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C. R. Worth, Editor

Vol. 15 October, 1957 No. 4

PLANT HUNTING IN KASHMIR

O. Polunin M. A., F.L.S., *Godalming, England*

Kashmir is probably one of the best places, along the whole length of the Himalaya, for the keen plant collector to visit—and there are three very good reasons why this is so. Kashmir is now easily accessible; it takes but a few hours to fly from New Delhi to Srinagar—the capital—and New Delhi is in direct air connection with the capitals of the world. With the completion of the new low-level Banihal Tunnel through the ring of mountains which encircle the Vale of Kashmir, the State can be reached at all times of the year from India. And from Srinagar many journeys can be made to different mountain groups in a matter of a few hours.

There is nowhere in the Himalaya where it is so easy to arrange all details for mountain travel. Within a few hours of arrival in Srinagar, the traveller can start out on a mountain trek of several weeks duration, with equipment, horses and servants, all hired from the local agents. The Kashmiris have for generations learned to cater for all kinds of *shikar* and mountain travel. Last summer, simple messing, equipment and two servants cost me little more than £1 ($2.80) a day. Kashmiris are excellent servants and companions and are well trained in the preparation of European food. I have nothing but praise for my cook, Abdul Rasak, and the cook-boy, Koidra, who were most willing and hard working and seemed to enjoy the mountain journey as I did myself.

However the plant collector's best reason for visiting Kashmir is that it has a very rich and varied mountain flora and many of the most interesting Himalayan plants can be seen there. By contrast with the eastern Himalaya and even Nepal, the climate is not so wet, and more like our own. There is not a deluge of incessant rain during the summer monsoon, but instead intermittent rain with dry periods in between, and most of the plants from the higher altitudes are hardy. Snow may even fall for short periods in regions as low as the Valley of Kashmir which lies at over 5,000 ft. In consequence many of the mountain flowers flourish quite well in Britain, particularly if they have a good period of freezing during the winter. Though the abundance of rhododendron and primula species, which are characteristic of the eastern Himalya, are not to be

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A canal in Kashmir.

found in Kashmir, nevertheless many of the best Himalayan genera are quite well represented and there are certain species which are endemic to Kashmir and which are well worth cultivating.

My own visit to Kashmir was made in order to collect seeds of the best alpine species, and to prepare a collection of dried herbarium specimens for the British Museum (Natural History) and other museums. This journey had to be carried out during a school vacation and in consequence I was not able to arrive in Kashmir before the beginning of August; my collecting equipment was sent in advance by sea and arrangements were made for tourist permission to enter Kashmir beforehand.

I left London one Saturday afternoon and was in Srinagar by mid-day on Monday. That same afternoon I went to a local tourist agent and made all my arrangements for my journey into the mountains. At the Nedou Hotel, Srinagar, I found my plant collector, Ramzana Mir, waiting patiently for me on the hotel steps. I had last seen him when he came as collector to the Nepal botanical expedition of 1952. He is the most experienced of the Kashmir collectors, having been on a number of journeys in Tibet and Bhutan with Ludlow and Sherriff. He has an eye for a good plant and is happiest when scouring the countryside for new species, while his work with the plant press is of the highest quality. I had written to Srinagar to ask him to join me and was delighted to find him ready and eager to start collecting again.

Before hastening into the mountains, the plant hunter should spend some time about the Valley of Kashmir itself. By August there is little to be seen of the rich variety of wild flowers, for the tall maize obscures everything, and the damper fields shimmer with acres of golden rice. Every corner is cultivated; patches of crimson, yellow, and coral-colored amaranthus line the fields and the

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Pink-flushed goblets of the lotus.

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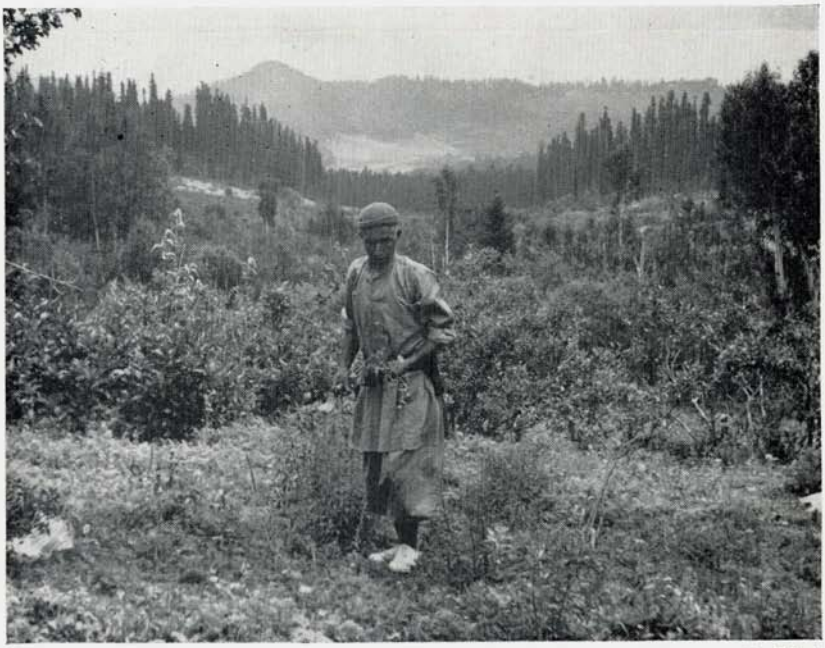
"Pale hands I loved"—garden of the Shalimar.



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Ramzana Min, the Kashmiri plant collector.

wooden houses are hidden in the heavy shade of the walnut trees— the Kashmiris have been skilled cultivators for at least 1500 years. At this time of the year there was no sign of the early bulbous plants such as *Tulipa stellata,* a delicate species with narrow lance-shaped petals, white within and rosy flushed on the outside, or of *Tulipa praecox* which grows less commonly in the fields. It is a scarlet flowered species with a black-purple blotch surrounded by an orange margin at the base of each petal. The common iris growing along the ditchsides was *Iris ensata,* a lilac and white flowered species. There was no sign of the yellow spring flowering colchicum, *C. luteum,* and I failed to find the fruiting heads of the crown imperial, *Fritillaria imperialis,* which grows in some of the valleys leading up into the mountains.

In August the great pleasure of the valley undoubtedly lies in its lakes and waterways, and here many of the plants are at their best. The small ditches are a vivid green with thick growth of duckweed and the water fern, *Salvinia,* or studded with the golden yellow blooms of *Nymphoides peltatum.* One can hire a local Kashmiri boat or *shikara* and spend many happy hours wandering through the waterways in an exotic world of water plants, literally 'lotus eating'. Or one can hire a houseboat and live quietly and comfortably by the water side for weeks on end.

The most beautiful plant of the lakesides is the lotus, *Nelumbo nucifera,* or pamposh as the Kashmiris call it. It covers large areas of shallow lake and canal, and it has a rare beauty. Tall stems carry above the water large globe-shaped flowers, flushed delicately with pink, like a glowing lantern, and sweet-scented. In the center lies a mass of yellow stamens and bottle-green fruit heads. As the *shikara* glides gently through these miniature forests of lotus, tall umbrellalike by the paddle, shine like silver; drops of water splashed on the leaves run about

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Sweetly scented Cimicifuga foetida.

leaves brush gently past one, and other floating leaves, pressed below the surface their surfaces like mercury. The fruits begin to ripen in August and look like inverted pepper pots. They contain delicious edible seeds. Growing among the lotus leaves is the water chestnut, *Trapa bispinosa,* which also has an edible nut, tasting rather like a chestnut. In the shallow waters of the Wular Lake many tons of these nuts are gathered every autumn and are an important source of food to the boatmen or *Hanjis* of Kashmir. We watched these water folk gliding slowly in their pointed canoes, sitting right at the tip an inch or two above the water and gathering water weeds which they piled up in the center of the canoe in dripping, shiny masses.

Those interested in a more formal display of nature should visit the Moghul gardens, by the side of the Dal Lake. The most famous, the Shalimar Gardens, are composed of a series of shallow terraces set about with tall shade-giving chenar trees, *Platanus orientalis*. There are soft lawns and massed beds of zinnias and cannas, while down the center flows a wide sparkling waterway with waterfalls splashing from terrace to terrace. On the upper terraces are temples and kiosks surrounded by pools and fountains, and shaded by more chenar trees. Everywhere there is the play of light and shade. The Kashmiri ladies, as they stroll about the lawns in their brightly colored *saris,* add colour to the scene, while between the magnificent trees one catches glimpses every now and then of jagged mountains which rise above one and give such an impressive setting to this famous Moghul garden.

