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C. R. Worth, Editor

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A WILD FLOWER GARDEN IN NORTHERN OHIO

PAUL H. BISWELL, *Massillon, Ohio*

AS I WAS REARED ON A FARM in the hilly, more wooded area of Ohio some ninety miles south of our present home, I early became acquainted with wild flowers and the other native flora. In childhood, of course, I was content to accept common and local names for every plant from the lowliest moss to the most towering forest tree, but some time after graduating from high school almost into the depression of the early 1930's, having considerable leisure I became interested in botany, along with other natural science, and pursued it with keen enthusiasm for several years. The only flora available in my then limited circumstances (which are not much better now) was my father's college text, Dr. Alphonso Wood's "New American Botanist and Florist," edition of 1889, but it served me well and I still have it, complete with check marks on more than four hundred species which I have found and identified.

Subsequent to this period of "lone wolf" endeavor, I spent fourteen months with the Conservation Commission of West Virginia and nine months with the National Forest Service in the Wind River and Teton areas of Wyoming as a member of the Civilian Conservation Corps. In the southern counties of West Virginia, rich in Ericaceae and other plants hitherto unfamiliar, I was able to pursue my inclination both at work and during leisure hours. But I had no key to the western flora and remember very little about it, except grand vistas of conglomerate coniferous stands against the snow clad mountains and the clearest blue skies I have ever known. Similarly, perhaps I wasted other golden opportunities as a member of the Army Signal Corps during World War II. I remember the bougainvillea bloom in Bermuda, palm trees of unknown genera along the avenues of Casablanca and Algiers, olive trees outside Bizerte, oranges in fruit and flower in the back yards of Salerno, delicious apricots from a villa garden in Leghorn, and ivy spreading over both ancient and modern walls from Paestum to Venice. Don't ask me, though, if *Cyclamen neapolitanum* really is cultivated in Naples.

Our experience with rock gardening began some fourteen years ago when

we were compelled to build a retaining wall against erosion from a freshly bulldozed adjacent lot, and friends gave us plants to set in some of the crevices. That first summer we had *Euphorbia epithymoides,* two artemisias, *Phlox subulata,* and three sedums, *SS. acre, sarmentosum,* and *spurium.*

After a season the plants spread into tapestries of varied texture and color, and at once the collecting instinct was born in us. We began to sow seeds of the more easily grown low perennials and to search local nurseries and the gardens of friends.

Part of the original wall was in apple tree shade and we had a hunch that, given a bit of leafmold for food and acidity, many of the woodland plants we had known in our youth would at least endure there. Sunday prowls through this and adjoining counties yielded dozens of species which, to our great delight, for the most part accepted the enforced migration, bloomed and multiplied. Sanguinaria, asarum, polemonium, uvularia, trillium, mitchella, phlox, antennaria, maianthemum, anemonella, claytonia, hepatica, heuchera, mitella, violas of half a dozen species, and several kinds of ferns made themselves at home and seemed quite as happy as in their woodland haunts.

After a year our western facing wall was full to overflowing and we began to build on the less steep but higher bank at the southern end of the lot. Being ignorant of the basic principles of rock gardening, we used whatever materials came easiest to hand, glacial boulders, sandstone, even broken concrete slabs. The result was not at all happy from the landscaping point of view, but most of the plants we set there, including true alpines, thrived.

Over the years, our walls, now bordering three sides of the lot, have all been rebuilt at least once. The base of each has been set back to modify the slope and the materials have been more carefully selected. Our soil is mostly sand and gravel, lightened even more by coal ashes and clinkers dumped on the lot by previous tenants, but there is a considerable mass of heavier loam, graduating to a gummy clay, which appears to have been pushed over when the avenue to the south was excavated. To make a suitable growing medium, we have put tons of soil through a one-half inch mesh screen, adding as desired compost, leafmold, limestone or peat moss. Coolie labor, to be sure, but we believe that by now we have some spot in our garden adaptable to almost any hardy alpine.

Through years of trial and error, we have become reasonably proficient in growing perennials from seed. Alpines and other low growing plants from several continents have joined the natives, but though we derive keen pleasure in seeing each new seed-grown plant bloom, the real thrill comes from finding the haunt of a desirable natives species which we have hunted hitherto in vain.

As is probably the case in any given area, there are some plants here which, though usually found in extensive colonies, are so localized as to require diligent searching. Plants which have no animal assistance in spreading their seeds, or whose seeds are not long wind or water borne, are probably the case in point. *Hepatica acutiloba, Cardamine douglasii, Delphineum tricorne, Silene virginica, Gillenia trifoliata, Polygonatum commutatum, Uvularia sessilifolia, Panax trifolium, Houstonia purpurea* and *Hydrophyllum virginianum* are not widely distributed through our woodlots, but once found may be prevalent over a considerable acreage.

We all admire a plant which, through the viability of its seeds or through the perseverance of creeping stolons, is able to compete and advance in spite of a changing world, but our real treasures are the finicky hermits which demand exacting conditions as to soil chemistry, soil moisture and bacterial association. Of this group, and particularly of the Ericaceae and Orchidaceae, our Ohio woodlands have become almost barren. We hunted many years before finding *Gaultheria procumbens, Chimaphila maculata* and *Goodyera pubescens.* We have

seen a few plants of *Pyrola elliptica,* but not in sufficient quantity to justify our taking a plant or two home for trial.

Altogether more than a hundred native species have accumulated in our garden, and several others have been discarded as too big or too weedy. A few just vanished, not liking our company. The discrepancy between our roster and the possibilities presented in Fernald's "Gray's Botany" is not discouraging. Some plants which could possibly but not probably be located we have purchased, or will purchase, from dealers. Others we keep trying to grow from seed, though as a class, the eastern natives seem to give us more trouble than Rocky Mountain or Himalayan alpines. It may not be as much fun, but, in the long run, either course is cheaper and more practical than covering Ohio until no wood lot is left uninvestigated. Of course we cannot have every native, nor should we wish to. The plants presented as suitable for rock garden culture in Dr. Wherry's "Wild Flower Guide to the Northeastern and Midland United States" would be almost adequate.

One of the best hunting grounds for unusual plants in this area is the strip parallelling the Tuscarawas River and the banks of the old abandoned Ohio and Erie Canal. Some of this land has been converted to use, but much has reverted to second growth timber guarded from the timid by an undergrowth of poison ivy and unrelenting mosquitoes. The spot of which we are fondest lies along the western border of the Massillon State Hospital Farm and seems rarely visited by anyone but ourselves. It is seldom that we go there without returning with something new for the rock garden. Plants common in this area, such as *Uvularia grandiflora* and *U. perfoliata, Senecia aureus, Aquilegia canadensis, Heuchera americana, Geum strictum, Pedicularis canadensis, Hieraceum venosum, Saxifraga virginensis, Trillium grandiflorum, Phlox divaricata, Smilacina racemosa, Sanguinaria canadensis, Iris versicolor, Polygonatum biflorum, Solidago bicolor, Aster macrophyllus* and *A. cordifolius, Botrychium virginianum, Onoclea sensibilis, Dryopteris spinulosa* and *Polystichium acrostichoides* abound there, but there are others which have been found, at least by us, in no other woodland in this region. *Cerastium arvense, Arenaria lateriflora, Silene virginica* and *S. stellata, Polygonatum commutatum, Allium cernuum, Goodyera pubescens, Houstonia purpurea* and *Asplenium platyneuron* are some of the treasures garnered in this section. Farther down the canal, southeast of Navarre, we find *Cardamine douglasii* and *Delphineum tricorne,* and one glorious day last spring we found *Panax trifolium, Uvularia sessifolia, Anemone lancifolia* and a lily not in bloom, but which appeared to be *L. philadelphicum.*

Anemone lancifolia, which we first thought was *A. quinquefolia,* though much taller than any of the latter which we recalled from past experience, was growing in thick sods, from rhizomatous roots like those of *A. canadensis.* As the day was somewhat cloudy, most of the flowers were closed, forming perfect pearl-like globes. The glabrous foliage assured us that this certainly was no form of *A. canadensis,* and the height of the plant, from eight to fifteen inches, convinced us that it could not be *A. quinquefolia,* regardless of the foliage similarity. It seemed to transplant easily, although we dug it in flower and had to strip most of the soil off the roots to get rid of a mass of grass stolons interwoven with the clump. It continued the full cycle of bloom in the rock garden and the foliage continued in good shape until late summer. We hope that the plant does not become as weedy as *A. canadensis* or *A. virginiana.*

Anemone lancifolia is an Appalachian plant, according to Dr. Wherry, and *Houstonia purpurea* we have seen in only one other area, along the Skyline Drive in the Virginia Blue Ridge Mountains, which does not prove that it is not a common plant, but only that it is rare to us. We have a theory, at any rate, that

some of our Ohio Canal zone plants came as seeds and spores in the hay that was carried on the barges to feed the towpath mules. Another possibility is a latter day Johnny Appleseed among the barge crewmen, carrying seeds or plants to brighten a favorite lunching spot on the canal bank.

Now is as good a time as any to admit that we "goofed" on the seeds labelled *Lychnis alba* that we sent to the exchange some time ago. Reaping a last harvest of *Houstonia purpurea,* whose seeds ripen irregularly through October until the hard freezes begin, we noted that this tall caryophyllaceous plant was also in ripe seed and picked quite a few heads. We remembered Dr. Wherry's description of *Lychnis alba* as an introduced plant gone native, forgetting for the moment that he also described *Silene stellata* very well. We were not growing the plant, considering it a bit too tall, and so treated the matter entirely too casually. When Dr. Kruckeberg's interesting article on Silenes appeared in the January *Bulletin,* we remembered with a guilt-stricken conscience the quadrupled foliage and other characteristics of the plant from which we had harvested seed. So, any member of the Society getting *"Lychnis alba"* may as well label the planting *"Silene stellata."*

Our *Penstemon hirsutus,* including the pure white variety, came from the general area of the canal, though a few hundred feet away, in open fields and along a roadside. Of the typical plant we shall say nothing, as it is well known throughout the eastern states. The white variety which aroused our speculation, as so kindly quoted by Dr. Kruckeberg in the *Bulletin* for April, 1958, seems to have come to our garden as a "hundred-to-one shot." We did not recall even seeing a white flowered plant when we dug them, but last summer we went back to the source of our find, scratched through hundreds of blooming penstemons and found just one white one. Apparently the mutation is not as virile in the wild as it is in our garden. With us, it seeds and grows like a weed. As we are forced to go to the library to consult Bailey's "Standard Cyclopedia of Horticulture," we were not aware for a season that the white flowered plant has been found elsewhere. A pink flowered version is known, also.

For as many years as we have been rock gardening, we have searched for *Spiranthes cernua.* Last October we found a large field in which hundreds of the species were blooming, not in a colony but spread more or less evenly, six to ten feet apart, just as the wind had sown their light fluffy seeds. We brought home a dozen or so plants, taking them with the grass in which they were sodded, and setting them in an appropriate place in the rock garden. They were doing all right till freezing weather put them to sleep. We hope that they will remain with us for many years.

