

BULLETIN

of the

AMERICAN ROCK GARDEN SOCIETY

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No. 4

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G. G. Nearing, Editor

VOL. 11

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A MINIATURE BOG GARDEN

DWIGHT RIPLEY, WAPPINGERS FALLS, N. Y.

LAST SUMMER a greenhouse was put up on the further edge of the lawn, some distance from the house, and when the workmen had left we decided to build a very special kind of construction down the middle, an indoor rock garden in the shape of a narrow rectangle: so narrow, in fact, that it is only $3\frac{1}{2}$ feet by 15. But we were determined to allow plenty of room on either side for passage-way, and not to feel cramped while watering the pots on the staging that runs down each side of the house. Somehow we have never hit on a suitable name for this, so it is still referred to merely as 'the construction.'

Nearly four feet high at the south end, and with a brick base, it tapers gradually down through ledges of rock and soil to a miniature cliff descending right to the floor at the north end. From a pipe fed by an artesian well just outside the greenhouse, water appears to trickle naturally out of a tiny cave at waist-level into pool No. 1, then lapses over a rock into pool 2. Thence, conveyed by copper tubing (bored with holes at regular intervals) beneath the surface of the bog garden, it reappears trickling over some sloping rocks into pool 3, deeper than the others, and then down the face of the north cliff into a hole in the floor.

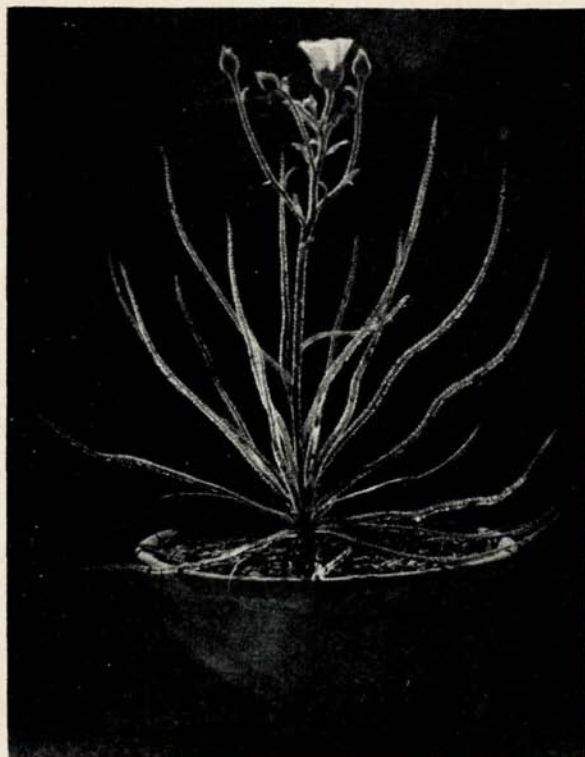
The great advantage of all this is that the plant enthusiast can study his plants practically at eye-level instead of having to squat or bend down and examine them growing at his feet. A bog garden outdoors would in time, I feel, become overgrown with unwanted sedges and grasses, but under one's daily scrutiny—for a greenhouse must of necessity be visited constantly, as opposed to over-familiar corners of the garden—it is a simple matter to keep it looking neat and trim. I am not ashamed of being caught with nail-scissors. And certain plants just *have* to be imported in wads of their native sand; rather than disturb their roots by pulling out the grasses and so on, I prefer to keep these out of sight with occasional judicious snippings.

What are these wads? The most impressive, I suppose, are the deep green hummocks of *Pyxidantha barbulate*, so healthy that they are in constant danger of swamping smaller things and have to be kept trimmed. All last February they were a magnificent sight, the flowers lasting a long time—surely of paramount

importance—and completely covering the little emerald mats. The roots are inextricably entwined with those of a *Lobelia* (*L. Nuttallii*), whose basal leaves are oval and purplish and not displeasing, but the flowering stems are hideous and have to be regularly snipped. *Dionaea muscipula*, the well-known Venus' Fly-Trap, shares its wads with an unidentified Composite, easy to trim: it fascinates rather than repels, luring assorted insects to their doom inside its elaborate leaves fringed with interlocking barbs, the inner surface often a deep burgundy red (simulating the color of decaying flesh). Our plants were collected in North Carolina this past summer, and make an agreeable foil for their relatives the Sundews.

Drosera rotundifolia, the common Sundew, and its cousin *D. intermedia*, seem short-lived in cultivation—scarcely more than annual in my experience—but are very pretty with their little paddle-shaped leaves covered in honeyed hairs and their clusters of small white or pinkish corollas. It is the extraordinary *D. filiformis* that commands, and holds, one's attention. To one brought up in the British Isles, where Sundews abound in every bog but somehow always manage to look like Sundews, the first sight of *D. filiformis* is startling indeed. Those impossibly slender croziers (one wonders how they can remain upright) sparkling and winking with their beads of crimson glue! Those relatively enormous flowers of definite pink, unfurling endlessly in their long scorpioid racemes throughout the summer! And, as if finally to disclaim all relationship with its fellow-Sundews, that amazing bulbous base swaddled in white wool into which the plant retires for the winter, proving to its nervous admirers that it is indeed perennial! Several of our plants, in fact, are sending out sidebulbs, something I have never observed in Nature.

The shallow trough of acid sand which I have chosen, perhaps pretentiously, to call a miniature bog garden (the rest of the 'construction' is devoted to rare and difficult saxatile species, cacti, etc.) contains no sphagnum and relies for constant moisture on the copper pipe mentioned above. Its dimensions are only 5½ feet by 18 inches or less, yet there is room here for at least ten *Drosera filiformis*, an equal number of Fly-traps, and about eight large cushions of *Pyxie*. In between these are several rosettes of *Pinguicula elatior*, a handsome Butterwort from Georgia with violet flowers, and of the smaller, paler *P. pumila*: in both, the yellowish flaccid leaves seem soft as marzipan, and are dotted generously with defunct gnats. (Some time next winter we hope to make a short trip to Florida and bring back plants of the beautiful *P. lutea* which, though over-tall for such a diminutive setting, bears great ragged blooms of brilliant lemon.) Several species of *Xyris* help fill out the trough, and inconspicuous small fry such as *Eriocaulon* and *Liparis*; a single *Leiophyllum* which in the end will have to be either drastically pruned or removed entirely; the charming *Viola primulifolia* with white flowers; and *Hudsonia ericoides*, only with us by virtue of arriving in a clump of *Pyxie*. Maybe the bog garden's oddest inhabitant is a plant hailing neither from the New Jersey pine-barrens nor from Georgia's brackish swamps, but from Portugal: *Drosophyllum lusitanicum*, a fantastic Sundew with leaves as long and slender as those of *Drosera filiformis*, but with the crozier curled outwards instead of inwards and the beads of glue uncolored—diamonds replacing rubies—and with a suffrutescent base and corymbs of splendid yellow flowers! In its native country this is known by the somewhat prosaic name of *hera pinheira ovalhada*. Three seedlings set out in a pot are growing slowly and not too happily, but this particular specimen is very robust, despite the miserably inadequate root that *Drosophyllum* always seems to have and the fact that in the wild it affects dry sandy oak-woods rather than damp depressions. (In a recent letter Mr. Walter Ingwersen expressed skeptical surprise that it would consent to grow in bog conditions.)