It takes only a few hours to get from Srinagar to many good mountain collecting localities. The best known hill station is Gulmarg where there is quite a good hotel, a golf course, and other civilized amenities. It lies at about 8,500 ft. in the Pir Panjal range to the northwest of Srinagar. It is a shallow pocket up in the hills, a grazing ground or *marg,* and it is surrounded on all sides by heavy forests of silver firs, spruce and pine. When I arrived in August there were few flowers to be seen on the meadow; it stretched away in silvery greenness to the edge of the forest. But along the streamsides were abundant rosettes of the beautiful rich pink primula, *P. rosea,* and the well known, widely cultivated species, *P. denticulata.* There were robust plants of the marsh marigold, *Caltha palustris* var. *alba* with a few late, white flowers still to be seen. On the edge of the forest grew a number of good plants in full flower. Several species of balsam with white and yellow flowers were conspicuous, and most striking of all was the large purplish-pink flowered *Impatiens glandulifera,* which has now become naturalized in Great Britain and is known as the Policeman's Helmet. In the damper patches through the forest were the striking yellow-green leaves and tall stems of *Swertia petiolata* which has strange greenish flowers tinged with blue-purple. The aromatic leaved *Salvia glutinosa* bore delicate masses of pale lemon-yellow flowers where it grew through the shrubs to a height of nearly six feet, and *Morina longifolia* bore robust stems with whorls of pink and white flowers cascading outwards like miniature rockets. A species of monkshood, *Aconitum lycoctonum,* grew six feet tall and carried many yellow flowers in a loose inflorescence, while out in the clearings another robust plant, *Cimicfuga foetida* with deeply dissected leaves, bore long tassels of honey-coloured flowers which were very sweetly scented—inaptly named, one would think, until one came to gather the seeds which have a peculiarly unpleasant smell. *Viburnum grandiflorum,* a shrub six or eight feet high, grew abundantly at the edge of the forest and was just beginning to ripen its dark purple berries. Early in the year soon after the snow melts on the *marg,* it must be a wonderful sight, with its heads of pink flowers blooming on bare stems, and a sweet fragrance pervading the forest. Growing in masses between the shrubs was Jacob's ladder, *Polemonium coeruleum,* which must also have made a splash of colour, like bluebells in an English wood. A few flowers were still to be seen in deep shade; they were bright blue with bunches of orange stamens in the center, but most of the plants were already in seed. *Cypripedium cordigerum,* a beautiful slipper plant, was scarce in these forests. It has a large white pouch sometimes flushed with pink. A species of barberry, *Berberis asiatica,* and *Skimmia laureola* were also in fruit.

(To be continued)

SNOWDROPS

R. GINNS, *Desborough, Northants, England*

ALL THROUGH the grey days of January and February of this very wet but mild winter the rock garden and its environs have been gay with hundreds of small bulbs. Prominent among these have been the snowdrops (Galanthus). Some of these were used for floral decorations at a certain function and I was afterwards asked what I did to my snowdrops in order to get such large flowers. The answer was, of course, "Nothing, except plant the right varieties". People are surprised when they hear that I grow thirty different forms of this old favorite. Of course they are not all different species, of which there are only a few, but there are numerous natural varieties and quite a lot of named, garden-raised seedlings. Maybe there are too many of these latter which are inclined to lose their individuality under different conditions of cultivation. No attempt will be made here to describe them all. Indeed, it would be difficult, as it is necessary to see them growing side by side to appreciate the differences between them.

Those who know only the common snowdrop, *Galanthus nivalis,* and its double form may be inclined to ask how all these forms differ from each other. The answer is in (a) foliage, (b) time of flowering, (c) size, (d) shape of flower, (e) marking.

Basing our first division on the kinds of leaves, we have

1. *G. nivalis* with linear, blue green leaves varying in size with the variety.
2. *G. graecus,* again with blue green leaves which instead of being straight have a twist in them.
3. *G. elwesii* with sea green leaves sometimes as much as 20 millimeters (over ¾ in.) wide. In their later stages of development they may easily be mistaken for a tulip species.
4. *G. plicatus* with wide blue green leaves that look as if they had been pleated.
5. *G. polyphyllus* with shining bright green leaves up to 27 mm. wide (more than an inch). A large clump of these out of flower would be taken for anything other than a snowdrop.

The genus is to be found right across Europe, and into Asia, from English woodlands, the Italian mountains, the sun baked islands of Greece, the Crimea, Turkey and the Caucasus Mts. As will be seen, the shady situations that suit *G. nivalis* are quite unsuitable for many of the varieties.

So now to deal with some of the more distinct forms. First we will take the very early bloomers, all of which come from restricted areas of Greece. Earliest of all, sometimes in September, is *G. corcyrensis* from Corfu. In October we have *G. octobrensis* and from then to December there are *GG. olgae, rachelae,* and *elsae;* all of these are much like *G. nivalis* in appearance and have an unfortunate tendency in cultivation to bloom later and later in successive seasons. I should, however, still have had flowers in October last year if the slugs had not found the buds just as they were pushing through the ground.

These forms, which are all close to *G. nivalis,* are closely followed by *G. elwesii* which is usually in bloom before Christmas. It is a fine, large flowered species which can be recognized easily, as the inner tube, instead of being merely edged with green, has two large green blotches, one at the open end and the other at the top. These markings are of variable shape and in some flowers are joined together so that the tube is almost entirely green.

After the New Year come the various varieties, both wild and garden raised, of *G. nivalis*. The most distinct of these is *G. n.* var. *luteus,* the so-called "Yellow Snowdrop". In this all the green markings of the common form are replaced by a good clear yellow, even the ovary being affected. There is also a double yellow, but my specimen, after coming true for a number of years, produced a number of offsets which had all reverted to the normal form, after which the parent bulb reverted also. I have had much the same experience with *G. n* var. *viridi-apice*. In this each petal is tipped with green, but the marking is inclined to disappear after a few years and there is then nothing to distinguish it from the normal type. A most peculiar variety is *G. n.* var. *scharlockii* in which the spathe is very much enlarged and divided into two upright, diverging segments having the appearance of rabbit's ears. American nurserymen, with their propensity for inventing fancy names for plants, will, when they list this plant, no doubt call it the "March Hare", as it normally does not bloom till March. Another distinguishing feature of this variety is the three to five green lines on the outer segments.

Another very distinct form is *G. n.* var. *poculiformis,* semi-double, in which the inner segments are elongated until they are about as long as the outer ones. They are held close together towards the center and are quite innocent of any green markings. This form, found wild in two stations in Scotland, also shows a tendency to revert to normal in my garden, at least as far as the appearance of green markings is concerned.

Most showy of all the nivalis group is *G. elwesii* var. *atkinsii.* This year it had the longest stems of all my Galanthus varieties, up to ten inches, with flowers in proportion. The flowers are long and slim, beautifully proportioned. A garden form, 'Arnott's Seeding', given an Award of Merit by the R.H.S. and known as the "Giant Snowdrop", was this year not so large as *atkinsii.* I do not like it so well as the flowers are wider and not so well proportioned. There are now quite a number of these named seedlings, 'Brenda Troyle', 'Ketton Giant', and so on.

G. plicatus, the Crimean snowdrop, is another fine large plant but the typical form fades into insignificance when compared with its 'Wareham Variety'. This, too, can be quite as large as, if not larger than, 'Arnott's Seedling'. A large clump of it under trees can be quite a striking feature of the winter garden.

When we come to the green leaved forms we find that the foliage is more handsome than the flowers. The typical plant is *G. latifolius,* whose name I believe has recently been changed to *G. polyphyllus.* (Why can't botanists stop digging up forgotten names in obscure publications?). A good breadth of the shining green foliage is very handsome in February but the flowers are the smallest and flimsiest of any snowdrop. *G. ikariae* has similar leaves but much larger flowers which are, however, carried on very short stalks. It is the latest of my snowdrops to bloom. *G. fosteri* has the inner perianth marked in the same way as *G. elwesii,* whilst *G. allenii* is the largest of the section.

I have dealt with only the most distinct forms grown here. I have a number of others, whilst there are quite a lot more that have been described but have not yet come my way. I find it quite fascinating to try to run to earth all the members of a variable genus such as this, even if some of them are scarcely worth while when found.

LEWISIAS FROM SEED

RUTH B. MANTON, *Durham, N. H.*

THE CLICK OF A NEIGHBOR'S SNOW SHOVEL strikes the ear in rhythmic repetition as we wake. How clean is his driveway! Suddenly around the curve comes that lumbering monster known as a snow plow, blowing, puffing and pushing with great billowings of snow. It catches the snow, tears great hunks away from the edges and hurls it with a sort of maniacal glee, into the recently cleaned driveway. The shoveler is almost buried in the snow and mumbles revenge as the plow pushes on.

What a white, white world we have awakened to. New Hampshire is buried under a typical snow storm. There are six and seven foot banks of snow plowed up during the night along the highway. The rock garden across the street, the garden that bloomed so full in May, is now a sheet of white. The spruces in the rear are like cotton covered Christmas trees and the lower shrubs are completely hidden. The tiny cottage that forms a background for the rock garden in summer is half buried in drifted snow. The windows have become cross-barred slits. Snow, in a continuous sheet, covers the roof and hangs extended a foot or more beyond the eaves. Thus the cottage looks, for all the world, like a tiny white thatched cottage in the Cotswolds of England. Would that its summer garb were half as entrancing!

We hear the whir, the continual whir of the starter of a car. The night temperature had dropped to thirty below zero and mechanical difficulties are everywhere. The neighbor continues to dig himself out of the wake of the snow plow and, in a sort of dogged determination, to clear his driveway. We open the door and forthwith the cocker, "Timmy", gives one surprised sniff at the mountain of snow and retreats into the house while the family cat "Ginger" decides to risk it. "Ginger" had never seen snow and felt overly curious; she placed one long investigating paw upon the fluff, put her weight forward and immediately was engulfed in three feet of the cold white mass. "Ginger" must needs be rescued as she floundered and shook with surprise. What a world to awaken to!