We have always loved violets, and this area furnishes enough varieties to keep us perpetually interested in them. *Viola papilionacea* and its variety, *V. p. priceana,* the latter a gift plant not found wild here, at least by us, are the two bad boys among the natives, but both are so rugged and so pretty that we have not the heart to eliminate them except where their far flung seedlings threaten our primroses. *V. canadensis* is among the early bloomers and far outstrips all the others by holding forth well into the summer on neat and tidy plants. *V. eriocarpa* was the only yellow violet we had for years and we still prefer it to *V. pubescens* which was found last spring and is tall and leggy. *V. cucullata* is very common in our woods but a bit more demanding in its conditions for abiding with us than is the ubiquitous *V. papilionacea.* Closely related *V. triloba, V. sororia,* and *V. palmata* differ also as to adaptability. *V. palmata* seems permanent if watered in drought season, but we have babied *V. triloba* whenever we got it and still have had to replace it often. *V. rostrata* is the prettiest of all and one of the harder ones to keep, needing a cool, rich soil. *V. blanda* is not

too difficult, and worth while, with the beauty and fragrance of its bloom and the tidiness of its glossy foliage.

About ten years ago we found a violet so lovely that we fairly held our breath in beholding it. The few flowers, nestled beneath the top leaves, were a dark purple, and the cordate foliage was so hirsute as to have the texture of *Stachys lanata.* Essentially, by House's key it showed characteristics of *V. sororia,* but there were puzzling features, especially as to the height of the inflorescence in relation to that of the foliage. Certainly, it did not look like *V. sororia* in House's color plate, and it did not look like that species as we have more recently found it. Undoubtedly is was a hybrid.

Surprisingly to us, the plant was blooming in a grove of black locust saplings, an ecology hard to understand, since we had seldom found anything other than blackberry vines or the rankest of weeds growing in locust leafmold. Try as we would, we could find no other plant like it, but finally, greed getting the better of conservation instinct, we dug it with plenty of soil and brought it home. Apparently it did well until winter, but spring came and it did not reappear. Perhaps it was a flower of evil, flaunting its weird beauty only when its roots drew nourishment from a poisoned soil.

Since we have reached the half-century mark and life has become a slow downward glide, we plan no more huge upheavals of our garden. Most of our border beds have been abandoned in favor of lawn. The half-ton granite boulders and even the five hundred pounders have been moved for the last time, so far as we are concerned. We plan to grow lots of plants, thinning out others to make room for them, and to hunt wild flowers in the increased spare time that we shall have. Somewhere, not too far distant, there must be haunts of *Lithospermum canescens, Dodecatheon amethystinum, Hypoxis hirsuta, Iris cristata, Primula mistassinica, Pyrola americana, Ruella ciliosa, Silene caroliniana pensylvanica, Sisyrinchium graminoides* and *Steptopus roseus.* Maybe we won't find any of these, but while we are trying to, we shall be enjoying fresh air and sunshine, and will forget for a while the trials and tribulations of the industrial world.

TWO DWARF PHLOXES OF THE HIGH SIERRAS

EDGAR T. WHERRY, *Philadelphia, Pa.*

IN THE INTERESTING article by Mr. Pearce in the January, 1960, number of the *Bulletin,* two phloxes are listed by names not technically acceptable. *Phlox douglasii,* named in honor of its discoverer David Douglas, was found by him in the far northwest. The remotely related species of the moderately high Sierras is *Phlox diffusa,* named by the eminent British botanist George Bentham in 1849. Asa Gray, to be sure, lumped these together, making the second a variety of the first, and because of his eminence this classification has been followed by some compilers; but those who know these plants in the field feel sure that Gray was wrong.

Some further remarks on this matter may be worth while to show rock gardeners, who are often mystified by the way the technical names of plants get shifted around, how such problems may be worked out. Bentham's account of *Phlox diffusa* was based on a collection made by an early botanist named Hartweg, reportedly in "Bear Valley, California". Disconcertingly, a glance at a detailed map of almost any part of that state will show one or more valleys so named—there must be dozens of 'em; how can we tell in which one the phlox was found?

There is published at the California Academy of Sciences a journal called

Leaflets of Western Botany; and fortunately in one of their numbers for 1935 there was reprinted an account by a companion of Hartweg's telling about "Bear Valley":

> "At the end of the Valley was a great block of granite, larger than the largest building of Europe . . . From this rock one saw the Yuba River making its way into a canyon about five hundred feet deep . . . We remained several days on this beautiful high plateau and Mr. Hartweg discovered many an unknown plant."

The next step, then, was to study the modern topographic maps of the Yuba River region, to see whether a high rock from which that river might be seen did stand out in a lesser valley. Such a point, now named Chimney Rock, was actually found on the Mt. Fillmore quadrangle, although the valley involved is no longer known as Bear Valley at all! Its altitude is 6,698 feet; it stands at the head of the south fork of the stream now named Canyon Creek, and could be reached by a three mile hike from the nearest point on a road, Poker Flat.

This confirms the view, reached by a study of the original specimen, which is preserved in the British Museum, that *Phlox diffusa* is the plant of moderate altitudes in the Sierras and Cascades, from about latitude 34° N in California up into southern Oregon.

As to what is the phlox noted growing near the Sierra Nevada summits may not be definitely decided, for several prostrate species have been collected there and have been preserved in herbaria. At any rate, none of them is *P. douglasii,* which by the way does not have a variety *caespitosa.* Besides the real *Phlox caespitosa* and its distant relative *P. covillei,* there is a recently described *P. dispersa.* All are attractive, but alas, not likely to thrive in lowland rock gardens.

Taking up now the problem of the identity of the *Phlox douglasii* of British gardens, referred to by the Editor on page 124 of the October, 1961, *Bulletin*— it has long been customary to make "douglasii" a sort of catch-all for almost any difficultly distinguishable needle-leaved *Phlox.* The original plant to which Hooker assigned this epithet in 1838 had been collected by David Douglas in 1827; unfortunately his type locality was unintelligible: "Limestone range of the Blue Mountains and on the Rockies near the confines of snow." The Curator of the Kew Herbarium kindly presented to the Academy of Natural Sciences of Philadelphia a fragment from the type specimen. This proved to represent a plant with 1 cm. long needle-like leaves bearing fine gland-tipped hairs. Such a plant is widespread on the Columbia Plateau in eastern Washington, but only at moderate altitudes in semi-arid country. It is probably not in cultivation at all.

The glandless *Phlox* above discussed, named *P. diffusa* by Bentham in 1849, was classed as a mere variety of *P. douglasii* by Asa Gray in 1870, and his eminence has led to the acceptance of this combination by many workers. In recent years it has been rejected by most taxonomists, but as a result of the tendency among horticulturalists to retain outmoded names, "douglasii" is still being applied to the cultivated forms of the widespread and adaptable *Phlox diffusa,* to say nothing of miscellaneous dwarf Phloxes of other relationships. Small wonder that an exhibit of these plants is so confusing!

A recent proposal to expand the content of *Phlox douglasii* in a different direction seems worth calling attention to here. In 1834 Nuttall applied the epithet *caespitosa* to a *Phlox* collected by Nathaniel Wyeth the previous year. There is actually considerable uncertainty as to just when and where the type of this was obtained. Its label reads "Flathead River, high side of a dry hill, April 22, 1833." In the discussion of Wyeth's journey in Mrs. McKelvey's monumental work, "Botanical Exploration of the Trans-Mississippi West"

(1955), he is recorded as having spent several days in mid-April at Flathead Post. The exact location of this place seems uncertain: two different positions are given in the footnotes on pages 513 and 514, and still a third is shown on the inserted maps. At any rate, Wyeth broke camp there on April 22, so surely he would not have had time that day to climb any high hills to collect plants. Moreover, he labelled the specimen not Flathead Post but Flathead River, which he followed for several succeeding days. On April 30, when he had reached a considerably higher altitude, he recorded that he "went out to collect some flowers for friend Nuttall."

In the "Flora of the Northwest," now appearing in successive volumes, numerous reinterpretations of Phloxes are made, without much reference to type specimens; the most inacceptable of these is the reduction of the relatively broad, coarse-ciliate and glandless-leaved *Phlox caespitosa* to "synonymy" under the markedly dissimilar *P. douglasii.* The only basis for this was the inference that both came from relatively low altitudes, shown in the preceding paragraph not to be the case. Actually, should it be deemed necessary to make *P. caespitosa* equivalent to any previously named taxon, the only one with which it intergrades is *Phlox sibirica* (Linnaeus, 1753). Northwestern rock gardeners will be ill-advised to consider the namings of Phloxes (and for that matter, any other members of the Polemoniaceae) in that Flora as the last word on the subject.

STORM LAKE

FRANK H. ROSE, *Missoula, Mont.*

AN AREA WORTH SEEING IS Storm Lake, west of Anaconda, a short drive off 10A but a rough one, even for Montana. Forget about the trout in the lake and work the border between the lake and the surrounding hills. You are at *Larix lyalli* level and plants of timberline and two lower zones are mixed in profusion. Better start up the left side of the lake or you will spend all your time along the trail to the wilderness area. *Veronica cusickii* grows on the dam, so must be general in the area, but I haven't noticed it elsewhere. Perhaps the *Parnassia fimbriata, Allium schoenoprasum,* and *Saxifraga arguta* displays in the open woods caused me to look for nothing else. All three of these grow all along down the creek but not in pure stands. I dug one clump of the allium with sixty bulbs. The saxifrage's flower stems were masses waist deep where the plants matted the banks and boulders of the spring area. The water comes from the snow above, but it is underground for a band along the base of the talus slope. On this slope *Primula parryi* strives to ripen seed before the coneys finish haying or the mountain goats venture down from the pinnacles to eat the flower heads.

This slope is too rough for the domestic sheep. The packed gravelly loam between the big rocks at the foot of the slope is a mass of alpine rock plants that cannot be duplicated in any cared-for garden. *Aster alpigenus haydeni* was particularly showy here but in mixture with any number of others to change the picture almost as often as a lecturer changes slides.

By now if you haven't had weather you soon will, so eat your lunch, put on your jacket, and start down. The whole area justifies the lake's name. The trail is in sight just to the west. *Vaccinium scoparium* will be abundant, and what else will be dependent upon where and when the sheep have been. When you cross the inlet you are in what I call the heather area. *Phyllodoce empetriformis* and *Cassiope mertensiana* are everywhere mixed with *Gentiana calycosa, Saxifraga arguta, Parnassia fimbriata,* and all other damp site plants of this altitude, even *Penstemonopsis tweedyi, Saxifraga bronchialis, Penstemon ellipticus, Smelowskia calycina* and *Sibbaldia procumbens.*

SOUTHEAST FROM SEATTLE – II

ALBERT M. SUTTON, *Seattle, Wash.*

Back on the main highway again, Larry directed us into another country road that followed a pleasant stream into the hills. We were on the lookout for *Viola sheltonii,* a violet that is rather rare. We had previously found it on a steep hillside near Cle Elum, some hundred miles to the north of us, in an area dominated by *Pinus ponderosa.* There, this violet seems to choose to grow only under deciduous shrubs on the downhill side where the protection is the greatest. The plant is more leafy than floriferous and, to me, a clump of the beautifully cut leaves is most attractive. The small yellow violets, usually few in number, if any at all, do nothing for the clump other than to add a touch of color.

Along the road we were now following, oak trees began to appear. *Quercus garryana* is the only oak native to Washington and it was amid their fallen leaves that we first spotted the violet we sought. They seemed much better specimens than we had seen near Cle Elum. Perhaps it was the influence of the oak trees and the more open southern exposure. Also under the oaks and near the stream, enjoying the sunlight filtering through the nascent oak leaves, luxuriated large groupings of *Dicentra cucullaria,* the wide-ranging Dutchman's breeches. I think that this is a more refined dicentra than our Puget Sound bleeding heart, *Dicentra formosa.* Its color is more delicate, its flowers are happier in their jaunty attitude than the sorrowfully nodding bleeding hearts and the foliage is superior in some ways.