Drosophyllum lusitanicum
in the author's collection in
England, 1938

All the plants mentioned above are best protected from the New York winter, though I believe a few pine-barren species can survive outdoors in northern New Jersey. One factor greatly in their favor is their resistance to summer heat. While alpinists depart right and left, while saxifrages wilt and Primulas flag, these denizens of the steaming coastal plain are perfectly happy when the thermometer hits 90 or more for days on end. So successful, in fact, is the whole experiment that we are thinking of having several large troughs on the greenhouse staging, between the pots, and filling them with all the things we haven't room for at present, such as *Houstonia rotundifolia* (most delightful of all Bluets), *Lindernia grandiflora*, Sarracenias, and the exquisite American bog orchids. One thing there is always room for, of course, is *Schizaea pusilla*, that microscopic fern-ally so dear to botanists, and although Mr. Nearing in his recent article on the New Jersey pine-barrens states firmly that it is impossible to grow, we shall make a brave attempt to do so if we are ever lucky enough to find it.

ALPINES IN BRITAIN, 1953

BY WILL INGWERSEN

AS THE END of this year approaches, and my mind recalls the many plants I have seen in the course of my travels about the country, such a number of notable plants throng my memory that it occurred to me that American readers might well be interested to know of some of them. The article which should by



Photo by Donald F. Merrett

Lythionotus pauciflorus, a rare dwarf shrublet from the Orient

rights have appeared in this number, and concerning which I received this very morning a stern reminder from the Editor, is still very much in the rough, and this is a "spur-of-the-moment" attempt to make amends for my dilatory ways.

A rare plant which I have been delighted to see making a welcome reappearance in many gardens this year, is the true *Anchusa caespitosa* from the island of Crete in the Mediterranean. This dwarf gem made an all-too-brief appearance some years ago, and was then unaccountably replaced by an imposter which, although a very charming plant, grew to a height of well over a foot and lacked the typical "alpine" character of the true species. A recent expedition to Mount Ida produced a few seeds which were distributed amongst our keenest growers, and the accompanying illustration portrays clearly what a delightful plant this is, with its flat tufts of long, narrow, dark green and rather leathery leaves, and the many stemless clear blue flowers.

A group of plants which has long interested me is the one in which are found the *Ramondas* and *Haberleas*, which are the most familiar members of the Gesneriaceae to most gardeners. It is less well known that there are other, very dissimilar members of this natural order. One of the most exciting of these is *Lysionotus pauciflorus*, a rare little shrubby plant from China and Japan. It runs around by means of underground stolons, and emits woody stems some six to nine inches tall, clad in dark green narrow leathery leaves. The flowers, borne in the leaf-axils during early summer, are long and tubular, white, just flushed with lavender. It is a striking and unusual plant for acid soils and a cool position. Another member of the Gesneriaceae, *Asteranthera ovata*, is not quite hardy, but may be wintered successfully in a cold greenhouse if it is kept reasonably dry during the resting period. This too, is a shrubby plant, and can be persuaded to grow up a cool wall to a height of several feet. Alternatively, if grown in a pot or pan it will make a neat little rounded bush, covered during the summer with tubular flowers with a wide open mouth of rich rose-red.

There is a delightful little plant which grows in British bogs and in moist soil on many of our moorlands, known as the Bog Pimpernel. *Anagallis tenella* is its botanical name, and it is a frail, creeping plant with thread-like stems and round, glossy little leaves. The small pink flowers are singularly attractive, and just a year or two ago a very fine development of it was discovered in which the flowers were twice the normal size, and of a much deeper colour. This has now crept into cultivation and is making itself very popular in gardens where it can be provided with its simple needs, a cool exposure and soil which never becomes arid. It does not require an actual bog and is perfectly happy in a shaded or north facing part of the rock garden. It forms a delightful associate for yet another native plant, *Wahlenbergia*, or *Campanula, hederacea*. This is a plant of similar character, but with starry little bells of soft blue. An improved form of this, with seven instead of the normal five flower segments has been discovered, and this too, has made its debut as a welcome addition to garden plants.

We are accustomed to think of most of the Asphodels as tall plants, too tall for the average rock garden, but there is at least one species, *A. acaulis*, a native of northern Africa, which is a delightful rock plant. It is quite hardy in a sunny spot with deep soil into which its fantastically long roots can plunge. It delighted me this spring by a great display of its pretty, almost stemless rich pink flowers which nestle in the heart of the cluster of long, lax leaves. I have some recollection of having mentioned this in a previous article, but it is a good plant and I make no excuse for harping upon its merits.

Every spring is made more exciting by the early flowering bulbs which delight us in the alpine house and in the rock garden, and none is lovelier than



Photo by Donald F. Merrett

A large-flowering form of the bog pimpernel, *Anagallis tenella* "Studland"



Photo by Donald F. Merrett

A choice variety of the hoop petticoat daffodil, *Narcissus Bulbocodium Romieuxii*

Narcissus Bulbocodium Romieuxii, a delightful form of the Hoop Petticoat Daffodil. This last spring produced a better display than we had ever previously enjoyed and the wide trumpeted, sulphur yellow flowers were borne in multitudes, each one with a long, exerted style giving it an impudent air. A worthy companion to this wee Narcissus is the dainty little Snowflake which lingers as a wild plant in one or two Mediterranean stations. *Leucojum nicaense* it used to be



Photo. by Donald F. Merrett

The tiny snowflake, *Leucojum hiemale*

called, from its habitat near Nice on the French Riviera, but botanists now name it *L. hiemale*—even though in gardens it is persistently spring rather than winter flowering. Its dainty little snow-white lampshades depend elegantly from slender four inch stems and it is a bulb which immediately charms all who meet it for the first time and whose advent in the earliest months of the year is an eagerly anticipated sign that grim winter is relaxing his grip.

In spite of a comparatively sunless summer, with day after day of clouded skies and misty rain, the rare Spanish Thyme, *T. longiflorus* surprised me by flowering magnificently and the accompanying photograph gives some idea of the beauty of its neat bushes when they are covered with the clusters of tubular purple flowers, their rich colour enhanced by the deep pink bracts from which they protrude. The very breath of a sun-baked hillside haunts one as the aromatic scent of this little shrub is inhaled.

