are neat little bushy plants with tiny leaves with heavy basil odor.

Meehania cordata is an exceptionally beautiful subject, native in the southern mountains rather than lower regions. It has large blue flowers, borne above heart-shaped leaves, and thrives in the shade. It does not grow over

8" high and spreads, but not wildly so. It has no special minty odor Its rarity must be respected. It is occasionally available from dealers in the region.

Scutellaria is a wide-ranging genus and has a goodly number of representatives in the South. Most are the familiar blue, but *S. multiglandulosa* has white to pink flowers, and is very restrained in growth. It comes from the border country of Florida and Georgia. *S. saxatilis* is a Skullcap of the mountains, and it has a name which assures it belongs in the rock garden. It bears its flowers in arcuate, one-sided racemes among the rocks.

Good specimens of *Stachys clingmanii* or *S. latidens,* with pink spikes and rather large, oval leaves, from the mountains, are worth trying.

There are a number of blue species of *Salvia,* and one red one, *Salvia coccinea.* The latter, though not too hardy, can be carried over the winter on a cold porch. The flowers are firecracker red. Salvias may be considered a bit large by rock garden purists, but I feel there is always a place for an accent plant in a good rock garden.

SEEDS WANT TO GROW

(Editor's Note)—Following is a letter, just as written, from Miss Esther E. Shaffer, a member from Fostoria, Ohio, to Henry R. Fuller, at that time Director of the ARGS Seed Exchange. It is an appreciative letter and a happy one and should encourage novice rock gardeners to take advantage of the Society's Seed Exchange; to enter into that exciting world of plant propagation by seed—those tiny pellets which hold within themselves the spark of life—to give them the chance to burst into beauty to the delight of all beholders. Perhaps those who have become discouraged will try again. "The seeds want to grow!"

Dear Mr. Fuller: You have asked me to write in our experiences with ARGS seed. That seems a little thing to do in return for the wonderful treasures you have sent me.

For myself, I have had many failures but have also raised many plants which proved to be each a delight. Mrs. Gosling's method, although highly recommended by those in high places in the ARGS would not do for me. Long ago I gave up trying to germinate seeds in pots, and that includes peat pots. Why? I had 100% failure, and you can't do any better than that. Of course, Mrs. Gosling had both a greenhouse and coldframes and lived in Michigan which has cool, damp weather. She probably knew just the proper amount of moisture required, also; some people seem to. I rate negative on all counts here.

But, it is possible to grow plants from seeds; it takes a little ingenuity plus your own particular makeshift equipment. *The seeds want to grow!* It is necessary to separate the seeds requiring cold treatment, those easy to grow with ordinary care, and the tiny ones which can easily drown yet must not be allowed to dry out. Then we treat each one the way it insists upon. That is the secret of success. The trick is knowing what each type of seed really requires. If we only knew!

I have been trying to raise all sorts of plants from seeds for many moons. At first I tried to sterilize soil for seed flats in the kitchen oven. The result was a smell so vile we almost had to "abandon house." So, soil was discarded and other mediums tried. It probably doesn't make much difference which product is used; I think I have tried about everything recommended with about the same results. Each person can find out what works best for him. For large, easy-to-grow seeds, plain vermiculite in a milk carton turned on its side is likely to be satisfactory. Vermiculite, milled sphagnum moss, and perlite in equal parts works well for most seeds. Mrs. Boyland's mixture, as given in the front of the 1971 seed list does well for tiny seeds. For me, it seems to do best for annuals.

So far, this is about the way everyone handles his seeds. But I do one thing more which is an advantage, I think. After this first group of seeds has sprouted and flourished, sprouted and died, or done nothing whatever, as the case may be, I try again.