From the kitchen windows we look out through extended icicles that remind us of stalactite formations in the caverns of Virginia. They hang from cottage eaves and their surfaces glisten in the morning sun as they slowly drip with its small heat. The yews have become great monstrous blobs and mountains of snow while evergreens billow their full skirts to the earth as gracefully white as in colonial Portsmouth the colonial dames, with skirts frilled, stood to curtsy. The cedars look like nursery rhyme figures in nightcaps set at a rakish angle.

The great maple tree paints black and gray lines in frosty beauty against a clear blue sky, a beauty that is exquisite in line work of delicate tracery they sketch and last year's leaves hold upon its lower branches as great blobs of frozen snow and ice. The blue spruce stands the tallest of the evergreens and reaches to heaven with dignity and a promise of the future. The bird houses of birch are no longer birch but look like cotton batting held by a string of spun white silk. The studio nestles hidden among unbroken paths and white mist.

The rock garden is buried, the alpine garden lost to sight, covered by drifts of snow many feet deep in undulating and gracious curves no gardener would dare to imitate. Drifts flow like a living molten stream down the hillocks and pile in reckless abandon where level sameness was before.

Now we find it easy to picture the Alps and alpine mountains and, in our mind's eye, we see alpines growing where only purple shadows lurk. How wonderful to read Farrer's books of travel for today we can climb with him more convincingly through difficult passes and over treacherous terrain. This morning

we are no longer armchair travelers but go with shovel and scoop to help unearth the family car and get those off who must go.

The hand snow-scoop we must take by the frames that are so deeply buried. In a few short hours we will bring out boxes of seed we planted yesterday, and waiting now in the basement. Today we must place the pyroethylene covers on tight and shovel the snow from the border where we are burying our boxes this year. We must fill each box with snow before placing the cover. In expectation of high winds in March we must wire the covers on securely or they will accummulate upon the neighbors' hillside and our seed will be washed. After the tops are on securely we replace the three or four feet of snow and keep this covering on as long as there is snow to replace that which melts. There is a great difference of opinion as to the necessity of this practice but we have tried other methods and have found we do better with the freezing of certain seed. In April we get better germination and often it is unnecessary to hold over the boxes for a second year.

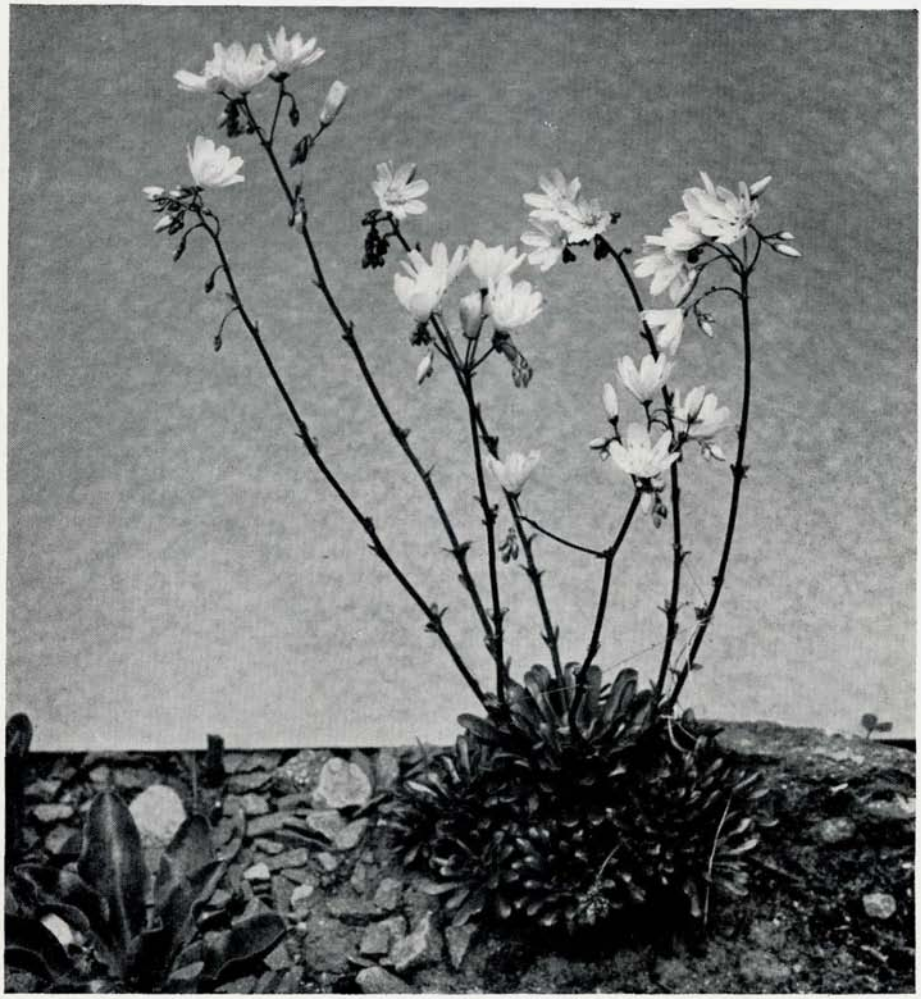
Of course there are only a certain number of subjects treated like this but lewisias are among those so frozen. Each year we keep very close records and each year we find something in the method to try to improve. I do not believe we have ever reached the point where experimentation cannot be improved. Now, however, there is a pattern of record where before we floundered in a sea of ignorance and forgetfulness. Last winter we were forced to wait until April to plant our seed. Due to work in the fall we did not bring soil into the basement. We expected to do so in early March but snow stayed until April and in consequence our seed had to be artificially frozen and our records show that the results are not so successful for alpines.

So here we are burying our boxes, as we bury them we look out upon the snow. Underneath this beauty, undisturbed by wind or thaw for many weeks or months, if we are lucky, the alpine garden will sleep. In the "cold house", which is merely a converted cold porch with glass windows above benches, last year's boxes await April germination. Since they were planted after the snows were gone, they still hang on another year. Alpine seed that is sent out so late in the year that it cannot be planted under the snow will, in many cases, take an extra year to wake up. Last year many seedlings came along in September and were therefore placed in the frames where they take up room. It is good advice when we read that boxes of rare seed should be kept two years and for luck another year sometimes. Lewisias come so often that second or third year, for the seed of our American lewisia usually comes from England.

Lewisias were new to us until a few years ago, when we began to collect and raise them from seed. We find that seedlings will blossom for us in about the same time it takes a plant to settle down and like us enough to blossom well. Of course we get hybrids from seed but have never been disappointed in any seedling lewisia raised. Our disappointments have been many upon receiving named varieties from nurseries and finding them hopelessly mixed. We are sporting enough to believe that we can grow lovely forms from seed.

I first saw lewisias in variety and in quantity when we visited the Wisley Gardens in Surrey a few years ago. There, in a frame outside the Alpine House were literally thousands growing in pots. Some few were in blossom but there were hundreds of young plants with rosettes of deep green, healthy foliage and in every conceivable size. I fell in love with them and determined to grow them at Kathelen Gardens if possible. I determined to grow them for their beautiful rosettes alone, if they blossomed I would indeed be glad.

I had grown *L. rediviva* for many years and knew well its lovely pink waterlily type of blossom. Each spring we always had heart failure until it appeared



J. Horace McFarland Co., courtesy National Horticultural Magazine

Rose-lavender Lewisia columbiana rosea.

for it is deciduous and quite tricky to keep. I returned to America with hopes of finding various species listed in the trade catalogues of alpines but found that most nurseries had gone no further than *L. rediviva* either. I found it impossible to obtain other varieties and after many purchases I ended up with a sickly *L. columbiana* and *L. rediviva* from other sources, sent out misnamed.

Finally, I turned to seed as the only means to help us get any quantity at all. This seed I first received from the Alpine Garden Society on a seed exchange. In later years seed is appearing on many seed lists and we always order all we can purchase or exchange. These seed of lewisia are among the ones we have buried under the snows today. We use a gritty compost in the seedling boxes and place plenty of drainage material in the bottom. Drainage seems about the most important thing in dealing with lewisias from seed and in the retaining of them in a healthy state in the garden. We place a thin layer of grit, hen size, over the top and sow the seed on this. We then sprinkle a tiny bit of sand over the seed

and water the seed in. We use a compost of peat, vermiculate, sand, and soil in about equal proportions and then mix about half granite grit.

We take a bottomless flat, cover it entirely with pyroethylene and tip it over the seed flat. We use carpet tacks on either part and old insulated radio wire to hold the top on, also giving free access to the box for watering. I mention old radio wire simply because it is copper, easily bent, and is at hand since I was a radio technician formerly.

We have been using the seed flats with pyroethylene covers for many years and thought it our invention but suddenly publicity came to pyroethylene and we found that many minds had worked out the same conclusions. For lewisias and certain plants who, like them, dislike wet about their crowns as they germinated we have, of late years, built tiny rock gardens in the flats. We use small stones about the size of the fist, sometimes flat and sometimes otherwise, rather on the order of England's sink gardens.