One of the outstanding plants of 1953 on this nursery has been *Lewisia Tweedyi*. Last year we were unusually successful in raising a very large batch of seedlings, and these have prospered mightily and have flowered almost without ceasing from spring until autumn. As I write these words, in early October, we have a dozen or more plants in full flower—and there are few alpine plants more beautiful when the wide blossoms are extended, with their petals of peach-pink iridescent with kindred shades blended into an indescribable but exquisite harmony. I have discovered that, like other plants possessed of almost ethereal beauty, *L. Tweedyi* has a gross appetite and benefits greatly if given a compost of rich loam soil with a healthy dollop of old cow manure in the base of the pot or pan in which it is grown. It also appreciates frequent re-potting and should never be allowed to form a solid ball of roots.

Few plants pay a better rent for the space they occupy than the pretty little Knotweed, *Polygonum vacciniifolium*. It is no rarity, and is the easiest plant in the world to grow and flowers continuously from late summer on into the autumn days. At this moment it is cascading down a north wall in a waterfall of deep heather-pink, the richness of the colour enhanced by the crimson-tinted leaves which adorn the woody stems. For anyone who wishes to obtain the best effects of a plantation of *Ericas*, and unable to grow them because of a heavy lime-content in the soil, this is just the plant. Many is the time I have known it to be mistaken for a heather at a short distance.

Three plants have combined to make this a memorable autumn for me. Never have we had a more magnificent display of the snow-white goblets of *Colchicum speciosum album*, than which there is no more shapely flower. On a nearby north wall is a plant of the deep purple-leaved form of *Saxifraga Fortunei* which now bears a crown of white flowers, the irregularly shaped petals being quaintly attractive. To the very feet of this showy plant washes a sea of blue in the form of the finest of all the hybrids of *Gentiana sino ornata*, raised in the Edinburgh Botanic Gardens and known as *Gentiana* x *Inverleith*. The flowers are very large, and of a deep, serene blue which captures the heart and, seen on a day of autumn sunshine can bring a catch to the breath by their sheer loveliness.

Every year a few plants make an unusually deep impression upon those of us who tend and love them, and these are a few of those which have made 1953 a memorable year for me. I may have infuriated my American readers—as I am told I have done before—by describing plants which they cannot easily obtain, but there is no sound reason why any of these plants should not be obtainable in America. Given a sufficient demand the ever enterprising nurserymen will stock them and I am sure it is only a matter of time until enthusiasts of the A.R.G.S. will be able to secure all these enticing exotics in their own country.



Photo by Donald F. Merrett

The true alpine form of *Anchusa caespitosa*

ROCK GARDENING IN SPRING

CARL STARKER, JENNINGS LODGE, OREGON

IN OUR PART OF THE United States, where summer residence at the beach or mountains is so common, the rockery presents a happy solution of the flower garden problem. With the ordinary flower bed or perennial border, we are apt to spend our labor in vain, as the blooming season arrives so late that we are on vacation, and so miss the fruits of our labors. But the rock garden is in its heyday long before vacation days arrive, and so we may have our garden and our vacation too, if we will.

In the sunny days of very early spring, when the garden fever first strikes, much tidying up and pruning can be done. All dead leaves and stems should be cut away, and the spreading plants should be pruned if they have grown too rampant. They should be left with a somewhat irregular outline, so that the fact of pruning will not be too evident. If the plants have become too large, or have died out in the center, they can be dug up, and the outer, more vigorous portions replanted.

When things are pretty well tidied up, a spring mulch is in order. Nature supplies this to her own alpine, in the form of decaying vegetable matter, but a very satisfactory substitute can be made by mixing leafmold, sand and rotted manure plus perhaps a little bonemeal, with liberal amounts of stone chips up to the size of the thumbnail. If leafmold is not available, finely pulverized peat makes a good substitute. This mulch should be worked in around the crowns of the plants, and well watered down. The stone chips help to protect the plants from excessive evaporation, and keep the soil from washing.

The earliest flowers come largely from bulbs. These early visitors usually put in an appearance before the storms of late winter and early spring have ceased; so that their delicate flowers are apt to be sadly splashed by rain and mud—a poor return indeed for their temerity in bringing us their blooms before the earth is fairly awake.

This can be avoided by providing a carpet of various low-growing plants through which the new shoots from the bulbs can easily push, but which will protect the blossoms from being spattered by the mud. I will tell you more about these carpeters in a moment, but just now I want to say more about the bulbs. The snowdrops are of course among the earliest to open, and they continue for a surprisingly long time. The first ones bloomed in my garden this year about Thanksgiving, and the last ones have just finished blooming in April. There are several sorts, the common small-flowered snowdrop, the giant-flowered type, and the double variety.

Very early too is the winter aconite, *Eranthis hyemalis*, with its glossy yellow buttercup-like flowers with a fringed green collar. Crocuses, even the Dutch sorts which are so common, should be granted a place, while the various species, *C. Tomasinianus*, *Sieberi*, *biflorus*, *versicolor*, and the large deep *Imperati* in lavender shades, and the golden *susianus* or cloth of gold, with its varnished brown exterior, add a charming note of dainty color.

Chionodoxa, or glory of the snow, appears at about the same time as the Crocuses. It has star-shaped flowers of porcelain blue with white centers. These are borne in spikes much like hyacinths, and present a definite color tone among the somewhat paler flowers of early spring. It is a delightful shade, and especially effective when the plants are arranged in drifts.

Just now grape hyacinths are in their glory. They too supply a note of vivid deep blue, and are good in borders as well as in the rockery. You cannot imagine how graciously our native *Erythroniums* or dogtooth violets accept a berth in the rock garden unless you have tried them there. They seem to increase in amplitude and charm under cultivation. Some of my cream-colored plants produce as many as five or six flowers on a stem. The deep yellow sort blooms first, closely followed by the lavender, pink, cream and white varieties.

This year I have had the pleasure of seeing for the first time two quite rare Irises in bloom. I imported them from Holland under United States government permit. The first to open was *Iris alata*, the winged Iris from Algeria. It showed buds in November, but did not bloom till February. The flowers which are borne on seven- to eight-inch stems, are very beautiful, fine large ruffled blooms of exquisite turquoise-blue, with a golden stripe down the center of the falls. *Iris X Sindpers*, my other new flower, is much the same shape but of a lighter tone, with the same conspicuous golden stripe on the falls.

Beside these I have *Iris persica*, a fine species of the same type as those I have just mentioned, but of a lovely combination of white and sea-green. The golden stripe in the center of the black falls is replaced by a brilliant purple signal patch tipped with gold.

Iris reticulata is an early bloomer too, but is a type quite different from the ones I have just been describing. It is not too commonly seen, but easy to grow, and it multiplies rapidly. The flower segments are rather narrow, and of a deep indigo blue, or else a velvety purple with a contrasting stripe of gold on the falls. They are particularly effective when planted in combination with yellow Crocuses.