In most cases the seed packets contain enough seeds for several trials, so for spring sowing only half the seeds are used. Then, in the fall, after the plants in the porch boxes are frozen down, the boxes are emptied of soil, cleaned thoroughly and filled with vermiculite. In go the rest of the seeds, about ten crosswise rows to the box. The boxes are covered with a piece of plastic and placed on the steps of my outside cellarway and the doors closed. They are safe from wind and weather but are cold and unmolested by dogs, cats, mice or humans. Often the doors will be covered with snow for weeks at a time, but in case of a thaw, it is easy to open the outside doors, check the boxes, maybe give them a little water. In early spring they are moved to an outside table still covered with plastic where they are protected by a projecting roof but can receive sunshine and fresh air. A few moth balls discourage cats, dogs and rabbits. Now, watch and gloat as the seeds come up; these are the bonus plants. When the weather is suitable for outside planting in the porch boxes, these plants will be ready to move to flats or to the garden.

But all is not lost yet. There may be some viable seeds still left in that vermiculite. So, we dump it in an area where spring flowering bulbs have finished blooming and where there is shade and adequate moisture, and sometimes we have a pleasant surprise.

Unless one is really an expert, it is necessary to keep careful records of what seeds went where. For myself, I like to note down who donated the seeds, also.

My first ARGS seeds to give me blooms back in the early 50's were of Mrs. Manton's Kathelen hybrid primroses. Because they were from Durham, New Hampshire, where my brother had been so kindly treated when he was a young graduate assistant, they were doubly precious. And each year as they bloom, and they still bloom profusely, the feeling is renewed. In short, the ARGS seeds have brought me many happy hours.

There is one thing more I would like to say. I wish everyone had a rock garden. It really isn't necessary to be an expert to start. Rock gardens don't have to have exotic plants and they don't require any more care than other gardens. . . . One can start with easy plants and work up to the alpines. I really can't understand why so many gardeners pass up the rock plants. When they do, they shortchange themselves.

OMNIUM-GATHERUM

THE 1972 SEED EXCHANGE LIST—The 1972 seed list, put out under the new Director, Mrs. Armen H. Gevjan, is the first of which the Delaware Valley Region of the ARGS has responsibility. The 1973 seed list will also be their responsibility. It is expected that this feature will be transferred to the Pacific Coast for the years 1974-75.

This year, the seed list has many features that delight our members. While the number of donors declined by 29 compared to those in 1971 and the number of listings were off 300 or more, the list is still a reservoir of treasures.

Last year, the genera with the most listings were *Allium*—96, *Dianthus*—83, *Penstemon*—71 and *Pulsatilla*—63. In 1972 there has been a change; *Rhododendron*—104, *Saxifraga*—96, *Primula*—68, and *Dianthus*—61. *Rhododendron* jumped into first place; it is wondered why! Donors came from 26 states and 16 other countries. Of the 221 donors, 159 were from the United States and 62 from beyond its borders. This gives a good idea of our Society's growing international involvement. Of the non-USA donors, Canada led with 14, Czechoslovakia next with 10, then England and New Zealand with 8 each followed by Scotland with 5. Other countries with less than five donors were France, Japan, Sweden, Iceland, Austria, Belgium, Germany, Chile, Italy, Australia and Tasmania. Again Washington led the parade of states with 25 donors, Connecticut and Pennsylvania were next with 20 each, New York had 19, Oregon 15 and Maine 10. Perhaps these few statistics may bore some of you while others may find them interesting. A bit of rivalry may not be a bad thing for the Seed Exchange in the future.

One feature of this current seed list, "Some Changes," has already generated dissent. In a letter to the editor, one member, a dedicated foreign botanist, states that he cannot accept many of these changes. He objects to changing *Tulipa tarda* to *T. dasystemon*. He objects to lumping *Pulsatilla* into *Anemone*. He objects to *Papaver fauriei* as the proper name for *P. miyabeanum*. In each case he gives his reasons. Undoubtedly there will be more objections to the changes listed.