Another trick we use is to place bands in the seed flats. We do not use the commercial bands but make our own. We cut them from light tag-board or filing folders, clip them together to form the circle and dip them in wax to give them more body. They are only an inch in height but they hold the seed from washing and we have very little trouble with the mixing of seed from separate circles. We are trying another material this winter. We had on hand a number of temporary flats gotten out by a commercial firm and made of roofing material. We simply cut them into strips, stapled them and used as above. We think they will be better for the boxes that are held over the second year. So far we have not been troubled with frost heaving the bands but it might be encountered in another climate. These bands make transplanting a pleasure and if all the different species in one flat do not germinate together, any one can be lifted with a trowel and placed in another frame or box without disturbance.

We have not been able, with so many flats, to water from below but I water the flats personally with a tiny, plastic sprinkler that I bought because it was defective and allowed only drops of water to pass the tiny spout. It is an ideal sprinkler. Using this sprinkler is very slow work but raising lewisias from seed is a tedious but gratifying task also.

Our seedlings are twice transplanted, once to a frame or flat before they are planted in the alpine garden proper. With lewisias we hurry the process along for they like to reach the open garden when quite young. In the transplanting flat we again use the principle of a tiny rock garden but here the tiny seedling lewisias are planted directly instead of in circles, and are mulched with chips almost to their tips. In a short time they become separate and nice rosettes. We never transplant lewisias to the frames for they do not do as well on the level even though they are mulched with chips. They like plenty of air, pure good air and no real coddling, but at any stage they will not outlive neglect or abuse. They cannot survive with plants that overgrow them.

Our lewisias are planted high upon the alpine slope and in large crevices. This year they blossomed in every shade of pink to coral and almost salmon. They had so filled the alpine garden that we found it impossible to add tender seedlings. We, therefore, built a special type of slope for them on nearby ledges. Here also the direct sun does not beat and bake them. I have used the idea of a scree garden but have not planned to water it from below. This garden is some few yards wide and is backed by a huge granite ledge and slopes with the ledge. It faces west but the old barn shades it to some degree and cuts the winds in winter. Snows lie long and seldom does it thaw along this ledge until spring advances into the other gardens and crocuses are in blossom. Tiny androsace and saxifraga seedlings bear them good and healthy company.

J. Horace McFarland Co., courtesy National Horticultural Magazine

Lewisia howelli, *soft buff with a deep rose stripe.*

These tiny lewisia seedlings are transferred to this special chip garden as soon ase they can be handled well from the transplanting boxes. When there is to be overhead watering from the hose I place a pyroethylene covered box over the babies or use the deep waterer. This tool is connected to the hose and can be thrust to any depth up to a yard and allowed to remain. Water slowly oozes deep within the structure and I have never observed any harm done by the hole involved. It does make a scree of any portion of the chip-garden temporarily. Of course it goes without saying that a mulch of chips must go over the entire top.

I have just been rereading an account of a visit to the great gardens of Bodnant in Wales. These gardens belonged to the late Lord Aberconway who was president of the Royal Horticultural Society for so many years. His gardens are among the most famous in the world. The author states that lewisias grew by

the thousands in hybrid and species forms at one flight of stairs. I picture them growing as we grow sempervivums and picture them used as liberally. I feel again that wonderful moment beside the frames at Wisley and thrill to the thought that this great gardener, Lord Aberconway, recognized the beauty of our American plants and gave them such a beautiful setting in that famous garden.

When we passed very close to Bodnant we heard of Lord Aberconway's illness. He died shortly afterwards. We laid aside our letters of introduction and did not intrude upon his garden although it had been an objective before leaving America.

Packages of seed arrive almost daily at Kathelen Gardens from all over the world. It is a wonderful thing to grow so many plants from seed but no seed or plants give us more pleasure to raise or to keep, than lewisias. None is easier after the infant stage and in spite of the length in telling they are not too difficult at any stage. None attracts more attention whether in or out of blossom and no other plant mingles more with our dreams of a future beautiful garden than these. There are so many dreams and stories in the growing of alpines from seed!

Now, as the sun dips in a pink haze over the horizon and sheds its eerie blue-pink glaze over the snow we bury our last treasured box and happily sigh our contentment. How good it is that these four beautiful seasons come to New Hampshire! If we had the need to choose one season to omit, we could not quite decide to forego this wonderful winter season. We hear so much of harsh New Hampshire but we are glad that our gardens do not thrive without effort and special care, for without effort there is dreary monotony and a too easy confidence. Without special care there are not special rewards. At Kathelen there is no monotony, but only the great beauty of four full seasons—truly an exciting plan!

To "Timmy" and "Ginger" there is excitement only in reaching the door first, close upon the heels of a dreaming mistress. Inside, beside a fire, a cat and a dog may also dream of summer gardens and summer excursions. Lewisias just couldn't be as much fun as chasing chipmunks or catching moles!

ANEMONE APENNINA AND *ANEMONE BLANDA*

R. GINNS, *Desborough, England*

IN THE JANUARY NUMBER of the *Bulletin,* Dr. Lawrence writes of these two plants mainly from the point of view of the botanist and states that the latter is merely the eastern representative of the former. Writing as a mere horticulturist I must say that from a garden point of view they are very distinct. Their requirements are quite different, probably due to the different environments from which they are drawn.

A. apennina does well in light shade and is quite happy to form big drifts under shrubs on the outskirts of the rock garden. One of the loveliest sights I have seen was a small copse in the grounds of Newnham College, Cambridge, carpeted with the blue of this anemone. The tubers spread in all directions like our native *A. nemorosa* and a few tubers soon covered a wide area. The flowering season is late April.

A. blanda, on the other hand, likes a sunny, warm exposure. In my experience, covering many years, the tuber shows no inclination to spread and the plant remains for years as a compact clump. This year the flower buds and leaves were in evidence on New Year's Day, a difference of at least three months between the two species.

NOTES FROM OREGON

MRS. PETER H. GOURLEY, *Oakland, Oregon*

SINCE MOVING to our new location last fall, I have had the opportunity to try many of my old favorites in a new environment: in particular, to note the effect of the change from rich, heavy, river loam to the poor, well-drained, gravelly soil of the hillside at our new home.

In almost every instance the change has resulted in improved growth and much heavier flowering. Good examples are *Dianthus gratianopolitanus* and similar types, such as *D.* 'Tiny Rubies'. I have had them for over five years, and until this year they had bloomed only lightly, but now, planted in the crevices of the retaining walls of my terraces, they have covered the rocks like moss and bloomed profusely until really hot weather stopped them. *Veronica armena* has acted in the same way, now growing and spreading vigorously.

The most spectacular change occurred in the shrubby penstemons. Planted in the subsoil excavated when the site for house and garage was levelled, they have grown luxuriantly, nestling their branches tightly against the loose gravel, just covered with foliage. *P. davidsonii* (a variety of *P. menziesii*) is the midget in my collection, while *P. barrettae* has the handsomest year-round foliage. *P. crandallii* is very different in appearance from such kinds as *P. fruticosus,* with very narrow leaves, somewhat resembling *Veronica armena.* I am very fond of the flowers, small and of a rather feeble blue, but blue, not lavender-blue. Mine bloomed all spring and summer and into the late fall. I have planted it by *Gypsophila fratensis,* to complement the equally pale pink of its blossoms. *G. fratensis* makes lovely foliage mounds, and has bloomed continually, almost white in summer, now, in late fall, a bright pink.

I greatly admire *Eriophyllum lanatum,* and it admires gravel banks to grow in. It varies greatly in flower, foliage, and habit. Growing wild here it varies from forms only slightly toothed to one with extremely cut leaves. The flowers of some are over two inches across, while many are only an inch. The height of flower stems differs also, as does the growth, some being much more upright. They are summer bloomers, and love sun and dry soil. The best ones I have had I grew from seed; some of these were almost orange, others clear yellow, but all had short sturdy stems and were between six and one foot tall. I lost these desirable ones when I moved. It seems to me that the greatest enemy of these plants, and of others of similar nature, is grass. They stand neglect in watering, do not care for cultivation, but let them be overgrown by grass and they fade away. They never grow here in grassy meadows, but where grass is thin on steep banks and rocky hills.

Oenothera is a genus with which I should like to become better acquainted. I wonder why there are so few varieties available. I grow *O. fruticosa* in the border and *O. missouriensis* among the iris. I now have *O. serrulata* and *O. lavendulaefolia;* both are jewels for the rock garden. The flowers of *O. serrulata* are quite small, and the foliage is fine. It blooms freely and long. *O. lavendulaefolia* has larger blooms and leaves. I have not had it long enough to report on its habit when mature. This year I grew the annual delphineums 'Blue Mirror' and 'Azure Fairy' among the clear yellow of the evening primroses, an enchanting combination. I have never had much success with the annual larkspurs before. Slugs seem to find them irresistible and won't leave a leaf above ground. Therefore I planted them in boxes, and kept them there much longer than usual before setting out in the garden.

I brought home a lovely, fragrant, white oenothera from the mountains of northern California, spreading, but not tall in the wild. The ones I moved bloomed on and on and set seeds, some of which I have sent to the seed exchange. The flowers are day-blooming, between two and three inches across, and wonderfully fragrant. Many of you may already have it, but it is new to me.

Last year I had *Meriolix melanoglottis,* ordered from an ad in the BULLETIN. It was lovely all summer with big crinkly flowers on spreading plants. I had to move the plants in late fall and they did not come up again, whether from cold or other causes I do not know. I look forward to trying it again.