Iris bucharica is just coming into flower. It is a taller plant with a stem much like a cornstalk, which bears a number of yellow blossoms in the leaf axils. One of my plants had eight flowers on one stalk last year, and a strong bulb will often throw up two or more stalks.

I have already spoken of the use of ground covers to protect the early blooming bulbs. Many Sedums are good for this purpose, and their foliage takes on pleasing colors in the fall. Beside the Sedums there are the gray-foliaged woolly thyme, *Acaenas* of several sorts, with silvery or bronzy leaves, and the minute *Mentha Requieni*, which forms a deliciously mint-scented green carpet, as well as the tiny-leaved *Veronica repens*, which produces wee pale blue flowers seeming to sit right on the plant, so short are their stems. Most of these carpeters bloom, but their flowering season is not until the bulbs have long since bloomed and died down. And so the bulbs and the ground covers form a helpful and beautiful combination.

Although it is wise to avoid too many rampers, they are nevertheless indispensable, and should have a place in every rockery. Everyone is familiar with the various Alyssums which spill their golden glory over the rocks. The earliest of these is just coming into bloom, and different varieties will continue in flower until hot weather. Equally impressive in mass are the various shades of Aubrieta. The beauty of the older varieties was somewhat marred by a tendency to magenta in the flowers, but there are newer sorts in beautiful shades of clear pink, red, lavender and purple. *Saponaria ocymoides* too is very good to use, and can be depended upon to cover its foliage with clear pink flowers in May. Arabis or rock cress too is good in its single or double white forms. There is also a pink flower form, *Arabis rosea*, and a variegated sort with green and white foliage which is especially showy in winter. All these plants are easy and hearty, and have the added merit of being obtainable for a very modest sum, and making a fine show in a comparatively short time. They must be watched however, lest they crowd out

choicer neighbors of less robust habit. It is a good plan to prune them after they are through blooming, thus curbing their ambitions to some extent.

Plants of more compact habit range all the way from the tiny *Soldanella*, with its fringy lavender blooms, to *Delphiniums* and foxgloves. There are so many of them that I could use all my time merely mentioning their names, but I will tell you about a few of them. In early spring we have the mossy and leathery leaved saxifrages, the Geums, Anemones, Primulas of all sorts and many colors, gentians, Phloxes, violets and *Violas* of many sorts, dwarf bearded Irises, pinks, thrifts, and so on and on—their name is legion.

I think everyone is familiar with the leathery leaved, early blooming pink saxifrage, but the mossy sorts are less well known. They form neat mats of foliage from which spring white, pink or red flowers. There are so many sorts of saxifrages that it would be confusing to talk about any great number of them, but they are all very attractive, even when out of bloom, and most of them have very showy blossoms.

Of the Anemones, the St. Brigid hybrids in shades of red, blue and purple are outstanding, and *Anemone Pulsatilla* too is very lovely. Its flowers are thickly coated on the outside with silvery hairs, which gives the buds a hoary appearance, but the wide open blooms are a deep lavender with a golden center. It makes lovely fluffy silver seed whorls which are almost as attractive as the blossoms.

Dwarf bearded Irises are very good to use among the rocks. They are such good doers and bloom profusely with a minimum of care. Some varieties are very dwarf, only three inches high, while some will grow to ten inches. They vary in color from white through all the shades of blue, lavender and purple, and there are some fine yellow forms.

There are several tiny shrubs which make good rock garden subjects also. The sun rose is one of the most commonly seen, and spreads quite quickly. Its flowers much resemble tiny wild roses with golden stamens at the heart, and open only when the sun is shining, hence the name. They may be had in white, yellow, orange, pink and red. There are two exquisite rock Daphnes, *D. Cneorum*, an evergreen with fine heads of waxy pink flowers, and *D. Mezereum*, a deciduous sort which bears rosy purple flowers very early, before the leaves are out.

When we think of Cotoneaster, we are likely to envision the low-growing *C. horizontalis* or rock spray, which indeed may have a very definite place in a large rock garden, but there is also a tiny form, *C. adpressa*, which hugs the ground and rocks, and bears large, brilliant red berries in summer. There are also dwarf brooms and Genistas which make a fine showing with their cream and yellow flowers. None of these shrubs is more than eighteen inches high, and several of them, like the sun roses and *Cotoneaster adpressa*, are completely prostrate.

Ferns may have a very definite place in the rockery, and there are a number of species native to our own mountains which are equally good in sun or partial shade. These include the gold-back fern, which is well described by its popular name, the parsley fern, a finely divided sort, and the maidenhair spleenwort, a tiny, flat-growing fern.

I am afraid it is true that once you catch the rock garden fever you are doomed, for never again will you be free from it. You find yourself eyeing the rocks along the roadway and thinking how well they would look in your rockery, and while you may not have the fever as badly as did one of my eastern correspondents, who dragged home a particularly attractive rock, only to find she had stolen someone's cornerstone, still you cannot escape its effects. You will ever afterward have an eye out for anything new and unusual in the way of rock

plants, and when you find it you will be in high feather, and perhaps you will call up some rock gardening neighbor and tell her about it, so she may be pleasantly jealous of you. But it is all worth while, for in no other type of garden can you have so many sorts of flowers in so small a space.

But please do see that your rockery is well and artistically constructed, the rocks forming background rather than rudely obtruding themselves—speaking out of turn, as it were. Be sure too that it has good drainage, and lies in full sun, and your rockery will wax fair and beautiful, and bring you great joy.

SAMS POINT AND THE ICE CAVES

G. G. NEARING, RAMSEY, N. J.

ABOUT 50 MILES NORTHWEST from New York City as the crow still may fly, is an arrangement of rocks and of plants from the far north, in which nature shows man how to garden. Even the most imaginative among us would hardly have dreamed up so fantastic a way of doing what most rock gardeners attempt in vain. Few see the strange exhibit hidden away so cleverly that anyone passing within a few yards might miss it entirely, yet it stretches intermittently over a spectacular half mile.