WILL YOU TRY 200 WORDS?—What was your reaction to an alpine, any alpine, seen for the first time in its native habitat in the high mountains, or a grouping of alpines on some high scree? If you are not a mountain climber, what was your feeling when you came upon a new-to-you flower in the forest, on the prairie or in any lowland place? Can you compress your reactions to any one of these situations in 200, or less, words? Please try it! It is not easy. You will be surprised how much you will have to think about it before you get down on paper what you really want to say. Your memory will be invoked, the right words will be looked for, and there may be a bit of emotion-probing before you will be satisfied that you have adequately expressed your feelings. I know, for I have tried to write something as an example of what I would like. I am asking that you try this in the hope that there may be material for future Bulletins. Following is a rather hastily written example:

We are alone, my alpine and I. High in the mountains, we face each other. It is a new experience for both of us. The taller peaks above are white with last winter's snow and above them the sky is cobalt. The barely moving air is clean and cool and the sun is shining benignly. I had stopped to rest when in a tiny crevice in a low cliff face my eyes were drawn to an alpine flower. I recognized it with a thrill, for I had never seen this species before; only pictures of it. *Viola flettii!* A solitary blossom on a single plant. There were no other plants on that rocky face. The color is debatable, but lovely. To me, it was a somewhat grayed rose-violet. There this single flower grew, lofted above its dark, rather rotund leaves, like a proud emblem of courage and gallant fortitude. I marveled at this lone violet, unafraid and proud in its defiance of a harsh environment and long winters when it could only endure. Courage welled up in me. I, too, could be brave and endure whatever life brought to me.

Now you try to write your reactions to some such situation. Let there be honest fantasy and brevity, but put your heart in it. Do not heed the skeptics who claim that there can be no communication between man and the plant kingdom. Who is man, anyway, who in his egotistical thinking, limits the possibility of a plant's reactions to mere endurance and a placid and uncomplaining acceptance of the facts of plant life? I suspect that most plants' impressions of man, those that have had the doubtful benefit of contact with him, are not of the most complimentary.

Loggers, for instance—loggers, who through the exigencies of an age-old economic necessity, have made a shambles of much of plant life throughout the long centuries that man has ravished nature. Yet, once I knew a logger who was different. He lived in the Medford, Oregon area. I was working for a mining company some miles north of Medford, and along a stream had found a single lady's-slipper, *Calypso bulbosa*. This burly logger had breakfast with us next day in the cookshack and the lady's-slipper found its way into the conversation. He spoke up, "If you want to see lady's-slippers by the hundreds I will take you to where they grow. I am going there now in my truck." My heart sank. I knew what would happen to a flower colony where a logger was concerned. Yet, I went with him.

We drove uphill over a barely passable road and we passed through an area where I saw what appeared to be ancient cherry trees nearly choked out by the encroaching forest. The logger told me that in the early days of Oregon, this immediate forest area had been cleared and was the site of a settlement and that now the only thing left was this remnant of a cherry orchard. There had been a schoolhouse beyond the orchard where the happy voices of children had in those days mingled with the call of the bluejay and the cawing of crows. Long since the inhabitants had vanished, the simple homes had mouldered away and the forest had reclaimed its own; a bit of history, almost forgotten.

Then down the hill we went on the winding road until we came to a stream where we stopped. My companion led me some hundred yards into the deep woods to a spot which must have been the home of fairies. Thousands of flowering lady's-slippers were growing in the moss of the forest floor. Each uncrowded tree seemed to stand on its own pink carpet. Three of the largest pines, I noticed, had curious blazes on their bark and I realized that these

were the trees that had been marked for cutting. In this area, I also knew that it was the habit to harvest trees as individuals, not to clear cut as so often is done in our Washington Douglas fir forests. Under that clear cut system of logging every living thing is destroyed during and following the logging operations.