The morning was now well advanced so we did not tarry by this delightful streamside. We hurried back to the main highway and drove east a few miles until we found a parking place before reaching the town of Lyall. Here we left the car and literally took to the hills. From the highway we made our way up the cliff through a small draw and when we reached the gentle hillside that sloped upward from the cliff top we were in another world. This hillside was of great area with the uphill or northern horizon several miles away. The open slope, clothed in new grass, was gentle in its upward swing but was cut by small ravines, interrupted by localized eminences, suffered slight depressions where small groves flourished, tolerated outcroppings of basalt and an occasional low cliff and what appeared to be the ruins of old castles. These latter were really fantastic formations of basalt which, when seen from below, with the aid of a bit of imagination, could easily be mistaken for crumbling ruins.

There was running water on the slope. Tiny rills, born of upland springs, will spend their whole life—their short life—on this slope. They are born free and in the exuberance of their new life they leap over rocky ledges, in miniature waterfalls, they tarry awhile to frolic in small pools, around impeding rocks they swirl and then set their courses down the long slope in shallow channels carved by other waters that have gone before.

In passing, these rills have quenched the thirst of tiny creatures; have seen the swift darting of the dragon fly. They have given life to the bordering flowers and thrilled to the music of little birds at morning song. They note the sparkle of dew drops in the sun's first light and revel in the white cloud's reflection in their quiet pools. Their clearest pools they lend to the bathing robins and are germane to the preening and the feather fluffing. They listen to the sound of the whispering grass and at twilight watch the lone nighthawk sweep the sky.

The rills sing their own happy song though the east wind howls and the trees bow before the storm. They mark the laboring ant's heroic task and the homing flight of the nectar-laden bee. They have felt the caress of moonbeams

and the kiss of the noonday sun, as well. They have "Floated Delphinium's petals of deepest blue and the frost-touched leaves of autumn, too."

Though they share the night with the stars they know naught of the passage of time nor of their world's flight through space. These short-lived rills are wild and free in nature's intended way yet ere their course is run they will suffer indignity at the hands of civilized man though they know nothing of man's civilization. They will be forced to crawl into prosaic culverts that will tunnel them under highway and railroad tracks before they are free again to tumble headlong into the mighty Columbia—and oblivion.

As there was water on the moor-like slope so were there flowers, myriads of them. Mostly they were the little flowers that love the open grass lands or haunt the little watercourses. Of notable or rare flowers there are none—just flowers that are comfortable in the wind and the springtime sun and the growing grass—flowers that share their world with butterflies, the beetles and the nesting birds. And now they were sharing this lovely home of theirs with us. We walked gently in this place as guests should. Soon the gracious spirit of this wild land and its serenity settled over us like a benediction and for a while we were truly happy.

We were so close to civilization. Within a mile of us were transcontinental railroads, modern highways and river traffic, but to us on our moor they did not exist. We could not see, and, oddly enough, could not hear the laboring freight trains, the heavy trucks, the speeding automobiles nor the tug bucking the river's powerful current with a barge in tow. We could see no utility poles, wires, fences nor any of the works of man. We were in a world of our own. The wind had lost its keenness but was boisterous still. The new grass, not very high yet, at play with the wind, rose and fell in long graceful undulations. The sunshine had a comfortable warmness to it, the sky was serene and the horizon was not devoid of vagrant clouds, small and white and content to rest where they were. The larks were with us again and from a distance came the mournful call of doves, the only note that was not in keeping with the joyous spirit of the moor.

In those places where the grass was not utilizing the soil small flowers made merry. *Lithophragma glabra* and *L. bulbifera* were there in white and pink. Interminglings of such little ones as *Collinsia rattani* and *C. sparsiflora, Tonella collinsoides* and the tiny filaree, *Erodium cicutarium,* decorated the bare spots with colorful scatter rugs. Other flowers, too large for the kindergarten class, dwelt happily with the grass. The great expanses of green were enlivened with bright colors. *Delphinium menziesii,* a larkspur of restrained habit and wide distribution, contributed purple; *Nemophila pedunculata* brought light blue, the color of the sky when its mood is remote; *Wyethia amplexicaulis* and an occasional *Leptotaenia dissecta* harmonized in yellow. Scarlet was conspicuous, too, for *Gilia aggregata* displayed its long trumpets well above the grass. They grew, usually, near the outcroppings where rubble had coursened the soil. Whenever we heard the soft thunder of the rufus hummingbird's flight we knew that the scarlet gilia was close at hand.

Along the rill banks were other small ones. Mimulus! There are so many species of Mimulus in Klickitat County that we had not the time to devote to sorting them. Enough to say that where ever there was moisture, there seemed to be a monkey-flower. An interesting saxifrage, *Saxifraga marchallii,* grew almost in the water. The leaves were more attractive than the numerous small flowers. The leaves were thick and crisp, clustered at the base and toothed all around.

We roamed from basalt rock fantasies (the castles in ruin) to sheer clifflets, as usual adorned with *Penstemon barrettae.* We wandered from one bare eminence to another; up and down the steep-sided little ravines; through the

compact grove of maples, *Acer macrophyllum*, festive in new leaves and ornamented with pendent racemes of chartreuse so light and airy. There were little waterfalls to splash our feet and tease us with spray; faint animal trails, worn in the grass, leading from small burrows to the streamlets, private paths on which we did not trespass; lone trees against the skyline, one, an oak, bare-branched on an exposed ridge where the keen spring breezes had, for the time being, discouraged the tree's impulse to bring forth its new leaves. A great hawk, on wide-spreading pinions, sought elevations in lazy spirals and became but a speck in the blue.

There was so much to occupy our attention that, like the little rills, we were unconscious of the passage of the hours and were unimpressed by the mounting pangs of hunger, for it was well past lunch time. I am certain that during our sojourn on this unspoiled slope we had experienced an emotional and spiritual uplift that had made us one with nature and that for a short time we had existed on a level well above the normal for man—a level not too far removed from the heavenly promise.

It is deplorable that more people do not find this exhilarating relief from the everyday tensions that so plague them as a result of our present civilization; that they cannot experience this calming of over-worked nerves; this solitude that is nature's balm for the distraught, the emotionally upset, the heavy-burdened and the fearful. There are many places in our vast country where such relief can be found, some of them of easy access, but regardless of accessibility, these places must be sought for and cannot be found by those who remain seated behind the wheel of an automobile, for the presence of an automobile is destructive to the peace and quiet of any of nature's erstwhile unspoiled areas.

Man must learn that relief from the maladies of body, mind and spirit, brought on by our way of life and the tense world situation is available to all and can be found if searched for, at small cost. But they must first throw off the shackles forged by their love for comfort and declare their independence of modern transportation, for a while, at least. The lure of the open highway, yielding to which one sits long hours in cushioned comfort; the urge for speed, to obtain which one's eyes must remain glued to the endless white center stripe; the inane desire to get from one place to another in the shortest time and by the shortest route; these things must be restrained. If man will use the automobile with discretion, leave it once in a while, and use the two legs that God gave him to reach the open country, the wild seashore, the blessed hills, the mountains, any of the places yet unsullied by the presence of man's works or by the debris of man's undisciplined passing, he may find the relief for which he longs and of which he is so much in need.

Reluctantly we left our well loved slope and started the return trip, after a pause for luncheon, for we had many miles to travel before reaching home. We did not stop again until just before we reached Satus Pass. Not far from where we stopped a transmission line ran parallel to the highway. Melting snow at the pass formed into little wandering streams that spread out across the transmission line's right of way and formed a curious hummocky place where one could roam at will without wetting his feet. Many nearly flat rocks acted as stepping stones where the hummocks were far apart. In this odd spot were many areas neither covered with running water, standing pools, rocks or hummocks and in these grew and bloomed many flowers.

Their little groupings were most interesting and it was here that I became conscious of the outlook of the various flowers. There were those that looked at the sky as though they sought heavenly aid or were worshipers of things celestial; those that looked to the far horizon or, at least, took a level look at

the world; those that sought to know more of the earth from which they sprung, ever hanging their heads, but not in shame, for I can not conceive of any flower being guilty of a shameful act.

The sky searchers in this moist area were several, of which the tallest was the lithophragma of which I have written. The smallest and the lowest growing was dainty *Hesperochiron pumilus.* Its blossoms are large for such a diminutive plant and are bluish white with dark veinings. They were more compact in flower than *Fragaria platypetala* that grew with it. Of course, there is a vast difference in the foliage of the two. One more of the up-lookers and the lovliest of all was *Lewisia rediviva,* not in flower at this time. The succulent elongated leaves were mostly withering, as they do when the fat flower buds are ready and awaiting the right signal to open.

They are such lovely flowers that, seeing the buds, I could not help but cast back in my memory and dwell on another year, another place and other companions. Further north, in a later month and with the Du Flon family we saw this beautiful flower at its finest. Scablands, or desert, if you like, where the scattered rocks are flat and half buried is where we found it. The flowers of *Lewisia rediviva,* which in color run the gamut from near white to deep rose, have been described as resembling water lilies. To me, this is unfair to the lewisias for they have a more open countenance, more refinement, more delicacy of texture and smoother coloring. Among the gray rocks they open wide their great blossoms when the sun is hot and are a delight and one of the desert's many surprises.

Back to our hummocky place again. The flowers that gaze out at the world, unafraid and unabashed, as we found them here are, first of all, *Sisyrinchium douglasii,* the grass widow, whose banners flung to the breeze at half mast, from mast-like stems, stain the landscape with lively color ranging all the way from royal purple to clear orchid. More of these fine flowers later. Then there is the small violet colored *Orobanche uniflora,* whose single flower resembles so much a wide open-mouthed funnel. It is a curious flower without green leaves and not at all beautiful. A happier flower is *Viola palustris,* that lavender lover of moisture, even running water and we were glad to find it among so many other delightful flowers.

Of the ground gazers there was golden *Fritillaria pudica* whose gold turns to orange with age. Spotted here and there among the hummocks were many plants of *Dodecatheon conjugens* in the same color range as the grass widows. They, too, watched the earth and many of them looked down on the small hesperochirons happily blooming at their feet.

We tarried so long in this delightful spot that we were forced to omit several other places that Larry had intended us to see. However, there was one more surprise in store for us. As the sun neared the hill's crest and would soon sink from sight as we drove through the hills before reaching the orchard lands, we passed a large fallow field that sloped gently upward from the road to lose itself in a near horizon. This field was a solid mass of grass widows, *Sisyrinchium douglasii,* as though they had been planted as a crop. They were back lighted by the setting sun and with the aid of a small grouping of oaks and a few graceful clouds, made a picture that we stopped to enjoy. We watched until the sun lost itself behind the hill and the color faded from the field and left all in shadow.

We had felt a winter-long hunger for the beauty of flowers in their native homes, for the beauty of unblemished landscapes, for clean moving air and for the beneficence that the wilderness always brings to us. With Larry's help and quiet understanding we had sought for and found the wild places and now we could return home and face the waiting months. The mountain flowers that meant so much to us seemed closer now and all was well.