My aim is lavish summer bloom on my "rock garden" bank, so there is not much showing in very early spring, but I do include *Anemone fulgens* and *A. blanda.* They disappear completely in summer so are not unsightly then. The bright scarlet color of *A. fulgens* is rare so early in the season. I grow mine among snowy *Iberis sempervirens.* This anemone is a very early bloomer, sometimes February, but always by March. The flowers open only on sunny days, so in rainy, cloudy springs it is not its usual showy self. It starts to flower much earlier than the candytuft, but is still blooming with the latter, if there has not been too much hot weather. *Anemone blanda,* the blue variety, grows among primroses along paths rather than among the alpines. It is earlier than *A. nemorosa* or *A. apennina,* which I have in shadier places among azaleas and dwarf rhododendrons.

Aethionema seems to do well everywhere, and *A.* 'Warley Rose' is a universal favorite, but I prefer *A. schistosum.* Every time I see its lovely pink flowers, I think of a soft pink cloud. There is nothing visible at blooming time but the flowers, light pink, of a uniform color which does not darken or lighten as the stalks lengthen, just a soft pink fluff for a very long period. Unlike *A.* 'Warley Rose,' *A. schistosum* is fragrant, a light sweet fragrance just in keeping with its appearance. The plant, before and after flowering, is lovely too. Its tiny leaves are almost blue, like those of a blue spruce. I find it utterly delightful and easy to grow. I grow 'Warley Rose' too, and several others very like it.

On the steepest and most inaccessible part of the bank, I am planning a rampant mass of prostrate rosemary and *Polygonum vaccinifolium.* This prostrate rosemary has bright green leaves, not grey ones like those of the taller type. The flowers are pale blue and appear during the winter as well as at other times. The plant is a husky grower, as is the polygonum, but so far they have not "ramped"; in fact they barely survived the move, so I cannot report on their suitability as companions. Their neighbors are *Juniperus hornbrooki* and *J. procumbens nana glauca,* both compact. I have had them three years and they are still flat on the ground and not a foot across.

No garden is complete without the indispensable gray-foliage plants. *Artemisia schmidtiana nana* and the forms of *A. frigida* look alike to me except for size. Many people around here have never seen them and always comment on their soft fluffy appearance. An artemisia should, perhaps, be drought resistant, but mine require some water to keep that round unbroken fullness. Plants not watered at all will live, but fall apart and shrivel their foliage before fall. Also they need light soil, sandy or gravelly. I think they look fine with everything, but a color that is hard to use, or is pale and washy, puts on a new complexion when used with the silver of the artemisias. Examples are *Silene schafta* and some of the fall Oregon asters such as 'Pacific Amaranth.' Cream flowers and the blue of Delphineum 'Azure Fairy' are ethereal when viewed among 'Silver Dome.' A plant that I have never seen mentioned, although no doubt many of

you have it, is *Anthemis biebersteiniana.* Its leaves are just the same silver color as that of the artemisias, and it makes the same kind of billowing plant. Mine have not bloomed freely, as other anthemis do, but they may do better when I quit moving them so often. It is now November, and the artemisias have gone dormant, but the anthemis looks like it did all summer. It is a trifle greener, but still very silvery. *Cineraria* (or *Senecio*) 'Diamond' is another gray-leaved standby. It has rather ferny, very white foliage, grows about a foot high and four feet across. All summer it just sits there, being its same ornamental self, getting wider but no taller. It is planted about eight feet apart along the top of the bank edging the driveway to the garage. It would be evergreen, but gets uncouth in winter, so I cut it almost to the ground in February (it makes fine compost material). If not cut back like that it is unshapely the next year.

Next year, no doubt, I shall learn a lot more about a great number of plants, and hope to report on them.

CORYDALIS OPHIOCARPA

EDWARD EAGER, *New Canaan, Conn.*

THIS SPECIES, seeds of which will be found opposite my number in the next seed exchange, has been in my garden for six years, but it was five years before I knew for certain what it was. When I started my first garden, seedlings came to me from "the friend of a friend," with the message, "I don't know the name of this, but he'll like it."

Two years of rock-gardening, and the reading that goes with it, convinced me my mystery plant was a corydalis, but I still didn't know the species. The one local nursery that carried the plant didn't know, either.

My original plants survived the move to my second garden, and their progeny to my third and, I hope, permanent one; then they were lost when the Silvermine River flood washed away half my plantings. I went to the local nursery, but they were no longer propagating the plant. There were a few specimens in their display garden, not for sale. However, I took a look around, saw a number of self-sown seedlings growing in the dust of the road-edge, and with no twinges of conscience at all, snaffled a couple. The next year Mr. Harkness sent me seeds of *G. ophiocarpa,* and when they came up, the plants were identified with my mystery species.

Corydalis ophiocarpa may perhaps not appeal to everyone. The blossoms, of a "yellowish-whitish-greenish" color, are certainly not showy, but cool and pleasant in effect, and the foliage is to me the most beautiful among the commoner corydalis; less ferny than *C. cheilanthifolia* (I hate a fern), more substantial than *C. lutea* and not so gawky as *C. sempervirens.* In a shady wall the plants grow very large, and the leafage (at least so far for me) retains its grey-green color. In a drier, but still half-shaded spot, the leaves, any time from midsummer on, turn an odd but very attractive shade that can only be called a greenish red. Ryberg's monograph on the corydalis does not mention this peculiarity, but Mrs. Wilder, always a lover of the corydalis, speaks of it in one of her books, and it was this sentence of hers that first led me to suspect that *C. ophiocarpa* was my mystery species. The "red" plants are enormously appealing, with none of the bold obviousness of most colored foliage.

Another perculiarity of the plant is the twisted, serpentine seed pod. Seed of *C. ophiocarpa* germinates quite well for a corydalis, even after storage. The plants are not long-lived, but self-sow—just enough to be gratifying and not enough to become a nuisance.

SPRINGTIME ON THE BANKS OF THE MISSISSIPPI

PETER P. KRIEGER, *Princeton, Iowa*

THIS IS THE STORY of our wildflower sanctuary on the banks of the Mississippi. Mother Nature constructed the deeply pitted limestone cliffs for us ages ago. No human hands would be able to build such a perfect setting for our native wildflowers. The meandering paths lead us to the shadowed parts of our rock gardens. We have here different aspects and environments for a great variety of our native wildflowers.

Trillium nivale is one of the first harbingers of spring to push through last fall's brown leaves. As the name trillium indicates, the petals, sepals, and leaves of all members of the genus come in threes. The white petalled flowers of this miniature trillium are borne on ascending stalks. This plant can be successfully grown in neutral or slightly limy soil and is able to endure more dry weather than most other members of the family.

Perhaps the showiest of all trilliums is *T. grandiflorum.* It has white flowers turning pinkish before they fall. We grow this plant in ordinary garden soil. *T. erectum* has white, yellow or red flowers. We have in our gardens only the dark red form which has a most unpleasant odor. It prefers a cool, moist and somewhat acid soil.

T. stylosum and *T. cernuum* are two graceful species with pink flowers. They enjoy a rich, moist and woodsy soil. The flowers of *T. cernuum* come on short, downward-curved stems which give the plant its common name, "Nodding Trillium". *Trillium sessile,* the red toad trillium, and *T. sessile luteum,* the yellow trillium, are thriving in our gardens in the same peaty soil that suits most of the species.

Later in the spring comes *T. undulatum,* which is probably the most difficult plant in the genus. It likes a shady, cool, moist, rich and strongly acid soil. The flower, white with a pinkish flush toward the base, come on erect stems.

Truly a part of the early springtime on the wooded slopes of the Father of Waters are the erythroniums. We have in our gardens only *E. albidum; E. americanum,* the yellow trout lily, is still absent. There is always an abundance of small silvery green, brown-mottled leaves but only a little bloom in the erythronium patches. They propagate themselves by offsets and seeds. The ripened seed falls and soon sends a tiny root into the moist soil. Each year the plant comes up with a single leaf and produces the plant food to be stored in the growing bulb. Finally in the spring of the seventh year the bulb sends up two leaves with a budstalk between them. Suddenly on an early spring morning the little bud opens and there is a perfect miniature lily with six back-curving petals, a long pistil, and yellow stamens, to reward us richly for the seven years' long wait.

Very early in the spring here in the rich, rocky woodsoil emerge from the knobby pinkish bulbs the pale rolled up leaves of *Dicentra cucullaria,* the Dutchman's breeches. The grey-green ferny leaves unfold, and on a curving stem hangs a row of dainty creamy white or pinkish blossoms, which look, despite their charm, like a row of baggy small pants of a Dutchman from far off Holland. The delightful plants come up year after year and are easily grown in a half shady position in our rock gardens.

While the soil is still wet from the winter's snow, and the leaves of the trees have not yet unfolded, the pale green shoots of the bloodroot, *Sanguinaria canadensis,* appear. A large yellow-veined leaf is wrapped like a hand around the solitary flower stem. The bud unfolds, opens and displays the full beauty of the many petalled white or pinkish blossoms with their numerous yellow stamens.

George Massa, courtesy National Horticultural Magazine.

The difficult painted trillium, T. undulatum, *white with red lines at base of petals.*

S. canadensis is a brief and fleeting flower and the blossoms last only a day. At first we have only a few flowers but in a few days the sun shines on the full vernal glory of the hillside covered with a multitude of the white poppy flowers. Although the bloodroot does not outwardly resemble the poppy, it is nevertheless a member of that family. When crushed the thick fleshy rootstock exudes a blood red juice, which gives the plant its common as well as its botanical name. The juice of the plant is of pharmaceutical value and has been used since time immemorial for bronchial affections.