What would happen to these lovely forest dwellers, where I now stood —these lady's-slippers, in the process of removing three doomed pines? I spoke to the logger of the beauty of this quiet and remote place by the stream where the air was heavy with the fragrance that only lady's-slippers *en masse* can give. He surprised me by saying that he had already made three trips to this place since these forest elfins had started to bloom—just to enjoy them. I deplored the destruction that would necessarily follow the taking out of the pines. To my utter amazement, upon looking closely at the face of this rough man, I saw tears in his eyes. He said, "I can't do it! It is time now that I should bring in my crew and take these pines and others in the immediate vicinity, but I cannot bring myself to invade this lovely spot and destroy the beauty that is here now. I will wait until these flowers have finished blooming and gone underground." There was silence for a moment. He looked about him, up at the tree trunks soaring skyward, then down at the pink carpet. Then in a choked voice he spoke, as to himself, "I will log these trees, for that is the way I make my living, but I will be careful in this spot and perhaps many of these beautiful flowers will survive to bloom again. I hope so." I had found a logger who had a heart and an appreciation of beauty. It seems hard to believe, but this is a true story of what happened in the spring of 1940.

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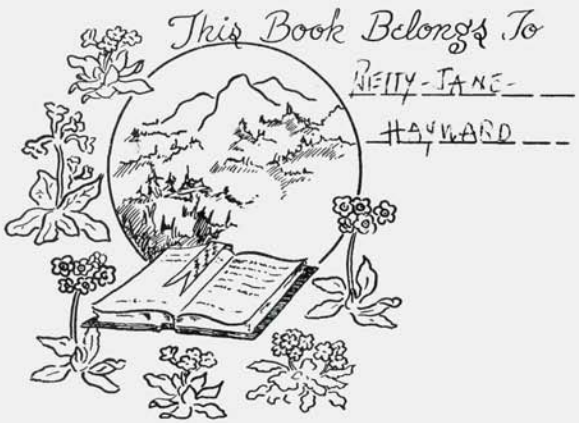

Book Plate belonging to Betty Jane Hayward

Robert Scamman

A ROCK GARDENER'S BOOKPLATE—This is the story of *Ex libris* as Betty Jane Hayward, of Scarborough, Maine, tells it:

"When the books began to multiply on the shelves, with those dealing with the wide range of subjects about plants for rock gardens, with monographs, autographed copies from generous writer friends, there came the wish for a bookplate which in its design would show something of the personal appreciation and love for alpines and the mountains where they grow.

"With reflection, the simple portrayal chosen conveyed perfectly the message of interest and involvement. The mountains in the background, the Primulas representing a quest covering many years and *The Holy Bible* open at the page where the 121st Psalm begins with the words, 'I will lift up mine eyes unto the hills.'

"From the beginning man has been stirred at the sight and the majesty of mountains in relief against the sky. Now a new dimension has been added. In July, when Apollo 15 Astronaut James B. Irwin walked on the moon, he looked up at the dead and barren mountains and was moved to quote from this same verse. How cold and forbidding they must have appeared by comparison with the verdant mountains of Earth. How grateful we are for the rich treasures they hold for us!

"The grouping of plants in the garden to make a pleasant picture has long been of importance, however, without the talent and training in drawing, help came from a gifted young artist. Robert Scamman of Saco (now he and his wife, Lucille, are ARGS members) agreed to develop the design as suggested. The result has been meaningful and wholly satisfying."

BACK VOLUMES OF THE BULLETIN

We have for sale an accumulation of back volumes and individual numbers of the BULLETIN. The available material is listed below.

VOLUME 1 Individual numbers 2, 4 & 6
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VOLUME 7 Individual number 4
VOLUME 8 Individual numbers 3 4 & 5
VOLUME 9 Individual numbers 1, 3, 5 & 6
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VOLUME 11 Individual numbers 1, 2, 3 & 4
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VOLUME 26 Individual numbers 2, 3 & 4
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A large accumulation of certain numbers permits us to offer ten different numbers, the Society's selection, for $5.00. (Order the "Bargain Package.")

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