A ROCK GARDEN IN SCOTLAND

SHEILA MAULE, *Balerno, Scotland*

I HAVE JUST RECEIVED MY COPY of the ARGS *Bulletin* for October, and I am tempted, by the "crie de coeur" on page 127, to write an article for the next issue. I always like to hear about private gardens and hope you do the same.

I live in an old basalt quarry which ceased working about forty years ago. The house was built during the war, and we have lived here for fourteen years, so can take no credit for choosing this as a site. The quarry is five acres in extent, with about one acre taken up by a pond ten to fifteen feet deep, part of the old workings that filled up when the quarry was abandoned. The cliffs around the quarry range from fifteen to twenty-five feet in height, and they ring the site, which makes it very sheltered, except for a south wind which blows in the front drive (which gives access to the road). The cliffs are for the most part sheer, so that they are no good for rock gardening. The drainage on the quarry bottom is very poor, and so when I want to make a garden I have to build up. Many tons of stone and soil have been brought in. The quarry stone for the most part is too jagged and ugly to build with, so I have brought it in from old walls, etc., by wheelbarrow and car, but the soil was brought in by lorry. It is fortunate that there is a large long mound in the garden, composed of stone, subsoil and rubble, heaped up when the quarry was in use, and on this I have made the best part of the rock garden, where the choicest plants are grown. The drainage here is very good.

Perhaps a word about the climate would be helpful. We live on the east coast of Scotland, about eight miles from Edinburgh, at an altitude of about 700 ft. The climate is fairly severe in winter, with frost and some snow, which I welcome as a good protection for the plants, and plenty of damp rainy days. The summers are, like most British summers, quite unpredictable. The rainfall is not heavy, being somewhat under thirty inches a year, and there is often a dry spell in early spring when the garden has to be watered, which is done from the pond with a small petrol driven pump.

As I have said, it is on top of the mound that most of the best plants are grown. A scree bed was made this spring, using "Branklyn mixture" made up to the formula of that famous garden in Perth, consisting of 5 parts river gravel and gritty sand to 1 part leaf soil and loam. A few large rocks were set in the bed, and then it was planted. As I had been collecting plants for the scree bed for some time, I was able to plant it up immediately. Campanulas are a great favorite of mine, so I put in the rarer scree loving kinds, i.e., *CC. aucheri, piperi* (from the U.S.A., flowered quite well but set no seed), *tridentata, bellidifolia, morettiana, betulifolia* (a very attractive flower, pink in the bud and lighter pink flowers). Then some of the lovely silver leaved plants, *Euroyps evansii, Celmisia argentea, Andryala aghardii* (which may prove to be not hardy), *Convolvulus nitidus* and *incanus, Helichrysum marginatum,* which has a pane of glass to keep off the winter wet. I also planted two *Lewisia howellii,* which so far seem to be thriving, but winter may be too much for them. I have also got a good selection of the scree loving dianthus, and some of the easier androsaces, which have also got their winter covering. A few others in the scree are *Myosotis rupicola,* a Scottish native of most gorgeous blue, *Myosotis explanata,* a white beauty from New Zealand, and *M. azorica,* not yet flowered. I have also a *Phlox hoodii,* but only got it in the late summer, so have not seen it in flower yet. I hope it survives the winter. Last of all I should like to mention *Oxalis laciniata,* given to me by that wonderful gardener, Mrs. Boyd Harvey, who propagated it in this country. It comes in shades of blue and purple, some of which are very beautiful. This oxalis was introduced to this country from Patagonia by Mrs. Ruth Tweedie.

There are two peat beds in the garden, the newer on top of the mound, also made this spring. This has a variety of plants including dwarf rhododendrons, cassiopes, *Jeffersonia dubia,* whose lovely lavender flowers come before the leaves in earliest spring, *Leucothoe keiskei,* also from Japan, several varieties of phyllodoce, meconopsis, small conifers, *Sanguinaria canadensis plena,* and the small native azalea, *Loiseleuria procumbens,* a shy flowerer in gardens.

The other peat bed was made about ten years ago. In it are various small species of Salix, ferns, a nice clump of sanguinaria, primulas, dicentra, and some *Gentiana sino-ornata.* This bed faces north, which makes it ideal for shade loving plants; it is at the foot of the mound.

On the top of the mound there is another mound containing some interesting plants and small shrubs. A good specimen of *Daphne cneorum* has grown there for several years. It is a lovely deep pink, and perfumes the air all round when it is in bloom. Also there is a *Syringa palibiniana,* only about eighteen inches high and ten years old, covered with bloom in early summer. In the same bed is a plant of *Celmisia argentea spectabilis,* which has lovely large daisy like white flowers with a yellow center, *Dicentra cucullaria, Crepis incana,* a pretty pink dandelion from Greece, *Campanula allionii,* which wanders about and has bells large for the size of the plant, of a rich darkish blue, *Incarvillea grandiflora* (Ludlow and Sherriff form), douglasia, *Raoulia australis,* a New Zealander in spite of its name, which makes a tiny carpet like silver grit. I found this rather difficult to establish, but was given the tip to try it on the path, where it flourishes, if such a term can be used for such a tiny plant. I also have some of the smaller Iris species such as *I. lacustris* and *I. cristata.* Another small bed I made specially, with very sharp drainage for the species bulbs, has a south aspect so that they get all the sun possible. Some *Iris histrioides* var. *major* were put in this year, and I hope they will flower. In some gardens they do very well, and spread to fair sized patches.

To extend the gardening year I have a small alpine house, where I grow some of the more difficult androsaces (or perhaps I should say I try to grow them) that hate our winter wet, the early flowering primulas, such as *PP. sonchifolia, bhutanica, allionii, edgeworthii,* and some of the lovely hybrids. They do flower in the open, but the weather spoils the flowers, and it is too cold to enjoy them. In bad weather I can always go to the alpine house to do a bit of gardening, for even though it is unheated I am under cover. I empty the alpine house in the summer, and give the plants the benefit of the open air. I have a plant each of *Primula reidii* and *P. reidii williamsii,* those temperamental beauties, but if I have them at this time next year I shall be delighted. I have a selection of saxifrages both in pans and in the garden. I particularly like the kabschia and encrusted varieties, as they bloom very early and make attractive alpine house plants.

I am attracted to the genus Fritillaria and have quite a lot of different kinds. I have ordered some *Fritillaria recurva* and wonder if I may be lucky enough to grow it, and flower it. Also most years I have a few pots of species tulips, narcissus, and crocus. After they have flowered they are planted in the garden.

I attended the Conference both in London and in Edinburgh, and found it most informative and interesting. Not the least of the pleasures was meeting the friendly appreciative Americans, with whom I spent some pleasant sessions. I was most interested in Mr. Epstein's *Pyxidanthera barbulata,* which I believe has gone to that wonderful plantsman Mr. Will Ingwersen, who has forgotten more about alpine plants than most of us will ever know! Perhaps if he propagates it some of us might have the pleasure of trying it in our gardens, no doubt with little success, as we heard that it is extremely difficult to grow.

WHAT IS AN ALPINE GARDEN PLANT?

R. GINNS, *Desborough, Northants, England*

CERTAIN OBSERVATIONS made by Dr. Worth in his article on the Conference made me sit down to consider what plants can legitimately be shown in Alpine Plant shows. The A.G.S. "Rules for Judging" gives a definition of an alpine or rock garden plant as follows: "The term covers all plants, including shrubs, suitable for cultivation in a rock garden of moderate size or in an unheated frame or alpine house. It therefore excludes plants which would not survive an average winter under such conditions in the district in which the show is held but includes many plants which do not necessarily grow in mountainous regions." This definition invalidates Dr. Worth's criticism of some of the plants exhibited at the Conference Show. Pyxidanthera and trillium are not alpines, but they look definitely at home amongst real alpines. Trilliums here are eminently suited for the north side of a rock garden where sun lovers cannot be grown. Rhodohypoxis and pleione are certainly somewhat exotic, but not more so than *Calceolaria darwinii, Glaucidium palmatum, Plagiorhegma (Jeffersonia) dubia.* Nor are they showier than many well known plants such as some of the gentians or primulas or even that pestiferous little weed *Ranunculus ficaria.* Incarvilleas are even more exotic and much larger than rhodohypoxis but are to be seen in our shows. They are in fact mountain plants.

The celmisia was doubtless disqualified as not being suitable for a rock garden "of moderate size." Celmisias equally large are to be found looking quite at home in the rock garden at Edinburgh, and even at Kew there are immense rosettes of many meconopsis. Personally, had I been judging, I should have given the celmisia the benefit of the doubt. In Colombia espeletias, undoubtedly alpine plants, attain tree-like dimensions but at a prewar A.G.S. show a young espeletia was awarded a prize. This raises the question whether immature plants should be admitted whilst the adult plants are excluded. What must the judges do if anyone enters the East African high alpine tree senecios or giant lobelias? *Syringa palibini* is often seen at shows and given prizes, but when grown in the open quickly attains a height of five feet, and nearly as much across. Much depends on the personal opinions of the judges.

The question of hardiness is even more difficult than that of size. Many plants, as I can testify after many failures, are quite impossible in the open although quite possible in the alpine house. Dionysias, aretian androsaces, *Primula allionii, Jankaea heldreichii* are cases in point. Wet, not cold, is the enemy of these plants and if the ability to withstand cold is the criterion of hardiness then all these qualify. Many people, however, introduce heating of some kind, maybe only just sufficient to exclude frost, into their alpine houses. This enables many plants that are susceptible to cold as well as wet to be grown. Personally I would not consider such plants suitable for alpine shows in England and would disqualify them as not complying with the definition at the beginning of this note. Yet many judges accept them without question. I have not found many of the plants from the Californian islands hardy against normal English frosts yet *Castilleja hololeuca* was adjudged the best plant in the show. The western Australian *Trichinum manglesii* and the Brazilian *Gaultheria eriophylla* have been prizewinners in the past, but are incapable of withstanding prolonged frost. Sedums are difficult plants to judge when we come to the Mexican species. These are either quite tender or on the borderline of hardiness. Many of these survived the winter of 1960 in an unheated house but received considerable damage. This was an exceptionally mild winter and I doubt whether they would have come through a normal one. In any case they were so badly damaged that they were

spoilt for showing. Unless a judge has had personal experience of these plants how can he decide as to their eligibility? A fine pan of *Crassula socialis* was given a first prize at a recent show but I know that this plant is susceptible to frost. It certainly looks suitable for growing among alpines, but if this is admitted, so too should scores of other crassulas which are equally dwarf but equally tender. They can be kept in a house from which frost is just excluded, say at 40°F. Then if crassulas are admitted why not all the other dwarf succulents? There are thousands of species of Mesembryanthemaceae, all as hardy as crassulas. I wonder whether the judges would accept a conophytum that I collected in Africa. It was perfectly saxatile, being found growing in a crevice of a quite vertical rock face and as much of a rock plant as a sempervivum growing in the European Alps. Yet as it is a mimicry plant I have a feeling that it would be disqualified.

Feeling runs high among many exhibitors at prizes going to people using heated greenhouses for their plants. The whole matter needs threshing out by a responsible committee.

A REPLY

I stand properly rebuked, by other correspondents as well as by Mr. Ginns, for my indiscreet remarks in the October *Bulletin*. May I say first that the points I raised were simply some that I had found intriguing, that I had turned them over in my mind for a considerable time without coming to a definite conclusion, and that I in no way intended them as criticisms? It was not until I reread them in the *Bulletin*—too late to retract them—that I realized that they lined up as a series of snide remarks—or worse. My apologies to all who have taken issue with them.