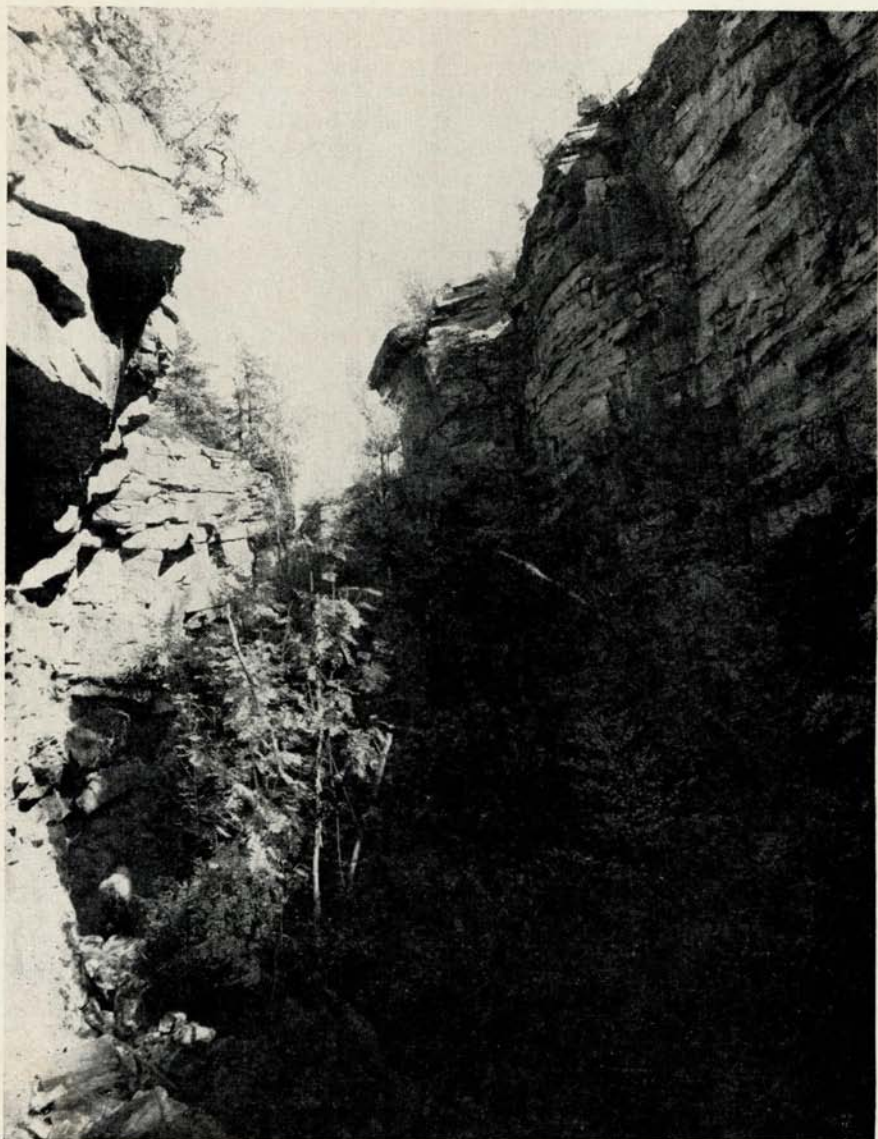
To reach it you climb the Shawangunks (pronounced Shongum), a 2,000-foot ridge, virtually a northeastward extension of what in Pennsylvania and southward is the Blue Ridge, in New Jersey the Kittatinny. From Pine Bush a good highway (No. 52) winds westward affording frequent views of a mountain capped with white—not snow at these low altitudes, but a vertical cliff of glistening Shawangunk grit rising above the distant treetops.

Mountains may be oddly impermanent, not at all the eternal hills of the poet. The Shawangunks rest their flinty white summits on a base of crumbling shale, which frost and torrent water are continually filching away. The first result is a steep slope surmounted by a wall like a battlement of titanic masonry, which because of its great weight and in spite of excessive hardness, keeps breaking away in enormous blocks where the weathering of the yielding shale undermines it.

After an easy climb for a modern car, the highway loops over a pass toward Ellenville, to the north, but just short of the summit we turn off to the right northeastward, on a less traveled road through Cragmoor toward Sams Point. A couple of miles along the top of the ridge lead to a toll gate where the Ellenville Water Company collects 75 cents, while the bulk of the Point itself broods 100 feet or so above. Incredibly the road, now gravel, heads for the cliff, and after a turn or two, climbs through a narrow rift invisible from below, squeezing between towers of cubical rock.

The elevation is actually only 2300 feet, but after parking and walking out on a remarkably square block of slightly yellowish stone 40 feet across, the limestone valley to the southeast looks so far below, Shunemunk and the Hudson Highlands so distant beyond, the panorama to the south and west so imposing, that it would be easy to believe yourself much higher.

Here *Arenaria groenlandica* grows in the rock crevices and out along the white sand, flowering profusely in greenish white to a height of three or four inches. It is pretty but an annual. *Potentilla tridentata*, red-leaved even in mid-summer because of hunger and thirst, creeps out nearly to the level cliff-edge that stretches far to the northwest, and to the northeast much farther, with Sams Point the angle where the two great ledges meet. All is high above the treetops, the lines nearly straight, and roughly squared off, like the work of a careless engineer.



In this Shawangunk chasm *Chiogenes hispidula* flourishes

A little search here reveals the Iceland moss, a lichen common in the north, but here producing its inch-high fountains of brown sparingly. Years ago an extract from it was sold in our stores for food, but it is also oddly ornamental. Fissures in the cliff harbor the mountain holly, *Nemopanthus mucronata*, dangling its red berries on inch-long stalks.

Back from the cliff scrub oak and pitch pine fight for the barren ground, only to be burned mercilessly every three or four years by the blueberry pickers. Turning from the wide vista, we take the gravel road that swings through them across the level plateau passing Lake Maritanza, stopping by its shore to sip a little of

the dazzling blue water, and admire thriving clumps of the bunchberry, *Cornus canadensis*, close beside the brilliantly sunlit roadside. In season the rhodora, *Rhododendron canadense*, blazes from every boggy corner to prove what a glorious color magenta can be when under the open sky, though dreaded by interior decorators, and by those many who write about gardening but do not garden.

Everywhere abounds the Pennsylvania blueberry, now skilfully robbed of the name *Vaccinium pennsylvanicum* given to it centuries ago. (Oh but botanists are clever!) However, the berries taste as good as before. The plants dwarfed on the burned-out soil, nevertheless fruit most copiously. No, not everywhere. We drive through a mile or so of blackened pines where everything is dead and the white rocks stand out like tombstones.

Below a fire tower where the warden stands every year watching the berry pickers burn the mountain, we park again, and follow a narrow footpath to the northwest. The Catskills are in full view now to the north. It is easy to pick out the skyline of Slide, Wittenberg and Peekamoose, and to the west the long notched stretch of Double Top, with other summits between less clearly defined. In the valley that intervenes, Ellenville lies mostly hidden.

A couple of miles along the ridge, after losing a little elevation, crossing some small bogs separated by wide reaches of white stone from which most of the soil has long been burned away, we come to a crack in the rock, straight and deep and about a foot wide. Not many centuries ago, the weakened shale beneath the mountain must have given way, probably with a deafening groan and an earthquake. The solid cap of the Shawangunk grit was split apart in many places, and part of the mountain's shoulder slid a very little way toward the valley.