Another of the earliest flowers in our wildflower sanctuary is *Hepatica acutiloba.* The three-lobed bronzy leaves are evergreen and make a valuable groundcover. Suddenly on a March or April day the hepaticas come into bloom, putting forth their pale blue, lavender, white, or pink blooms in the noonday sun, and we may see the bees gathering pollen from the anthers. During cloudy days, or at night when the dew falls, the flower droops and protects the precious yellow pollen from harmful moisture. The hepaticas grow in our garden in deep shade, but seem not to be particular about soil, as I have grown them well in limy, neutral or slightly acid soil.

Great colonies of anemones cover our hillsides in early spring. *Anemonella thalictroides,* our native rue anemone, is one of the many that thrive here underneath the trees. Its five to eight petalled flowers come several in a group, while that of *Anemone quinquefolia* is solitary on a slender stem. The anemones are of the easiest culture, quite indifferent to soil, and adjust themselves cheerfully to the change from their shady woodland home to a sunny pocket in the rock garden.

When one stands on top of the hill and looks toward the bottom of it, the colony of *Mertensia virginica* looks like a little blue lake. As we walk down to give them a closer inspection, we see the clusters of pendent bells with apple-blossom pink buds, changing gradually to fully opened bells of richest blue.

We have not only American natives in the wildflower section, but many bulbs and early spring flowers from other lands are naturalized there. But the natives have always fascinated me most, and they will always be my first love.

Standing on top of the hill on an early morning in April, looking at the glorious spring flower display below, the majestic Mississippi flowing toward the sea, and the sun rising above the timber on the opposite side of the river, one gazes on a sight that will linger in the memory long after the spring flowers have faded.

NEW ENGLAND GROUP

MADELINE HARDING, *Cambridge, Mass.*

A short business meeting of the New England Group of the American Rock Garden Society was held on June 9, 1957 at the garden of Mrs. Ruth E. Hunkins, Plaistow, New Hampshire.

Officers elected for 1957-1958 are:

Chairman, Mrs. Robert W. Manton, Durham, N. H.
Vice-chairman, Mrs. Benjamin L. Smith, Concord, Mass.
Secretary-Treasurer, Miss Madeline Harding, Cambridge, Mass.
Executive Committee:
Mrs. L. Dwight Granger, Warren, Mass.
Dr. Helen C. Scorgie, Harvard, Mass.
Stephen F. Hamblin, Lexington, Mass.

On May 19 the Group visited the gardens of Mrs. Robert W. Manton, Kathelen Gardens at Durham, N. H. Plants were brought for exchange at both meetings.

George Massa, courtesy National Horticultural Magazine.

Typical Trillium erectum, *maroon with cream stamens.*

TWO FRITILLARIA SPECIES FROM BRITISH COLUMBIA

REX H. MURFITT, *Penticton, B. C.*

Fritillaria pudica and *F. lanceolata* in the Okanagan Valley are as contrasting in appearance as they are in their choice of habitat, the former with its rich yellow bloom and love of the hot sunny hillsides, the dark snake heads of the latter barely discernable among the cool greens of the woods.

F. pudica extends from British Columbia to North Mexico and eastward to Alberta, Idaho, Utah. Mission Bell, one of its common names, has a pronounced Latin flavour that serves to substantiate the southern extent of its distribution. It commences flowering here in early April, and the solitary pendent five-petalled bell is suspended three to five inches from the ground on a slender stem adorned with two or three grey-green oblanceolate leaves. Some descriptions credit *F. pudica* with nine inch stems and one to three flowered racemes. The diminutive fellows seen barely attained the five inch mark. More than one bloom per bulb, even after several hours of wandering through them, was never discovered. However, the soil of their hillside home is certainly not of the best and with such a wide distribution, variations are bound to occur. *Ochrocodon pudicus,* a synonym, is evidence of some confusion.

The discovery of a single stem with a drooping green bud, growing in a shady hillside wood, caused considerable research. It remained a mystery until the spot was revisited several days later, to find a whole colony of *F. lanceolata* in full bloom. A large group in flower is not easily noticed, as the chocolate brown flowers, heavily spotted with greeny-yellow, blend so well with the dappled green light of the woods. There were several hundred nodding flowers on stems fully eighteen inches tall, and a slight breeze tilted the flowers to reveal the yellow stamens. The average bloom is about 1½ inches long. The stronger bulbs carried three and four flowers dangling from stiff stems, beset with whorls of ovate lanceolate leaves. Rice Root, a common name sometimes used, is derived from the appearance of the tiny bulblets adhering to the white bulbs.

Compared with some of the other American fritillaries they respond to garden culture quite well if placed with consideration—semi-shade, with well-drained woodland soil, for *F. lanceolata. F. pudica* is a little more temperamental, for it resents disturbance and may take time to settle down and begin flowering. An open position with gritty soil, or a scree, where again the drainage is perfect, will suit its personality.

These two species are, like a great many more of the genus, not by any means a colourful or enduring addition to the garden, but to the connoisseur they possess a fatal fascination.

GILLENIA OR BOWMAN'S ROOT

GRACE F. BABB, *Portland, Maine*

THERE ARE SOME TALL PLANTS which are very useful for background in the rock garden in spite of their height. Gillenia is one of those of which I am most fond. There are two similar species, *G. trifoliata,* Bowman's root, the one I am growing, and *G. stipulata,* American ipecac. Another name for either is Indian physic, evidence of their colonial use! Both are hardy native plants growing from Ontario and New York state southward, in rich moist woodlands.

Bowman's root is pictured and described in the House Wild Flower Book under the name of *Portantherus,* although the picture fails to do justice to the

red stem coloring. The gillenias have also been placed among the spiraeas which they follow botanically in the huge Rose family. The general appearance is much like that of the shrubby spiraeas, but these plants are actually hardy perennials and die back below ground over winter.

Gillenia is rather slow-growing, for the leafy stems reach shoulder height of about four feet only after several years of growth, and the clumps increase very slowly. Color interest begins in early spring (though not extremely early) with bright rose-red stems emerging and shooting up quite rapidly. These turn brown as they mature but often retain a reddish tinge, especially on the youngest branches, and blossom stems are bright red. The foliage is dark green and thin-textured, the leaflets sharply toothed and three-lobed, but not cut so deeply into the center as to appear like single leaves, especially as they are stemless.

Many long-stemmed panicles of slim red buds develop in mid-June, uncurling to a profusion of dainty white or palest pink flowers. The slender inch-long petals are uneven in length and blow flirtatiously in the breezes. Both the calyces and tiny stamens are bright red, as are the flower stems, making a lovely picture. The whole effect of a clump in bloom is much like that of our New England shadbush or serviceberry, Amelanchier. In spite of their fragile appearance, the sprays of bloom are quite long lasting and very useful in bouquets.

Even the seedpods are interesting in their own right, little five-sectioned pods of red-brown, very slow to ripen and open. They are among the last seeds to be gathered around the garden and often have to be crushed to free the tiny hard seeds in time for the seed exchanges. Seeds germinate easily from fall or spring sowing (they probably need real or artificial freezing) but I have never found any self-sown seedlings in the garden. The little plants probably need the protection of a frame over the first winter, as do many seedlings here.

The gillenias are naturally woodland plants and probably prefer some shade and moisture and a slightly acid soil with leafmold. They have the reputation of being easy in cultivation, and so mine have certainly been. Mine are in an open location near the top of a small slope, with variable shade of nearby shrubs, and other woodland plants around their feet. Wild geraniums and the many forms of *Geranium sanguineum* bloom at about the same time for interesting companions.

BOOK REVIEWS

The Little Bulbs. By Elizabeth Lawrence. 248 pages. New York: Criterion Books, 1957. $4.00.

Books on bulbs tend either to be learned and heavy, making extensive use of technical descriptions and of quotations from the older writers, or to offer little more information than can be found in a good bulb catalog. Miss Lawrence has avoided both of these pitfalls, and has given us a book delightful to read and full of valuable information.

Subtitled "A Tale of Two Gardens", it is actually one of three, the author's present one in Charlotte, N. C., one which she had for many years in Raleigh, under rather different conditions, and Mr. Krippendorf's (his first name is never mentioned) extensive woodland plantings near Cincinnati. Occasional comments from other gardeners add to the scope of the book, which presents a fair picture of the bulb situation throughout the east, although it must be realized that some of the hardy species will be more satisfactory in a colder climate. The information given seems thoroughly reliable, although differing in a few cases, as is to be expected, from the reviewer's experience.

Miss Lawrence writes only of those bulbs which she or Mr. Krippendorf has actually grown, although as is customary she uses the term "bulbs" in the

broadest possible sense, and includes many dicotyledons. More than a few of the species treated are still little known, and there can be few gardeners who will find in these pages no mention of unfamiliar material, or of plants that can be obtained without long search. Even passing mention of the garden hyacinths, tulips, and narcissi, the principal subjects of most books on bulbs, is scrupulously avoided.