After evaluating sundry comments on the suitability of plants to the rock garden, and a careful investigation of my own reactions to various species, I have concluded that the appropriateness of a plant for rock garden or alpine house resolves itself largely into a matter of personal taste and of the associations—or lack of them—which a particular plant suggests to each individual.

Trillium grandiflorum grows, probably by the millions, in almost every woodland and hedgerow of the region where I live. To me, a plant dissociated from rather tall shrubs or trees is misplaced, whereas to a British gardener who has never seen it in the wild, a setting among rocks would be quite appropriate. Pleiones present a similar problem, for after considerable experience with tropical orchids, I immediately associate them with the conservatory. Strangely, our native species do not arouse the same reaction, but here again I look on them largely as woodlanders. Rhodohypoxis, I suspect, is condemned by mere personal taste, for I find the asymmetry of the flowers rather irritating. Pyxidanthera I mentioned only because of its habitat, for in appearance it qualifies to be placed with the choicest alpines. Yet here again I find that I am inconsistent, for "pyxie," where I knew it, grew in more or less open places in woodland now a part of Suburbia.

My point regarding the origin of *Phlox "douglasii"* I found discussed, and the same conclusion reached, in "The Rock Gardeners' Bedside Book."

The controversy I have enjoyed, and it has done much to enlighten me and to clarify my own concepts. But I deeply regret having made statements which have been interpreted as critical of my British friends, and of the Conference which I so greatly enjoyed.

C. R. WORTH

THE GARDENER'S PATIENCE

H. LINCOLN FOSTER, *Falls Village, Connecticut*

HOW MANY TIMES have I tried, in a difficult climate and in apparently uncongenial soil, to bring to just one glorious flowering the special splendor of blue meconopsis. Yes, I do have slides to prove that once a clump of plants did flower, a golden tassel in a silken sheath, a blue so tangled of sky and yearning that to gaze upon it was a form of night-dreaming witchery. And a few tired remnants of the same strain linger, unflowering now three years since.

In the meantime there was that wonderful flourish of six different species and forms from Jack Drake's seed. How promising a crop of seedlings! How soon a forest of transplants in flats, and how soon a dwindle when set out in their assigned beds! Three plants in two different sites yet remain, one full, unflowered season unassailed. This fall they are rosettes a full foot across. The coarsely dentate leaves, large as mullein and as brave, are downed with the finest golden hair—does it sound silly to say— as lovely as the down along the neck of a beautiful blonde girl.

If nothing happens after this, if the winter soddens their grace and the spring declares their demise, they have provided. The label says pink. If they bloom I may wish they were blue. But they have provided, no matter what comes now, an unimagined eminence. These are the rewards of the smaller patience, and I shall go on trying meconopsis year after year until I learn their secret.

There is also the bigger patience. With what sympathy I recollect reading a remark by the president of the American Rock Garden Society in which he casually commented that the dove tree was to bloom at long last this spring and he would be away. How often we wait, sometimes for years, and then not infrequently the plant is an honest disappointment. But we strive to find excuses for its mere existence: "This is the only one in New England," or the like. With only slight regret do we, a few years hence, find it occupying space needed for new adventures, they in turn perhaps to be unseated. Or more happily, after a ten year wait, a mixed brood of Dexter Hybrid rhododendrons blooms, and one is a burst of pale pink fringed with red, a subtle combination which at a distance glows a cool sea-coral. This is the reward of the long patience.

Or in contrast there are those unexpected delights. Another draba, perhaps: in your winter enthusiasm you sent for the seed offered in the distribution of surplus from some seed exchange. Carelessly you sowed it too late, carelessly you tended that surplus frame, carelessly you filled in a space where some cherished oldster had perished. And behold, next spring, because, perhaps, you had not expected too much, or because you had hit happily on the right site and setting, here is a new jewel among the regulars. These are the unexpected rewards of not too attentive patience.

So we grow old, yet always younger with each season of answer to our promises, spurred to a new patience.

CAMPANULA PUNCTANA

In the *Bulletin* for October, 1961, Edward Eager raises the question of what plant he has been growing under the name of *Campanula punctata.* Almost simultaneously, in *Baileya* for the same month, Dr. William J. Dress discusses this species, the subspecies *hondoensis* and the synonymous *C. nobilis.* It seems fairly obvious that Mr. Eager actually has one of the forms of this species.

ANNUAL MEMBERS' MEETING, 1961

EDGAR L. TOTTEN, *Hendersonville, N. C.*

The 1961 members' meeting was held on May 22 at the home and grounds of Mr. and Mrs. Walter F. Winkler in Saddle River, New Jersey. In spite of a rather chilly day, some 85 members were present.

The morning was spent inspecting the beautiful gardens of the Winklers, which include a large rock garden, bog garden, pools and wild flower garden. Many interesting plants were seen, among them some of Mr. Winkler's own hybrid Ilex and rhododendrons.

As had been previously announced, the members brought box lunches, but unfortunately it was a bit too cool for eating outside, and we retired to the beautiful and spacious recreation room where hot beverages were served by the hostess.

After the luncheon our President gave a very interesting talk about the Third International Rock Garden Plant Conference in England and Scotland, and his visits to some of their outstanding rock gardens. Thereafter a short members' meeting was held, at which Mrs. Gruitch, chairman of the nominating committee, submitted the names of Mrs. Dorothy E. Hansell, Miss Alida Livingston and Mrs. Mortimer Fox, the three present directors, to serve additional three year terms. Their election was unanimous.

In the absence of the Treasurer, his report was read and commented on by the President. The report, while not too encouraging, still finds us in a safe financial position. (Details were published in the October *Bulletin.*)

The Secretary reported a membership of slightly over 800, which was substantially the same as that of the previous year. A general discussion of plants and rock gardens followed. A director's meeting was dispensed with, as there was nothing of great importance to be discussed.

The annual plant sale was held during the afternoon and, thanks to the generosity of our members, our treasury was enriched by $232.38, the largest amount of any sale. Many choice books were offered, the sales amounting to $79.55.

Our visit to the Winklers was so thoroughly enjoyed that it was late in the afternoon when the last members reluctantly departed after expressing their pleasure and appreciation for being invited to such a beautiful and interesting place.

NOVEMBER REPORT OF THE NORTHWEST UNIT

FLORENCE FREE, *Seattle, Wash.*

ONE OF THE PROGRAMS which the Northwest Unit was privileged to hear last spring was a talk given by Dr. Bastiaan J. D. Meeuse, author of the recently published book, "The Story of Pollination." The title of his talk was "The Floral Biology of Alpines," and he told about the ingenious devices alpine flowers have to insure their proper pollination. Especially fascinating were the accounts of the mechanisms of flower structure, (honey guides, traps, landing platforms, odors, etc), that make sure that the particular insect pollinators are constant in their visits.

The program which Mr. and Mrs. W. F. Thompson gave at our November meeting was, in a way, a further exploration of this subject. Mrs. Thompson, while examining flowers with a land lens, was often impressed with the beauty and perfection of the flowers of even such insignificant weeds as, for example, chickweed. In order to help her see how marvellous the tiny flowers were, her

husband, Professor Emeritus W. F. Thompson, formerly head of the Fisheries Research Institute of the University of Washington, photographed them for her, using a technique which could magnify them as much as 250 times, if necessary.

As her husband continued to make slides for her, often dissecting the flowers to show the floral parts, it was not only the beauty of the flowers that impressed her, but the fact that the arrangement of the floral parts seemed to contribute in a functional way to accomplishing the work of the flower, i.e., seed production. This led her to make a study of floral structure as it related to pollination.

She showed us some of her slides of insect-pollinated flowers, pointing out how the markings on the petals could serve as guide lines to the nectaries which were so placed that the insect was bound to be liberally dusted with pollen if he reached them. She showed us examples of primitive flowers, such as those of the magnolia with their wide-open blossoms and many stamens, and those of more recent origin, such as the flowers of an azalea. In the more advanced flowers, the corolla was often gamopetalous, and might be zygomorphic or irregular. Stamens were fewer. Nectaries were deep-seated, requiring that the pollinator have a long tongue to reach them, (or a long bill as in the case of the hummingbird), or strength, as in the case of a bee pushing its way into a snapdragon flower. Some of her slides illustrated how the pollen grains ripened before the pistil was receptive so that the flower could not be self-fertilized. Clearly visible and facinating were oddities such as the strange, horn-like awn tipping the anthers of *Cassiope mertensiana.*

All this was extremely interesting, but the sheer beauty of the flowers was never overlooked. A murmur of admiration filled the room when a dazzling blue lithospermum flower was shown in juxtaposition to the red of a coral bell. A burst of astonishment greeted the picture of the flower of the plebian mint, which proved to be as lovely and intricate as any orchid when greatly enlarged. One slide showed a fluffy, white caterpillar curled up upon a delicate pink petal.

To get these remarkable pictures, Mr. Thompson said that he used a standard lens with an extension tube. In order to get the utmost depth of field, he used the smallest aperture possible, which with his 50 mm lens was f16. The most important factor, he said, was the control of light, and he used only an electronic flash.

The wonder of this photography can be realized when one considers that some of the slides showed a field on no more than one-fifth inch. It was indeed appropriate that Mrs. Thompson entitled her talk, "Look a Little Closer."

The following officers have been elected for the year 1962:

Chairman—Mr. Brian O. Mulligan
Vice-Chairman in Charge of Program—Mrs. A. R. Kruckeberg
Hostess Chairman—Mrs. Carol Gilson
Secretary-Treasurer—Mrs. H. H. Miller
Corresponding Secretary—Mrs. A. K. Free

TWO CONFUSING SEMPERVIVUMS– *GLOBIFERUM* AND *SOBOLIFERUM*

REX MURFITT, *Cold Spring, N. Y.*

SEMPERVIVUMS ARE PERHAPS the easiest of all the alpine plants to grow. Most rock gardeners are familiar with them, and yet they remain an enigma to many of us. One reason is that there is very little in the way of reference books on the genus. The definitive study of the species, Dr. Praeger's "An Account of the Sempervivum Group", was published nearly forty years ago and is not

generally available. Some excellent articles by Dr. Roydon S. Wale, published in the *Bulletins of the Alpine Garden Society* a few years back, provide possibly our best source of information, for Dr. Wale studied the Semperviva closely for many years and was the leading man in this field.

The few notes that follow are not intended to delve into this vast and confused genus, but to point out one common error that often occurs in the classification of sempervivums in our gardens: that is, the confusing of *S. soboliferum* Sims. with *S. globiferum* L. emend Koch. This, the writer believes, is a case of a misnomer due to the similarity of the two names, and does not arise from any botanical resemblance.

S. soboliferum is a species that bears the common name of 'Hen and Chickens Houseleek', owing, needless to say, to the habit it has of throwing numerous offsets apparently from nowhere. Closer examination will show that the offsets are borne on slender stems (stolons) that originate among the outer and middle rosette leaves. The plant as a whole is quite distinct with its globular, compact, somewhat flattened rosettes. There is a strong mahogany tinge to the whole plant which originates on the back of each leaf near the apex. If closer study is necessary, detach a leaf and note that it is broadest at a point one third down from the tip. It will be glabrous (smooth) and devoid of hairs except along the edges, which are heavily fringed, like eyelashes. It is a shy bloomer, so that the yellow flowers are of little use as a quick method of identification.