A wider chasm opens not far beyond, just to the right of the trail. You can jump it, as I have done, but be sure not to miss your footing, for you can look straight down 50 or 60 feet, as though into a well. The opening makes a right angle and widens nearby, letting in light enough so that ferns grow in the faults partway down, and at the bottom a few small trees.

Instead of jumping, it is safer to follow the trail on down the slope, with the same chasm or a connecting one opening wider on the right. Large hemlocks and birches grow up out of it, their bark hung with an often dense growth of lichens, among them *Evernia furfuracea*, from which a commercial perfume called oakmoss can be distilled. Finally the path plunges down beside the mouth of an entrance to the chasm, a broken, steep slope, but permitting an agile person to climb down into the semi-darkness, where the air rises frigid even in the heat of summer. Peering in, you can see far down an accumulation of snow and ice which seldom melts away at any season.

At this point huge rocks have fallen into the chasm and across it in such a way as to block it completely, forming a cave a dozen or fifteen feet wide and perhaps fifty feet below the surface at its deepest point. Since the combined shade of rocks and trees permits hardly any vegetation here, and since there is now no passageway from here into the open chasm we passed by, though natives say there used to be, we cross at the downhill mouth of the cavern, and walk back up its opposite edge, along a faintly marked path. Three or four rectangular clefts, more or less connected, open to the right. A cautious look below shows them to be 30 to 60 feet deep, with sides of sheer rock approximately vertical, difficult or impossible to enter successfully unless let down with a rope.

We climb a little, and the chasms seem to be left behind, but in a few moments another and larger, but still inaccessible one opens. We step over a crack two feet wide and too deep even to estimate, scramble over a steep rise and continue through birches and blueberries toward some large pines standing on the waste of rock to the northeast along the same elevation. Here opens still another and much larger chasm, which can be entered at only one point by sliding down a clay bank, then descending gradually from one block of stone to another.

The rocks here have toppled into a jumble tilted at every angle, upholstered with ankle-deep cushions of moss, and from among them spring countless saplings of American mountain ash *Sorbus americana* (now *Pyrus americana*), and the hemlock spruce, which by some strange oversight on the part of the botanists is still *Tsuga canadensis*, but probably not for long.

Looking ahead and farther downward into the chasm, we can see nearly to its end a quarter of a mile away. At its widest perhaps 50 feet, with sheer cliffs utterly unscalable on both sides, it varies in depth from perhaps 40 to about 100 feet. The southeast (uphill) side overhangs slightly, while the opposite wall stands a few degrees less than vertical. The floor is a maze of fallen rocks with dangerous holes opening here and there among them. I once dropped an empty tin can into one of these holes, and listening to its long, interrupted fall, estimated the depth of the original cleft.

Apparently the great mass of rock split apart to a depth of about 300 feet, forming a deeply V-shaped opening, into which loose rocks and fragments breaking away from the face of the cliff on either side, tumbled, filling the lowest 200 to 250 feet of it irregularly, and they still fall with the heaving frosts every spring, as can be seen by the unweathered color of the new breaks.

Into the chasm all winter blow the snows, and snow banks last in the bottom until July. I have thrown snowballs here July 4th. Judging by the chill which rises from below, the deeper holes must hold their snow into August and September at least, just as in the entrance cave. For only in summer does the sun penetrate to the floor of the chasm, and even then for a very few hours daily. Here then we have almost alpine conditions, deep snow lasting most of the year, chilly air, and a short summer. Far from alpine, though, is the dim light.

Clambering down from rock to rock, taking care not to step into the holes between, we sink into billows of that most beautiful of mosses *Hypnum Cristacastrensis*, reluctant to soil its plumes of pale satin. The goldthread, *Coptis trifolia* (now *C. groenlandica*) grows here not scattered about as we usually see it, but in mats yards across, the flower stalks 30 or 40 to the square foot, and opening, not in May, for at that season they lie deep under the snow, but in late June or early July.

Along the northwest wall, where the sun strikes for a little while a day in summer, lichens cover the longer-fallen rocks, the map lichen, *Rhizocarpon geographicum*, found elsewhere above timberline in the White Mountains and Adirondacks, and everywhere in the far north, but in our region a rarity indeed, *Parmelia centrifuga* and *P. incurva*, likewise northern forms, and *Cladonia deformis*, almost unknown so far to the south.

The bunchberry, *Cornus canadensis*, abounds on the shadowed side, but seems stunted, less vigorous than on the open summit, and blooming but little, fruiting hardly at all. With it thrive *Kalmia angustifolia*, the sheep laurel, and *Lycopodium lucidulum* in a peculiar form which approaches *L. porophilum*. Of ferns, *Dryopteris spinulosa* luxuriates chiefly along the southeast wall, away from the sun, but few other species are seen at all.

Still descending, after a slight rise, we come to deep mats of *Chiogenes hispidula* (now *Gaultheria hispidula*—Botanists must have their fun!) romping in incredible abundance over the yielding mosses. Seldom is it found at all so far south at so low an altitude. The secret of its success here is not far to seek. Shadowed by 100 feet of unbroken cliff, while wisps of chill mist curl up out of crevices stuffed with eternal snow, this heartbreak of the ambitious alpinist thinks itself in the far north. Perhaps some enthusiast who could afford it might get the same result by stowing a refrigerator unit under his rocks.

A little farther on *Lycopodium lucidulum* suddenly gives way to *L. annoti-*

num, a species of higher elevations, not unknown at 2,000 feet, but by no means frequent. It fruits here however, something it seldom does in our area.

Lichens of the north found here include *Cetraria Pinastri* and *C. saepincola*, draping the bark of small birches and the dead hemlock twigs with chocolate and lemon, and *Lecladophila aeruginosum* smearing dead logs with its blue-green film, against which the pinkish disks of the fruit give a gaudy, unpleasant effect. This belongs in the arctic, but comes southward on our higher mountains.

Finally, after much sliding and scrambling, we ascend a steep slope between narrowing cliffs and find ourselves still a dozen feet down, squeezed into a cleft from which there appears to be no exit. However, a crack in the rock to the left offers a toehold by which to climb into a side crevice just wide enough to creep through, aided by a stump with curled roots. A lift over another breast-high bastion of rock, and we stand again on safer ground.

Looking down into the chasm we have traversed, it comes almost as a shock to think how easily a careless walker through the brush above, might stagger over that rim to certain death. For there is no warning of the danger, and from a few yards away, nothing unusual can be seen.