The first chapter deals with bloom in the dark months of the year, rather demoralizing to a gardener in a climate where the Christmas rose may not open till after Easter. Along with the earliest true bulbs, there is discussion of *Anemone blanda* and other ranunculaceous plants. Chapters are devoted to snowdrops and snowflakes, scillas, daffodils (in which there is some rather harsh comment on the miniature hybrids), hardy cyclamen, oxalis, colchicums and crocus, of which the winter-blooming species are almost useless in a cold garden, where they may live for years before they attempt to open frost-bitten blooms under a cloudy sky.

The section on amaryllids deals with plants not hardy in the north, as does that on the Cape irids; they must be grown as summer bulbs or in pots, for which Miss Lawrence thoughtfully gives detailed information. The bulbous iris are treated all too briefly to satisfy a lover of these fairly easy but still almost unknown gems. Among liliaceous plants, the alliums receive considerable attention, with mention of some unusual species. Discussion of western bulbs seems rather futile at the moment, for very few of them are available anywhere, and Miss Lawrence's words can do little but arouse longing for these beauties which have become almost unobtainable, even as seed, since the death of Carl Purdy. Trilliums are treated at length, as are tulip species, although muscari are passed over rather hurriedly. A chapter on sources of bulbs completes the book.

There are no illustrations, not even a frontispiece, which may disappoint some readers, but for these one can turn to catalogs, or to Mrs. Wilder's "Adventures with Hardy Bulbs", where unfortunately the photographs are arranged haphazardly, without benefit of index. There are a few typographical errors, and Alida Livingston is "Miss", not "Mrs.".

Altogether, this is a most enjoyable book, which we are happy to recommend —the more so as there is nothing else available at present covering the same material. We expect to reread it frequently, for pleasure no less than for information.

Handbook on Soils. Various authors. 80 pages, 70 illustrations. New York: Brooklyn Botanic Garden, 1957. $1.00.

The latest in this valuable series of paper-bound Handbooks presents articles by twenty-five leading authorities, which cover the subject of mulches in great detail, stressing their advantages but at least suggesting some of their drawbacks, and examining the relative values of a large number of mulching materials.

Dr. George L. Slate, long an advocate of the use of sawdust for mulches, covers the entire subject briefly but thoroughly, answering many questions which have puzzled less learned gardeners. The articles which follow are little more than an amplification of his remarks. Helen S. Hull is concerned with the aesthetic effect of mulches, stressing the use of ground covers. Cynthia Westcott takes up the important question of diseases, but confines her attention to roses and camellias. Mulching practices at the Arnold Arboretum, Longwood Gardens, and the Brooklyn Botanic Garden are reported in detail; Ruth Stout sums up the important points of the unique method described in her recent book "How to Have a Green Thumb without an Aching Back"; several types of plant are dealt with individually.

A directory of mulches lists twenty-seven materials, with notes on their availability and brief comments on their uses. Most gardeners will find that only a few of these materials can be obtained easily, and without considerable expense. It will pay to study the table and the related articles very carefully to determine how one's needs may best be satisfied.

Mulching is of great value to the garden, preserving soil moisture, improving its texture and adding nutrients, as well as keeping down weeds. But it is not a panacea, and its value will be greatly increased by careful study and application of the information in this Handbook.

Trees and Shrubs for the Southern Coastal Plain. By Brooks E. Wigginton. 160 pages. Athens: University of Georgia Press, 1957. Paper. $2.50.

Designed for gardeners on the Southern Coastal Plain extending from North Carolina to eastern Texas, this book nevertheless contains a great deal of information of interest in other regions.

Divided into eight sections according to the height of the woody material under consideration, it first lists the twelve (usually) species of greatest value in a particular height interval, follows this list with another of material of secondary value, and then discusses in detail each of the plants mentioned, as well as some less-known or inadequately tested shrubs of potential value. In each case, the appearance, placing, needs and general value are examined in detail.

Much of the material under consideration is of course tender, yet the northern gardener will find information on many plants which he can grow successfully, while the knowledge of southern shrubs and trees contained in these pages will add greatly to the enjoyment to be derived from a visit to southern gardens. The book is well worth reading for general horticultural information.

ANNUAL MEETING, 1957

EDGAR L. TOTTEN, *Secretary*

THE ANNUAL GATHERING of the Society took place on May 25 with a visit in the forenoon to the garden of our fellow member, Mr. William L. Gotelli, at South Orange, New Jersey.

The Gotelli garden is a formal one situated at the top of South Mountain overlooking New York City and contains a collection of rare conifers, azaleas, and hollies seldom seen outside of a large arboretum. It is hoped that an article describing some of this excellent material will appear in a forthcoming issue of the *Bulletin*.

Our schedule called for the departure from Mr. Gotelli's garden at one o'clock for lunch and then the garden of Mr. and Mrs. George W. Merck at Eagle Ridge Farm in West Orange, but due to the intense interest shown, we were late in arriving at this second garden. The Merck garden is a less formal one and contains an artistically constructed woodland rock garden, the home of many interesting and unusual plants, and a large air conditioned greenhouse devoted to the culture of hundreds of rare orchids from all parts of the world.

A short director's meeting was held in the afternoon, followed by the members' annual meeting with President Epstein in the chair. The only items of importance to come before the meeting were the submission of names of three directors to replace those whose terms of office expire this year. The present directors were unanimously re-elected, but since the by-laws provide for three groups of

three directors serving three year periods instead of two groups of four and five directors as presently constituted, it was voted to reassign the directors in accordance with the by-laws. The secretary was instructed to form a committee to carry out the reassignment. Mr. Henry R. Fuller of Fairfield, Connecticut, has agreed to head the committee.

The ever debatable question of publishing a roster of members was brought up and a vote resulted in its favor. It is planned to mail the roster with this issue.

The president again stressed the need for material for the *Bulletin* and said that the *Bulletin* can be only as interesting as our members make it by their contribution of articles pertaining to their successes as well as failures in growing rock garden plants, their field visits in search of native material, and the construction of their gardens.

The secretary reported a paid membership of 636, which is perhaps the greatest the Society has shown. This figure does not include the second member of a family membership. If these and the honorary, exchange, and other memberships were included, our total membership would be 726.

The financial report was read by our treasurer, Mr. Alex D. Reid, and in spite of some very large non-recurring items during the year, we were still able to show a small financial gain. Should we be able to retain our present membership, it is felt that our income for the next few years will be ample to cover our expenses.

AMERICAN ROCK GARDEN SOCIETY
TREASURER'S REPORT
Year Ending March 31, 1957

Cash in bank at March 31, 1956			$2,945.48
Receipts for the year:			
Current dues—1956		$1,580.63	
Dues for prior years		35.00	
Prepaid dues:			
Year 1957	$1,346.50		
Year 1958	197.50		
Year 1959	65.00	1,609.00	
Advertising in Bulletin		166.18	
Sale of Bulletins		140.35	
Seed Exchange		72.09	
Gift		3.00	
Postage		1.48	
Total receipts		$3,607.73	
Disbursements:			
Bulletin expenses:			
Printing	$1,368.66		
Cuts	58.00		
Mailing and postage	206.43		
Editor's compensation	300.00		
Printing—12 year index	364.50		
Printing—index Vol. 13 and 14	185.00		
Mailing permit	20.00		
Total Bulletin expenses	$2,502.59		

General expenses:			
Secretary's compensation (14 months)	$ 350.00		
Printing and stationery	200.35		
Postage	143.34		
Typewriter purchased	50.00		
Mailing machine purchased	191.36		
Seed Exchange printing	116.00		
Meeting expense	10.00		
Dues to American Horticultural Society	10.00		
Telephone	7.69		
Office supplies	8.23		
Total general expenses	$1,086.97		
Total expenses		$3,589.56	
Excess of receipts over disbursements for the year ending March 31, 1957			18.17
Cash in bank at March 31, 1957:			
Citizens First National Bank & Trust Co., Ridgewood, N. J.:			
Checking account		$1,963.65	
Savings account No. 3701		1,000.00	$2,963.65

Respectfully submitted,
ALEX D. REID, *Treasurer*

FIRST REGIONAL MEETING OF THE NEWLY REACTIVATED SOUTHERN UNIT

RALPH W. BENNETT, *Regional Chairman*

REACTIVATING THE SOUTHEASTERN UNIT after years of dormancy was at first a frustrating and later a rewarding experience. In January I sent a mimeographed questionnaire to all 42 members in the area, which includes Maryland to the Mississippi below the Ohio and south to the Gulf. The questionnaire asked whether the member would be interested in regional activities, and specifically in regional meetings, a plant exchange, a seed exchange, and a round robin. Only 22 members replied to the questionnaire and of these, seven said they would be unable to participate in any way. This left only 14 out of 42 who said they would participate, and of them only 10 indicated interest in regional meetings. Even those who said they might come to a meeting had so many conditions attached that it looked as if no date would suit more than a few. In spite of all this, I set a meeting at my house on May 25-26, this being the best compromise between the dates asked for and also a time when I knew my garden would be looking good. I sent out an invitation to all members in the area, including those who had not replied to the original letter, except those who said they could not participate. I kept telling my wife until the last moment that if more than two or three members showed up, I would be surprised. I was equally skeptical about whether enough members would attend to make a meeting next year worth while.

The weather preceding the meeting did not help either, being disagreeable right up to the last day. But Saturday couldn't have been more perfect. The

morning dragged on and I thought my gloomy predictions were going to be fulfilled, but around noon people began arriving and by two o'clock nine persons had assembled. Of all the members who did not reply to the original letter, only one responded to my second letter, and he responded by showing up. It is clear that about half the members in this region are not interested in meetings. But one non-member, a friend of mine in Arlington who came at my invitation, joined the society during the meeting.