S. globiferum is quite distinct from the above species, as it has a large semi-open rosette of pale yellow-green leaves which are densely hairy on all surfaces. The offsets in this species are borne on short stout stolons, which in contrast to those of *S. soboliferum,* are few in number. This species also has yellow flowers, but they are of a paler yellow with a greenish tinge to them.

On the one hand, therefore, we have *S. soboliferum* with its red-tinged smooth leaves, and the numerous offsets that fall readily, to root where they land; on the other hand, *S. globiferum,* a meager producer of offsets, with pale green, hairy rosettes.

It is interesting that both species have been known to science for well over a hundred years. *S. globiferum,* however, has been in cultivation only since 1935, when it was discovered by Dr. Guiseppi and his companions while plant hunting in the Caucasus. There is little literature on this plant, but those who have access to the earlier copies of the *Bulletin of the Alpine Garden Society* will find it referred to by the collector himself. He was a great sempervivum collector and plantsman. There is a house-leek bearing his name, which he discovered in Spain, *S. guiseppii.*

TO RHYME OR NOT TO RHYME

EDGAR T. WHERRY, *Philadelphia, Pa.*

Referring to the remarks on the spelling of the specific name of a Sedum, on pages 76-77 of the July *Bulletin:* the International Code of Botanical Nomenclature calls for the original spelling of all technical names. Since in describing the species in question in 1917, Praeger spelled the epithet *cauticolum,* those who follow that rule adopt that spelling.

There is, however, a gimmick. The Code further calls for correction of any errors detected. Now, it happens that the Latin term *cola,* signifying growing upon, is not subject to respelling to rhyme with any genus name. Accordingly, those who like to show their erudition in Latin correct Praeger's epithet to *cauticola.*

I THINK YOU'LL LIKE THESE

GEORGE SCHENK, *Bothell, Wash.*

HERE ARE SEVEN PLANTS listed in our current seed exchange. I have found them to be hardy, and to be beautiful, or curious, or useful, each in its own way, on a sunny hillside near Seattle, Washington.

Sedum stellatum is a valuable and little known American species, small, close, and slow in the development of its powdery blue-grey rosettes. Abundant cream-white flowers open along arching stems. This plant came to me as a gift from Dr. Kruckeberg, who collected it in New Mexico.

Oenothera pumila can't be held still. It was born to rattle its seeds down jumbles of rock or to scatter them over sweeps of sand in its native Newfoundland. Therefore, if your property has something of Newfoundland in the nature of crags or of thin, fruitless soil, plant this oenothera (broadcast it, even) —and give it full run. You will be rewarded all the summer through with tuffets of fresh green and foot high racemes of little yellow "primroses" as vital as the sun.

Teucrium subspinosum is called the "silver hedgehog" by the tillers and herders of Majorca, who live so close to the soil that even so unproviding an object as this spiny mound can't go unhailed. Perhaps they mark it as an enemy. Those whitened spines could lame a bare foot. In the garden this plant is an attention getter. It is one of those plants that are said to have "character." Let me define character in a plant as the sum of its genetic memories. *Teucrium subspinosum* carries the memory, thousands of generations old, of astringent sun and scarred earth. Its grey gauntness is the epitome of all the crabbed growths of all the deserts of the world.

Statice cosyrensis, from the Isle of Cosira, clothes the sea rocks above the tide and repeats the other plumy growths below. Its sprays of softly violet flowers hold and renew endlessly through the dog days of summer. The six inch stature and the slow growth of the plant fit it for the best foreground position of the rock garden.

Talinum spinescens, flore plena, which is described and pictured in the June, 1960, *Bulletin of the Alpine Garden Society,* began in my garden as a chance seedling with flowers of about fourteen to eighteen petals. (The wild plant has about seven.) Through selective sowing I've developed a colony of these semi-doubles. Their greater fullness adds to the garden value of the species without detracting from its wild simplicity.

Talinum spinescens is endemic to arid canyons in the hot-cold interior of our state of Washington. There it is a moundlet of fat green needles from which flower stems thrust up, stiff, wire-thin, and wine colored. These branch into twigs and end as starry flowers of butter yellow stamens and of petals that glow—when the slanted rays of afternoon sun enter them and warm them—like rubies. Technically, I suppose I may as well admit, they are magenta. But what a range of hues is covered by that reviled name, magenta. Yes, some are bilious. But others have a special beauty. Just so variable are the flowers of *Talinum spinescens* in the warmth or coldness of their magenta. Selection is called for.

Albuca species, Basutoland, from the high, cold and remote plateaus of that territory in South Africa, is a seven to nine inch bulbous plant of the Lily family. The flowers, waxen white with green stripes, have both closed segments and open ones, roughly in the form of a radish rose. But they have something more of the culinary than that. Bend closely over them and savor the unexpected aroma of marchpane. This species reaches flowering size quickly from seed—

usually in the second summer. The increase by offsets is slow.

Cassinia fulvida is an Australian or New Zealander. It is an upright shrub of tiny leaves and of tidy habit—a companion for shrubby thymes and lavenders on a sunny bank. Among these cool greys the leaves and stems of *Cassinia fulvida* glow golden, an especially warm and mellow brownish gold tone, enhanced by a gloss that makes them always seem wet with rain. Fluffy little flowers in heads are followed by heads of flossy little seeds. They come as a surprise, marking as they do the shrub's kinship to the dandelion.

SEED EXCHANGE NOTES

For the second season, through the Seed Exchange I am offering seeds of *Ruellia purshiana,* regarded by its describer, the late Professor Fernald, as a most beautiful species. This is not as yet available from any commercial source.

This ruellia is native in mountain and piedmont ravines from Maryland to Georgia, and should prove hardy well to the north. Tests will be conducted by professional contacts starting in 1962. Any private grower in Zone 3 (old classification), or Zone 4, who desires to try "different" things, can secure seeds of this plant. By advising me of their results, we can more fully evaluate this plant's hardiness and adaptability. Of course, the seed supply is strictly limited.

Ruellia seeds may be sown outdoors as soon as received in pots or flats, in a mixture of sand, peat and loam. Or they may be sown indoors in pots kept in a well lighted place, at a temperature between 60° and 80°F. In either case, do not allow excess drying. Seedlings are best transferred to pots, later placed in the garden. The showy blue flowers appear the second year; the first year flowers are cleistogamous.

Little is really known about our native ruellias, or for that matter, about any of our native extratropical Acanthaceae. I hope to prepare an article on the subject some day when time permits.

—LEONARD J. UTTAL

* * * * *

Acantholimon glumaceum: seeds gathered in the garden, on plants grown from wild seed; as there is a small population comprising both short and long-styled individuals, some of the seeds must be fertile.

Anagallis linifolia ssp. *philipsii:* 7-10 inches; flowers gentian blue; short-lived, but self-sows; sun and dryness.

Astragulus alopecuroides: a very rare plant, known only from Queyras, Ubaye and Val d'Aosta; spectacular, but too big for the rock garden proper: 3 to 4 ft.; full sun; easy and hardy, but seedlings die off easily.

Ephedra distachya: easy from seed; as all ephedras, grown for its unique appearance, something like a shrubby horse-tail (Equisetum); needs both sexes to produce its red fruits; any soil.

Eryngium spina-alba: endemic to the South-Western Alps; "flowers" very spiny, silvery; sun and dryness.

Euphorbia paralias: 10-20 inches; foliage plant.

Euphorbia wulfenii: subshrubby, to 4 ft.; yellow and brown flowers in late winter and early spring; full sun, dryness; not for very cold areas.

Fritillaria karadaghensis: as with most fritillaries, seeds need at least a two months' exposure to cold; relatively easy; flowers light brown edged yellow.

Paronychia kapela ssp. *serpyllifolia:* mat forming; long lasting silvery bracts; sun and dryness.

Potentilla sp. SSW 7768: probably *P. argyrophylla* ssp. *leucochroa;* yellow flowers speckled orange or red; velvety foliage; 1 ft.

Rosa glauca: shrub to 4-6 ft.; beautiful glaucous, red tinted leaves; deep pink flowers, red hips.

Rosa x *highdownensis: R. moyesii* hybrid; to 6-10 ft.; red flowers, distinct leaves; red bottle shaped fruits.

Sedum anacampseros: a curious stonecrop, glaucous leaves, dull red-purple flowers.

Saxifraga delphinensis: dense domes of leaves, like an Aretian androsace; pure white flowers; not very easy, grow it like a kabschia.

Saxifraga aquatica: a robust, moisture loving Pyrenean endemic; best on the margin of ponds, along rivulets, etc.

Saxifraga aizoon ssp. *valida:* the collective species has many forms; some, like ssp. *baldensis,* very small; others, like ssp. *valida,* are very big, simulating *S. cotyledon.*

Spartium junceum; shrub to 10 ft.; in bloom all summer, yellow, perfumed; sun and dryness.

Senecio doronicum: 1½ ft.; big yellow daisies.

Senecio sp. from Basutoland: probably *S. speciosus;* very hardy, late flowering; 1 ft.; many bright rosy-lilac flowers.

Symphyandra hoffmannii: biennial, sows itself; ivory white campanula-like flowers.

Teucrium orientale: 10-15 inches; many small violet flowers.

Teucrium polium: mat forming grey leaves, white flowers; sun and dryness.

Erigeron sp. Zimm 1569A: 10 inches; many-rayed violet flowers.

—R. N. RUFFIER-LANCHE

* * * * *

A number of species of which I am sending collected seed to the Exchange are the same, and from the same localities, as those made available last year. The *Bulletin* for January, 1961, contains extended comments on these. I shall confine the present notes to species which have not been offered previously, or on which further information seems desirable.

Aquilegia formosa (or *shockleyi,* I am uncertain which, and find that botanists occasionally find it difficult to separate some forms of these two species) had brilliant red and yellow flowers, rather small and with spurs of an inch or so, in moist places along a stream in a canyon of eastern Nevada. It grew two to three feet tall.

Aquilegia micrantha, in a color form then known as *A. rubicunda,* was very popular in the late 1930's, but seems to have disappeared from cultivation. The present collection is more typical, with medium-sized long-spurred flowers usually of pale yellow, though rarely varying to white or soft blue. Its height is anywhere from one foot to three, and it favors moist places on, or at the base of, sandstone cliffs along the Colorado and San Juan Rivers in eastern Utah.

Aquilegia scopulorum was collected from the mountain in central Utah where first I found it, and which I have not revisited since 1947. It is a high alpine from around 12,000 ft. where (in this range) it grows in volcanic tuff with an admixture of sedimentary rock. Its height is not more than four inches, and its flowers are usually soft blue with cream or white cup. It seemed to me, when I grew it in the past, that it was more tolerant of garden conditions than the forms I have collected more recently.

Astragulus sp. #13-61 is rather curious, with leaves reduced almost to skeletons, and trailing branches that may be as long as two feet; from west of Laramie, Wyoming.

Astragulus sp. #23-61 I have collected previously: a mat a foot or two across and only two or three inches high, the leaves pinnately divided, white-

silver, the pods white-woolly with silky hairs. From limestone slopes near Ely, Nevada, at about 6300 ft.