How many smaller openings in the earth are here, I do not know. A hundred yards down hill to the north, across rocks mostly burned bare of soil, the work of the ancient cataclysm appears again. Cracks criss-crossing and opening to a great depth, but only a foot or two in width, announce the approach to a second large chasm. Here at the edge once grew a quantity of the arctic and high alpine lichen *Cladonia alpestris*, encouraged, no doubt, by the cool air rising from so many openings, but recent fires have carried off all but two or three small groups standing like little domed sponges among the more common species. The growing condition here is peculiar because each block of stone five to ten feet across, though you can step readily from one to the other, is in reality an immensely tall pillar surrounded by other pillars just like it, but with open space between. If it were not for the recurrent fires, what strange plant visitors from the far north might not be looked for there?

A sharp declivity, not at all points a vertical cliff, but a descent difficult enough and possible in one or two places only, leads to a more wide open depression where again the creeping snowberry covers the rocks here and there. From this point can be seen a further opening which one living in the age of Dante might well have mistaken for the mouth of hell, for this chasm is not straight and sheer like the first, but gashed and rugged, the rocks tumbled in utter confusion, the way blocked by fallen rocks and the curled branches of newly burned trees.

Having mastered the art of scrambling from one huge tilted rock fragment to another, we manage this more arduous passage to an almost equal depth. But here the rock walls seem in the very act of crumbling, with open caverns leading under them, the air chilled by their buried accumulations of snow even though they stand wider apart. The point of greatest depth has terrified more than one of the venturesome persons who pass through it. At a sharp turn to the right there is a perilous climb from one slab treacherously poised to the next, and on up by uncertain ledges where a single misstep could mean a plunge to disaster. Then still another deep to maneuver, narrower and even colder than all those behind, and a rough passage where all vegetation has been charred. Finally we emerge much lower down on the none-too-solid mountain, having crawled and struggled through its two most spectacular chasms.

Artistically neither offers much that the rock gardener would wish to imitate. With the blueberry pickers setting more fires every year, even these moist, cool depths may soon be reduced to a waste of barren rock. But in the meanwhile we have here a key to the behavior of some choice northern plants that venture southward only by special invitation.

ANOTHER THOUGHT ABOUT THE PEAT GARDEN

THE TWO ARTICLES on peat gardening by Will Ingwersen in our April and July numbers, may well have opened a new epoch for American horticulture. The author listed a group of difficult alpiners, the hope and despair of many a confirmed rock gardener, and claimed that most of them can be grown with ease under peat garden conditions. In almost every rock garden there must be a corner where a section of peat garden could be fitted in. Can the true enthusiast fail to try once more those fabulous miffs, the twin flower, *Linnaea borealis*, creeping snowberry, *Chiogenes hispidula* (now *Gaultheria hispidula*), the Cassiopes, the Pyrolas and all their kin, with this fresh method and a renewed hope?

Surely as soon as block peat becomes available, and we trust it will be made so any day now, the peat garden will take its place beside the rock garden and the bog garden, those gems of the garden world. But this jewel has another facet hardly as yet mentioned.

Though it must be said with sadness, rock gardening is not for all who would like to indulge in it. To the strong and able, the moving of large rocks and whole hillsides of earth is a glorious challenge, the placing and arranging of each unit a test of both strength and artistic taste. To the wealthy, these matters present no difficulty so long as professional help is available. But what of the aged and infirm whose means are slender? What of those whose energies are inevitably channeled elsewhere? These may garden, but can they say it with rocks?

For such the peat garden may come as an unexpected blessing. By contrast with the great weight of rocks, peat is extremely light in weight when dry, as the blocks will be at the time of shipment, and unlike rocks, the smaller of which can seldom be combined satisfactorily to substitute for a large one, peat blocks of medium or small size will do for the construction as well as would larger ones.

Unlike the rock garden, the peat garden requires only a minimum of effort to build. Anyone at all, man, woman or child can enjoy the thrill of creating this new kind of home for our most appealing plants. It is easy to imagine an adventurous soul setting up a trim little peat garden in his front yard, to be promptly imitated down the street, then here and there all over town, then in a neighboring village, and so on indefinitely across the country. Rock gardening started out that way, but too often succumbed to backache. There need be little or no backache in peat gardening.

Often too, the peat gardener who has no physical defect, but merely belongs to that great and growing class which avoids effort, may be led on to greater things, may find himself enthralled by this art which brings the mountain to Mohammed—and to Jones.

OUR COLOR SLIDE COLLECTION

AS MOST OF OUR MEMBERS must know by now, the Society maintains a collection of transparencies for use by any group of members or by garden clubs or other organizations which would like to learn about rock gardening. When I was appointed custodian, as announced in the April issue of the Bulletin, I immediately made a study of the slides now in our possession, and was disappointed to see how few there are, and to find that some are not of the highest quality. For effective use, we must have more slides, rearranged in subject series.

Instead of a single collection, we need a number of collections, each on a single theme, and each sufficient to make a showing for an entire evening. Experience indicates that the number required for a successful evening is somewhere between

60 and 100, depending on subject matter. Members of our official family and a few camera enthusiasts of my acquaintance have been consulted on this and other matters, and the following collections have been suggested:

The Great Smoky Mountains and Their Flora
Great Plains and Desert Plants
Flowers of the Ozark Mountains
Yellowstone and Glacier National Park Plants
Flowers of our Pacific Coast States
Flowers of our Eastern States
Flora of the Atlantic Coast Pine Barrens
Plants Suitable for a Sunny Rock Garden
Plants Suitable for a Shady Rock Garden
Miniature Plants from Foreign Lands

These ten collections, and there may eventually be more, would require something like a thousand slides. If we are to have any such number, it means, of course, that our members must contribute most of them. If each member furnished two slides, we would more than make up the number.

Have you a personal slide collection? If so, there are sure to be some duplicates you would be willing to part with, not of course the worst, but rather the best. And that pride-and-joy slide that you would not part with for the contents of Fort Knox, we would be glad to have duplicated at our expense, and assure you that the original will be returned safely. Duplicating will be easy, for our largest film manufacturer is soon to open a processing plant only ten minutes' drive from the custodian's home.

Perhaps you are not a camera user but could still give us valuable information about sources of slides in your locality. In some of our national parks, slides of scenes and flora are for sale. Do you know to whom inquiries should be addressed? Do you know of any professional photographer having an interest in his native flora and located in any floral-rich section, who would be willing to make slides for us?

We do not ask you to go overboard and invest hundreds of dollars in a Leica, Contax or Kine Exacta, just to take slides for the collection, although if you are hankering to do exactly that, and need only an excuse, our collection is the best excuse you could ask for.

Our collection must be confined, for convenience, to the popular 35mm size. This film is usually supplied in 20 and 36 exposure rolls. Anyone contributing an equal number of slides acceptable to our committee of judges, may if he wishes, be reimbursed with a fresh roll of film (either Daylight or Tungsten as preferred).