A couple of hours were spent looking at the plants in my garden and talking about them. Because of the size of the garden, I had the greatest difficulty shooing them all into one spot even momentarily so I could take a picture of them. Then they drifted apart again and I wondered how I could ever entice them to converge for a business meeting. But Annie unwittingly solved the problem by announcing that cold drinks were being served on the porch. The afternoon having turned warm, the cool drinks and the shady porch accomplished what I might not have been able to. After we had refreshed ourselves I seized the opportunity to call a business meeting, promising that it would not last more than five minutes.

Rather to my surprise, enthusiasm was high. All members, even some who had seemed skeptical about whether regional meetings would be worth while, seemed to be having a fine time. All voted without hesitation to have another meeting next year and agreed to come if nothing unforeseen prevented them. Mr. Fischer expressed what seemed to be the sentiment of the group when he said: "It isn't so important what we say or do at the meeting as just the fact that we get to know each other personally. After this, when I have a problem, I can write to someone who I know can solve it, but as someone whom I know personally and not just as someone whom I have read about." Dr. Gabrielson offered to be the host, at his large country estate outside Washington, at a time which will find him at home between his frequent trips in connection with wildlife management.

So many of the members had other things to do Saturday evening, including wanting to get back home, that we canceled the projected showing of slides. We voted to have no formal organization, with dues, treasurer, secretary, etc., which some of the other regions have. We will try to get along on an informal basis.

On Sunday seven members assembled for a garden tour, including two from Memphis who had arrived during the night. We went to see Dr. Gabrielson's garden and spent several hours looking at his large collection of interesting plants. Five members then went on to Middleburg to see Mrs. Seipp's rock garden, even though we knew she was out of town. I am sorry to say that the Washington area is quite deficient in rock gardens as compared to the area around New York City; and, with people coming from a distance and some wanting to get home at the end of the first day, it became apparent that garden tours, at least around Washington, are likely to be only a minor feature of our regional meetings.

This first regional meeting was quite different from the ones that I have read about in other regions. It consisted primarily of making people acquainted with each other, rather than of lectures, slides, or formal discussion. It also showed that the area is too large to have regional meetings only in one place. No one attended from the southern half of the area except Mr. and Mrs. Madlinger, from Memphis, Tennessee. We shall have to try to arrange for regional meetings farther south. But the meeting accomplished its purpose. The enthusiasm of the members who attended, 14 including Mrs. Bennett and myself, and their obvious enjoyment of each other's company, were to me a surprise and a

delight after all the discouraging preliminaries. I now realize that even a small number of people, if they are interested in the same thing and enthusiastic, can make any regional meeting worth while. The Southeastern Unit seems to have gotten off to a good start.

MISS ELIZABETH GREGORY HILL

MISS ELIZABETH GREGORY HILL, ardent gardener and conservationist, a vice-president of the American Rock Garden Society since 1941, passed away at her home, Sea Breeze Farm, Lynnhaven, Virginia, on July 5, 1957. Miss Hill was a charter member of the Society, having joined at the organization meeting in March 1934.

The daughter of the late John Thompson Hill, Jr., and Elizabeth Bembury Collins Hill, she spent her childhood in a brick town house, built in 1810, and still one of the show places of Portsmouth. Upon graduation from the Leach-Wood Seminary in Norfolk, she taught there for awhile; she also taught elocution at a school for girls and a school for boys in Norfolk.

In 1918 she came with her brother, the late William Collins Hill, and her four sisters, the late Miss Mary Chandler and the late Miss Blanche Baker, and Miss Fanny Calvert and Miss Evelyn Collins who survive her, to Lynnhaven, purchasing land that had once been the site of the Old Glebe of Lynnhaven Parish where the first colonial court was held more than three hundred years ago. They gradually developed beautiful "Sea Breeze Farm" with its many and varied plantings, its arboretum and bird sanctuary.

The officers and members of the American Rock Garden Society visited "Sea Breeze Farm" in May 1949. The writer and her husband and daughter spent a never-to-be-forgotten week-end there in May 1952, listening to Miss Hill and her sisters tell story after story of the difficulties they surmounted and the amusing incidents that occurred as they wrestled to transform a deserted potato field into a garden spot rich in magnolias, hollies, oaks, camellias, roses, azaleas, rhododendrons, and a host of other plants. Only a few years ago Miss Hill imported a collection of hybrid rhododendrons from Exbury Estate, Southampton, England.

Miss Hill was the founder of the Princess Anne Garden Club, which was organized at "Sea Breeze Farm" in February 1932, and served as its president for twenty-three years. When she resigned that office in 1955, she was elected honorary president. She was an honorary member of the West Park View Garden Club of Portsmouth and helped with its War Memorial Building, furnishing and donating books for the William Collins Hill Memorial Library in the building.

She was a member of the Garden Club of Virginia, the Garden Club of America, the Horticultural Society of New York, and many other organizations such as the American Planning and Civic Association, National Conference of State Parks, Seashore State Parks of Virginia, Friends of the Land.

DOROTHY E. HANSELL

* * *

It is very ridiculous of me, of course, to think that I garden at all; but considering everything, I don't even think I do so badly — and . . . I also think I am the fonder of my garden for all the trouble it gives me, and the grudging reward that my unending labours exact.

SALMAGUNDI

NOW IS THE TIME—if you have not already done so—to clean seeds and send them to the Director of the Seed Exchange, Dr. A. R. Kruckeberg, Department of Botany, University of Washington, Seattle 5, Washington. Remember that only those seeds received (or promised) by November 15 can be listed in the Seed Exchange.

* * *

Bernard Harkness informs us that the author of *"Senecio speciosus* as a Hardy Perennial?" in the July *Bulletin* is Paul Dickinson, S.J., with whom he has had some correspondence.

* * *

To the list of distinguished British gardeners who have contributed to the *Bulletin,* we now have the great pleasure of adding the name of a great plant collector. Mr. Oleg Polunin, whose "Plant Hunting in Kashmir" will be published in three installments, was a member of the British Museum's expedition to Nepal in 1952, and with Dr. Peter Davis collected in Anatolia (Asia Minor) in the spring of 1956; reports of both expeditions will be found in the *Journal of the Royal Horticultural Society.* We expect to announce, in the January number, another collecting expedition which Mr. Polunin is planning for 1958.

* * *

In the July *R.H.S. Journal* Mr. E. B. Anderson, a past president of the Alpine Garden Society, has written of his study of Hellebores, discussing them botanically and giving detailed information regarding propagation and garden care. Our many members who are interested in this genus should find the article invaluable.

* * *

In her new book, "The Little Bulbs", Elizabeth Lawrence writes that *Iris persica* still grows freely in many southern gardens. Does anyone know of a source from which bulbs may be obtained? Perhaps twenty years ago we secured a few bulbs from one of these gardens which grew and flowered here for a number of years, but eventually deteriorated because of our ignorance and the neglect of the war years. Our present plant, which seems happy and is increasing, was obtained from Van Tubergen. It is purple-flowered, far less desirable than the pale form, with sea-green blotches, which remains with us only in a Kodachrome.

* * *

Response to our urgent plea for material for the *Bulletin* last January was unexpectedly generous, including articles from several new contributors, and enabled us to prepare the remaining 1957 numbers rather painlessly. Now our supply is almost exhausted, and we beg that a new stock of material be sent in at once, for use throughout the coming year. Short notes, as well as long articles, all are welcome.

* * *

In late July Bernard Harkness and the editor visited the Mayfair Nurseries at its new location, some sixty miles south of here. Although much work remains to be done, Mr. Kolaga has made great progress in the appalling tasks of erecting a packing house and greenhouse, building—and filling with plants—long lines of frames and nursery beds. Few plants other than heaths were in bloom at the time, and nothing is less noticeable, to the casual glance, than an alpine out of flower. Yet we found a great number of plants to interest us, some of them scarce and not listed in the catalog, others with which we were unfamiliar and which had merit that we had never suspected. We came home with a quantity of plants new to our garden, and plan to return next spring, when we can assess more

fully the values of species which we may have overlooked, or which are not at their best in midsummer. Catalogs, no matter how lucid and detailed, can never be as effective as a visit to a nursery, and we hope that other members of the Society will join us in a pilgrimage to make the acquaintance of plants that we should know and do not.

* * *

How many of our members are acquainted with "Ozark Gardens", a monthly tabloid-size eight-page newspaper? It contains many short articles on gardening—in the copy at hand, cacti and succulents are stressed—and a great number of small advertisements of considerable interest. It is quite possible that an ad. in its pages would bring to light many native plants otherwise unprocurable. The subscription price of one dollar a year should be sent to Ozark Gardens, Eureka Springs, Arkansas.

* * *

For those who, intrigued by Mr. Ginns' account of unusual snowdrops, would like to learn more about them, we recommend the excellent and reasonably priced "Snowdrops and Snowflakes" by Sir Frederick Stern, recently published by the Royal Horticultural Society.

* * *

I can never see my officials despatching great hampers (of plants), without a wish to have references from their orderers, guarantees of good character, . . . to prove to me that they are indeed fit and knowledgeable persons to be entrusted with the welfare of my precious little people.—FARRER.

* * *

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