Balsamorrhiza incana makes a stunning basal rosette of silvered leaves parted into lobes set at an angle to the midrib. Leafless stems a foot high bear large yellow daisies. It grows in quantity in subalpine meadows of the southern Big Horns (on granite) but I have no information regarding its garden behavior.

Besseya alpina is a *Synthyris,* making a small tuft of light green slightly toothed leaves, and raising a crowded spike of small purple flowers to three or four inches. It should be a gem, but being a very high alpine, it may prove more difficult than relatives from more reasonable altitudes. Mosquito Pass, Colorado—12000 to 13200 ft. Only a small amount of seed is available.

Calochortus #21-61 was described to me as white with a purple spot at the base of each petal. I suspect that #21a may be the same, but have no information on its flowers. #22 I seem to recall (from sight of its blooms more than twenty years ago) as *C. nuttallii,* but offer no guarantee that it is. All are Mariposas, and will probably require expert care; they come from regions of little rain except in late summer.

Castilleja #26-61 and #28-61 are similar, plants of two feet or so, with linear leaves, and long tubular yellow flowers protruding far beyond the red bracts; the stems of #26 were purple, a rather garish but striking combination. #27 was a more ordinary red species of about the same height, from woodland on limestone.

Dodecatheon uniflorum I met in 1937, but never again until 1959. It comes from the mountains of southern Montana and northern Wyoming, a high alpine from rather swaley places—that is, at flowering time; later they are probably quite dry. It varies from one to four inches in height, usually single-flowered. Although Rydberg, in the original description of the species, gives the flower color as purple, this season I finally verified that, in two ranges, it is a good rich pink. A minute treasure, of which I have never before secured enough seeds for distribution, it appears on both lime and granite.

Erigeron pinnatisectus has caused consternation in at least three gardens by producing only rayless flowers. This year I saw it in profuse bloom, never a rayless head, and in the best forms really superlative; only two or three inches high, with enormous ffowers of rich purple. Other plants were taller with paler and smaller blossoms. A high alpine of Colorado, it is worth further trial.

Erigeron #46-61 may be a form of *E. simplex,* from the very top of Mosquito Pass. It is not more than two inches high there, with good-sized, plentifully-rayed flowers of a lovely pure lavender. Its garden behavior is unknown.

Erigeron #47-61 is an entire-leaved species three inches high with good purple daisies, which grew just below Loveland Pass. #49 is a so-so plant, four inches, lavender, good but not exceptional.

Eritrichium elongatum, I was told by friends who saw it at peak bloom where the seed was later collected, had flowers of pure blue, white, white-edged blue, and even one plant of pure pink. These seeds were collected from a granitic meadow, but this species is equally abundant on limestone, and is not entirely impossible in lowland gardens.

Lesquerella sp. #65-61 arrived in the east with the data on the packet undecipherable, but I am almost certain that it came from granitic soil in the southern Big Horns, at rather low altitudes: a rosette two or three inches across of grayish linear leaves, with stems of three or four inches bearing many

yellow flowers. This genus is very well-behaved in my garden, and often flowers two or three times in a season.

Two tallish species of *Lupinus* were collected: #69 from the southern Big Horns, up to two feet, with flowers of shades of blue; #70, from near Bryce Canyon, somewhat taller, with flowers usually white, occasionally soft blue or lavender. Both are too tall for the rock garden.

Mentzelia sp., probably *Nuttalia multicaulis,* was found on a road bank in southern Colorado. It is a miniature of the various species usually seen along roadsides, only 8-10 in. high, with linear leaves, and many-stamened yellow flowers one and a half inches across—the only one I have seen of this genus which is suited in size to the rock garden.

#77-61 I believe is a *Mitella*—a plant growing near waterfalls on Mt. Timpanogos, a foot or sometimes much more in total height, with toothed kidney-shaped basal leaves and sprays of white flowers with red center. Strangely, I never noted it on previous visits.

Oenothera sp. #81-61 was another species that I cannot recall seeing before on Timpanogos, yet the plant seems vaguely familiar, although I cannot quite place it. It is a woodlander, three feet high, with yellow flowers fully four inches across.

The harvest of penstemons was slim and the only species sent to the Exchange this year and not last are *P. bridgesii* (shrubby, with long-lipped tubular red flowers, 1½ ft); *P. pachyphyllus congestus* (bluish basal leaves, densely crowded spikes of sizeable blue flowers, 2 ft.); and one which I have never seen in bloom, either *P. dolius* or *P. miser,* both of which occur in the area, belong to the same section and are quite similar out of bloom (greyish basal leaves, blue or purplish flowers, 6 in.—lime).

Two of the whorled-leaflet species of *Polemonium* I have collected previously, but never before in sufficient quantity to send to the Exchange. *P. brandegeii* grows on shaded volcanic cliffs in southern Colorado, only four inches or so in height, with long yellow tubular flowers. *P. mellitum* Dr. Wherry regards as a subspecies of *P. brandegeii,* but having seen both in flower at Branklyn last April (from seed collected at the same stations as that sent the Exchange) I feel that horticulturally they should be regarded as distinct. *P. mellitum* makes a much larger clump, with leaves six to eight inches long, and floppy rather than upright as in all the other whorled-leaflet polemoniums which I have seen. The lobes of the flowers are rather larger, at least in the garden. Although in the wild the trumpets are creamy, at both Branklyn and Edinburgh one or more lobes had a faint bluish flush. Seed was collected from north-facing pockets of soil on a huge granitic outcrop, but last summer I found the plant growing on shaded limestone cliffs in the Big Horns, so that apparently shade is more important than soil. Neither is a really easy plant, nor long-lived, but both are within the ability of most gardeners.

Polemonium occidentale is a tallish woodlander, of perhaps three feet, and offers no difficulty. Plants that have flowered in my garden, and those which I could find in bloom in the wild last summer, have all been white.

Polemonium sp. #111-61 I cannot recall ever having seen before, although several times I have been past the sunny lime outcrop where it grew, in central Montana. The leaflets were rather thick, coplanar but set at an angle to the midrib, and the flowering stems were six to nine inches high. It reminded me very much of what in the 1930's I used to grow as *"P. pulcherrimum,"* a name and plant that seem to have disappeared from gardens—an attractive and easy species, whatever its true name may be.

Primula angustifolia I have sought several times in vain. No more than an inch or two high in bloom, it is almost impossible to see when out of flower.

The blossoms, borne singly, are rich pink, or occasionally white, with much the aspect of a flower of *P. acaulis*. The seeds distributed are green, and are offered only because several times I have germinated very green seeds of other species of section Parryi. As this species has long been unavailable, the seeds are probably worth the gamble.

Pulsatilla hirsutissima is by no means novel and was collected only because of the impression made by slides of it when shown in England; apparently the British regard it as a quite desirable form of the pasque flower.

Sedum stenopetalum makes a small cluster of tiny balls of incurving narrow leaves, with yellow flowers on stems of two to four inches. Non-spreading, it seems strangely neglected, and in the wild grows almost anywhere below timberline, usually in sun.

Trollius albiflorus, surprisingly, I never met until 1958, perhaps because it inhabits boggy places among dwarf willows and is most inconspicuous out of bloom. The plant is about a foot and a half tall, with white flowers which I have never seen, and seems to be restricted to the easternmost Rockies.

For lovers of the curious, I harvested a few of the relatively huge seeds of Umbelliferae #129-61, which, growing in woodland in a canyon in Nevada, had handsome leaves and no more than eight inches of height.

—C. R. WORTH

FRANCIS ORVILLE LIBBY

Friends far and near were saddened by the death in November of Frank Libby, as he was known to many. He was a man of great talent, an artist of distinction with paintings hung in galleries in New York and New England, a member of numerous art groups. He was a photographer of note, being a Fellow of The Royal Photographic Society of Great Britain.

His contribution to the A.R.G.S. was in serving as Chairman of the Maine Unit from its organization in 1937 until his resignation in 1950. Through the anxious war years, his enthusiasm and kindly interest drew us together in regular monthly meetings. During the period of his chairmanship the membership grew from a nucleus of six or seven to over thirty.

He encouraged the members to write about the plants they grew. These manuscripts are contained in a book inspired by his interest, entitled *"Floramontis",* a beautiful work, bound in leather and lettered in gold. Fittingly, the picture on the flyleaf is a large color photograph of Maine's own Mt. Katahdin. The articles are illustrated with clear photographs and with beautiful water colors signed with his distinctive initial L. It is an appropriate memorial to the man and his art. He was a gentleman in the truest sense. Our deep sympathy goes to Mrs. Libby in her great loss, which we share. —B. J. H.

"PULMONARIA LUTEA"

The plant which has recently been offered by at least two nurseries under the name of *Pulmonaria lutea* has been determined by Dr. John Ingram of the Bailey Hortorium as *Symphytum grandiflorum. (Baileya,* Vol. 9, No. 3, September 1961, page 97).

This handsome plant grows almost too easily in light (or even heavy) shade, running about and occasionally self-sowing; it will quickly overwhelm any small plant in its path. It flowers with the pulmonarias, and the similar blossoms are reddish in bud, opening to a soft yellow—almost the same color combination as that of *Primula bulleyana.*

BOOK REVIEWS

Wildflowers of North America in Full Color. Robert S. Lemmon and Charles C. Johnson. Illustrated. 280 pages. Garden City: Hanover House, 1961. $9.95.

Perhaps the most delightful and entrancing popular book on our native flora yet to appear, "Wildflowers" is a must for every plant lover. It is the joint production of Charles C. Johnson, who travelled 200,000 miles to take the 440 color photographs which are included, and Robert S. Lemmon, who wrote the accompanying text.

The reproduction of Mr. Johnson's transparencies is marvellously done, and the book is vibrant with color. Recorded in their natural habitats, the plants seem really to live on the pages; to see them there is almost as good as meeting them in the wilds. Such details as drops of water, after a shower, clinging to the leaves and flowers of *Polygala paucifolia,* heighten the illusion of reality. There are, it is true, a few underexposed plates, and the whites usually have too much of a greenish overcast, but these are minor flaws.

The book is divided into five sections, dealing with the coastal regions, the deserts of the Southwest, the mountains, the prairies, and the woods. The sequence is botanical, and the reader is occasionally startled by coming upon an eastern species among a group of western ones, until he recalls that geographical entities are disregarded. The selection of plants seems to have been done haphazardly, yet the range of material is extremely wide, from the dandelion (which hardly deserves the space it occupies) to *Eritrichium argenteum* (not *E. nanum,* as the index has it). *Aquilegia, Penstemon* and *Phlox,* three of our most characteristic genera, are poorly represented, but the comprehensive collections of portraits of cacti, orchids, and calochorti, many of them extremely rare, are matters for rejoicing.

Popular names are used throughout, and there is, so far as we have discovered, but one Latin name in the entire text. To find the botanical name of a species one must refer to the index. This would not be too bad, had the editors seen fit to include an index of these names. But one wishing to refer to *Castilleja pulchella,* for instance, searches in vain for Paintbrush in the index, and is forced to thumb through the pages until he comes upon it under the obviously fabricated name of "Alpine Rock Painted Cup." Perhaps in future printings (of which there surely must be several) the editors will have more consideration for the reader with a slight knowledge of plants, and will provide a more adequate index. The captions of the pictures are interesting and informative, but the casual text adds little to one's knowledge. One fears that Mr. Lemmon, in striving to produce a book of popular appeal, underestimated the intelligence and intellectual curiosity of his readers.

Be that as it may, the plates are so marvellous that one has little interest in a text of any sort, for one can hardly tear one's eyes away from the beauty they display. It is to be hoped that "Wildflowers" is but the first of a series which will give a complete pictorial record of our American plants.

Wild Flowers. Homer D. House. Illustrated. 362 plus 264 pages. New York: Macmillan, 1961. $17.95.

Ever since its appearance in 1918, House's "Wild Flowers of New York" has been the standard by which every other work on the Eastern flora has been measured, always to the disadvantage of its successors. Lovers of our native plants

will rejoice that this monumental work, with its magnificent color plates, is again available after an interval of many years. Other than the reduction in title, and the printing from new plates, there seems to be no essential change from the original version—not even the alteration of names no longer accepted. While the book is primarily concerned with flowering plants native to the state of New York, most of these are widely distributed in other regions of the coastal states, so that this work is useful over a wide area.

The text is formal, yet designed so that the amateur with little or no botanical training can follow it without difficulty. It opens with simple definitions of technical terms, illustrated with line drawings so that there can be no question of their meanings. After the description of each species shown on color plates, comparative comments are made on species of lesser importance which occur in the region. Keys for some families are included.

It is, of course, the 364 color plates, mostly full page (approximately 7 x 9 in.) which have given Mr. House's work its fame, and which make it of such great value to those interested in plants of the Eastern (and to some extent, the Midwestern) states. Against a suitably tinted background, the inflorescence, occasionally the entire plant, is laid out much as it would be on a herbarium sheet. A certain artificiality of pose seems inevitable, yet this is kept to a minimum, and the plates are more than pleasing to the eye. No hint is given of how the original pictures were made, but it must have been by a color-separation process, and the result is perhaps a shade less impressive than if a modern film had been used. The colors are generally good, but rarely intense. But *Caltha palustris* is not orange, nor are asters as blue as depicted. There are many black and white illustrations as well, rather soft in their reproduction.

A glance at other wildflower books currently available shows the vast superiority of the plates in the House work over the usually poorly colored and often poorly drawn illustrations found elsewhere. Certainly both this book and the one by Johnson and Lemmon are needed on the shelves of every student of American wild flowers, though neither will be allowed to remain there unopened for more than brief intervals.

Gifts from the Garden. Suzanne James. Illustrated. 128 pages. New York: Hearthside Press, 1961. $4.50.

This slim book compresses an incredible amount of material into its few pages. Terse and to the point, it covers many subjects, not all of them suggested by the title. Flower arrangements, uses of dried material, propagation, bonsai, flower-scented soaps and lotions, herbs, even a few cooking recipes are among the topics considered.

In spite of the jostling of ideas, the style is entertaining, almost breezy, and one marvels that so much can be said interestingly in so little space. The book will serve as an invaluable source of suggestions for use of garden material, and will probably lead many readers to delve more deeply into some of the fields on which it gives only basic information.

Concise Gardening Enclyclopedia. Bernard W. Bishop. Illustrated. 190 pages. New York: Philosophical Library, 1961. $4.75.

This book, written for British gardeners, fails to meet the standard set by other publications of the Philosophical Society: the coverage is largely inadequate, the writing poor.

Kansas Wild Flowers. Second edition. William Chase Stevens. Illustrated. 461 pages. Lawrence, Kansas: University of Kansas Press, 1961. $8.00.

Issued during the Kansas centennial, the second, apparently unrevised, edition of this excellent work has made its appearance at a crucial time in the debate on whether a considerable region of the state should be set aside as a national park, in part for the preservation of the fast-vanishing midwestern flora. It may well be that a perusal of Professor Stevens' book would aid the lawmakers in realizing the importance of such a park.

The form of the book is conventional: an introduction to botanical vocabulary, with unusually detailed illustrations; a survey of the geography and ecological features of the region; descriptions, with occasional keys, of the five hundred representative species considered; and a glossary. But there the conventionality ends. For these are no ordinary descriptions, but something that every writer of popular floras dreams of, and rarely achieves, even to a slight degree. The derivation of each Latin name is discussed, a brief description of the species follows, occasionally with the omission of some important detail such as height, and then the author lets his erudition and fancy range far and wide. We learn of the origin of the cultivated strawberry, of the adaptation of a flower to some unusual method of fertilization, of the use of plants as suggested by herbals and pharmacoepias ancient and recent, and even find recipes, proposed by Pliny, for the use of the seed of the opium poppy. Explanation is given of the red excretion of the bloodroot, with assurance that the plant can be moved at any stage of growth.

Before long, one finds oneself ignoring strictly botanical matters, and searching avidly for tidbits of miscellaneous information. Herein are the materials for a dozen fascinating bedside books!

On the botanical side, there are a few defects, which perhaps will never disturb most readers. No authorities are cited, nor are synonyms given, while ranges are for the state of Kansas only.

The 761 black and white photographs include a close-up view of every species mentioned, in flower. Other pictures show interesting features of fruit and of root, and occasionally of habitat.

Work on the book was begun by Professor Stevens after his retirement at the age of seventy-six, and the completed work was published shortly before his eighty-eighth birthday. The richness of its content is a slight measure of the keen and inquiring mind of its author. He must have been a most stimulating and inspiring teacher!

Handbook on Rock Gardens. Victor H. Ries, editor. 96 pages, illustrated. New York: Brooklyn Botanic Garden. Reprint, 1961. $1.00

As this Handbook has previously received a very favorable review in the *Bulletin* (vol. 16, no. 3: p. 91) it will perhaps suffice to remind our readers that it is again available. Although labelled "revised", it seems unaltered from the original printing; certainly one or two unfortunate errors remain uncorrected. For the novice, it is worth many times its modest price, while the advanced gardener will find much of interest in the numerous illustrations.

In the publicity material accompanying the Handbook is the statement, "Publication of this Handbook now, when there is a resurging interest in the use of rocks in home landscape design, is most timely." If this is true, here is an opportunity for our members to guide their neighbors in the proper construction of rock gardens and use of suitable plants. This little book might well be sent, instead of a Christmas card, to friends who are landscaping a new home.

SALMAGUNDI

A last-minute announcement by Mr. Totten, in the January *Bulletin,* crowded out the editor's note of appreciation to the six members who, in response to his frantic pleas, dropped their own work to write articles so that the *Bulletin* might appear on schedule. So generous were they that two articles have overflowed into the current number, while the scanty material scheduled for January was held over till now. We hope that all members of the Society were as pleased as those who have written us expressing their enjoyment of the articles which the contributors sacrificed their own interests to supply.

* * * * *

One member has commented enthusiastically on the recent article by Ralph Bennett, in which quite precise rules for the successful cultivation of certain plants were given, and has requested more of the same. Would that we could supply him (and ourselves) with the desired information. Alas, most plants other than the easiest know no rules to which they will surely respond—as Mr. Bennett not only would admit, but frequently does, in the *Bulletin of the American Penstemon Society.*

All too often, as soon as one claims in print to have solved the problem of some tricky plant, he is proved wrong, and has only a corpse to display as the result of his prowess. Mrs. Manton has just written us, "I lost my first four *Lewisia tweedyi* because I lost control of my bragging apparatus." Plants which we used to grow with the greatest ease will no longer tolerate us, while others, long-time failures, now luxuriate. Some of the "beginner's dozen" are hopeless in our garden, while "impossibles" flourish. Therein lies the tantalizing joy of rock gardening: one never quite knows which plant will be a success, nor for how long, nor under what conditions. Everything is a gamble, and when the jackpot is hit, what rejoicing!

We would not discourage our "beginner" members by these words, for there are many plants, and good ones too, which will make the best of even the most adverse conditions, and who knows—maybe the plant with which everyone else has failed will find your garden exactly to its liking. Take a chance, buy a lottery ticket in the form of a packet of seed or a plant of an unfamiliar species, and from mingled wins and losses, participate in the thrills enjoyed by the members of long experience.

* * * * *

But hold everything! An ad in the current number of *The Gardener:* "Amazing research proves simple prayer makes flowers, trees, shrubs grow many times faster, stronger, larger." If only complete information will arrive before our last plant of eritrichium expires!

* * * * *

Somehow, until this winter we failed to purchase, or even to examine, a book which has been in print for several years, and thereby missed a great deal of pleasure. "The Journeys and Plant Introductions of George Forrest," issued by the Royal Horticultural Society, tells, in selections from Forrest's limited writings, some of the more exciting details of the great collector's eight expeditions to southeastern Asia, then discusses, genus by genus, all of the more important plants found, with comments on their fate in cultivation. There are many handsome illustrations showing the more notable Forrest introductions in the field and in gardens. Don't miss this book!

In the advertising pages is the announcement of a plant and seed collecting expedition to the Atlas Mountains of northern Africa—the first such announcement in some years. It is delightful to know that professional plant hunting has not become, as we had feared, a thing of the past. The members of the party are young and enthusiastic, and are determined to do so good a job that they will make a name for themselves, and be able to go on to more and greater expeditions. The cost of a share is very small, the Atlas is the home of many plants that are worth-while and growable, and the youthful explorers deserve support. Participation in an expedition, by stay-at-homes, can be tremendously exciting: the long wait until the unpredictable spoils arrive, the eager examination of the packets and field notes, the speculation as to what each unknown may do in cultivation, the thrill when the first shoots appear, the critical judgments as the plants develop. Despite our own numerous trips, we never pass up the chance to participate in the spoils of others', and find their adventures almost as exciting as our own. We hope that many members of the Society will take advantage of this unusual opportunity, and learn the delights and distinction of being a shareholder in an expedition. At little expense, you will get much pleasure, and perhaps aid in starting a Forrest or Farrer on the way to lasting fame.

* * * * *

The impatiently awaited Conference Report arrived in December, and not only recalls those marvellous two weeks, but serves as "a mine of valuable information." The report on the London Show is baffling: can it be that the anonymous reviewer and we were at the same show? He reports enthusiastically on plants which we did not even notice, and passes by some which gave us the greatest delight. Of course, the deficiency is ours: everything was new and wonderful, we had no past experience on which to base our judgment or our enthusiasms, and the time was all too short to examine every plant in detail. There were 772 entries, many of them comprising three or six plants, as well as the extensive commercial exhibits, and those by Wisley, Cambridge Botanical Gardens and Mr. Weeks. At a rough estimate, even if we had avoided all the lectures, luncheons and casual conversations, and had inspected everything, the time allotted each plant would have been about five seconds. And how, on first meeting, can one move away from *Eritrichium nanum* after only five seconds, or brush off such old friends as *Douglasia montana* and *Kelseya uniflora* without even an inquiry regarding their health under skies so much duller than those to which they are accustomed? Altogether, we feel that we did not too badly, even though we missed some of the outstanding exhibits, or failed to appraise them properly.

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A frequent complaint among members of the Society has been that there are few nurseries offering a good selection of rock plants—a problem that was discussed very seriously at a recent Annual Meeting. Since then, several excellent nurseries have been established, listing a great variety of rare and long-desired plants. One would expect them to be overwhelmed with orders. Instead, as of March 1, three of the best are reporting so little business that they are most discouraged. Quite obviously, if we wish to have plants available, we must encourage their production. If these nurseries are forced out of business, we have only ourselves to blame. Each of them has at least a few fine plants that are not in the best-stocked garden. There is still time to place orders for delivery this spring. If you fail to do so, the consequences are inevitable—and you have only yourselves to condemn.

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