Each collection should consist mainly of plant portraits, a close-up of a single flower is often effective, and in addition a view of a group of the same flowers, to give a better idea how they might fit into our gardens. Such a group picture often provides cultural hints, and as many of our failures are due to lack of cultural knowledge, we should supply such information wherever possible.

With each collection will go a booklet in which every slide is described, by filling out the form shown on the opposite page. It is important that all possible information should be stated on the form. It is intended that members who use the slides should add what they can to the cultural information contained in the booklet, because the contributor of a slide may not know enough about the plant to fill in all the facts. Cultural directions are intended to conform to the conditions in which the plant grows naturally.

In addition to plant portraits, each collection should contain a few views of the localities in which they are found, but we must resist the temptation to

Slide No.

Set No.

Subject

Plant Family

	Time of	Native
Height.....	Bloom.....	Habitat.....

Cultural Directions (place check mark in the boxes)

Sun <input type="checkbox"/>	Shade <input type="checkbox"/>	Part time shade <input type="checkbox"/>	Mottled shade <input type="checkbox"/>
Acid <input type="checkbox"/>	Alkaline <input type="checkbox"/>	Neutral <input type="checkbox"/>	Dry <input type="checkbox"/> Moist <input type="checkbox"/>

Indicate soil mixture by placing a figure in the boxes below, as 3 parts Sand and 1 Leaf mold

Sand <input type="checkbox"/>	Gravel (or stone chips) <input type="checkbox"/>	Loam <input type="checkbox"/>
Ordinary Garden Soil <input type="checkbox"/>	Silt <input type="checkbox"/> Leaf Mold <input type="checkbox"/>	Peat Moss <input type="checkbox"/>

Other comments:

(Scenery may be described on a separate sheet)

Source of Slide.....

Name

City or Town

Photographed at.....

In the Wild In Cultivation

If photograph is that of a garden or section of a garden, please state the exposure East, West, etc. and names of plants.

To prevent confusion, please use Latin names.

make these scenes a major feature of the showing. Plants which originate in cultivation and therefore have no native place, are also important to rock gardeners, and additional collections featuring them will be worked up as such slides are received.

Another phase of our activity is rock garden construction. Perhaps some of our members are contemplating the building of a rock or wild garden or a bog. Pictures of the site and those taken at various intervals during development and planting, and of course views of the completed unit in full flower, would make a most interesting and instructive exhibit for the encouragement of beginners. We hope to receive enough such slide series to make up a special collection.

As sufficient slides are accumulated to complete a collection, notice will be given in the Bulletin. The editor may also appeal to you from time to time for slides to complete a certain collection.

Members asking for a collection should be prepared to study the information contained in the booklet that accompanies it, and from these facts work up an interesting talk, preparing also to answer those perplexing questions usually hurled at a speaker.

Our Seed Exchange has grown to be something of which every member, I believe, is justly proud. Let us try to make the Slide Collections as outstanding, so that we can be equally proud of them. If this can be accomplished, I am sure you will notice a larger attendance and greater interest shown at our group meetings.

Slides, as well as all inquiries, and perhaps criticisms, are to be sent to the Custodian.

E. L. Totten
238 Sheridan Avenue
Ho-Ho-Kus, New Jersey

TIME FOR SEED EXCHANGE CONTRIBUTIONS

The seeds you have collected for the Seed Exchange should be sent without delay to the Director, Bernard Harkness, 5 Castle Park, Rochester 20, N. Y. The deadline is November 30, but if everyone waits until that date, the preparation and mailing of the Seed List may be held back unduly.

The Seed List for 1953 bettered anything we had seen in previous years, and very likely 1954 will bring one worthy of more superlatives. To manage such quantities of so many kinds of seed, and distribute what is received to those who want it, becomes of course an increasingly arduous task as the Society and its activity grows. The Director will have to make new rules from time to time, in order to avoid being swamped. These will be printed at the top of the list when it appears.

This year it will probably be sent out, not as an enclosure in the Bulletin, but as a separate mailing piece, so be on the lookout for it about the first of January.

SPRING FLOWERS SEEN IN ISRAEL AND GREECE

HELEN M. FOX, MT. KISCO, N. Y.

Reprinted by permission from The Garden Journal

WHILE I WAS in Israel during the month of March, it rained part of almost every day. I was told this was the rainiest season in a long time. Instead of worrying about the dryness as was their custom, the people were concerned about getting too much moisture for the crops. However, the result of rain on wild vegetation was to make it lush, vigorous, and of brilliant coloration. Most of the

land was clayey, and because of the rain, of a sticky consistency. One's feet stuck in the ground and came up coated with mud. This was particularly true around the Sea of Galilee and on into Upper Galilee. On the Judean hills where Jerusalem is situated, the earth was not so sticky; although where the ground was level, it was muddy too. However, around Beersheba on the edge of the desert, the earth was somewhat crumbly.

In the short duration of my visit, there was no time to dry and press the plants I saw, nor would there have been space to pack them in my streamlined airplane luggage. When I returned home and went to The New York Botanical Garden, to check the names of the plants I had seen, I was properly scolded by Messrs. Everett and Alexander for my omission. Unfortunately, for this reason, some of the names in this story are approximate. I do think I have the correct family in almost all cases, if not always the right species. The purpose of this article is to show how rich and varied is the flora of this part of the world, and how challenging to a gardener to try out some species hitherto unknown to him in his or her garden.

Somehow in regard to Israel one reads and hears much about human accomplishments, and little space has been given to the beauties of the countryside. Along the coast there are always views of the Mediterranean, and as soon as one comes to the mountains, such as the Mt. Carmel range and the Judean hills, there is drama and variety. Upper Galilee, with its lush green hills, its flourishing olive orchards, and the sound of rills and brooks in the meadows north of Lake Huleh, with the whole scene dominated by snow-capped Mt. Herman, is particularly appealing. Always in this ancient land wherever one goes is some



View of Lake Kinnereth.
Right: Ropernaum, the
Mount of Beatitude.

reminder of the Bible. This is especially so in Lower Galilee. The scenery around Lake Kinnereth—the Hebrew name for the Sea of Galilee because kinnereth means harp, the shape of this medium-sized lake—with a series of gently undulating hills, green with spring crops and punctuated with exquisite and often highly colored flowers, has an air of being a creation of the imagination and not a reality. I spent a week at Tiberias on the shores of Kinnereth and went for walks every day into the country side searching for flowers. A month could be spent and new flowers found continually to add to the list.

On the hills around Jerusalem by mid-March there were patches of *Anemone coronaria*. Here they are deep ruby-red; farther north there are also blue and variegated color forms. Their stems are sometimes fifteen inches high. They grow in drifts all through the mountains. These drifts are characteristic of the way most wildflowers grow, and show how much more attractive is this scheme of planting than the "mixed border" so popular in our gardens. We "mix" because most of us are collectors, but the more one studies Nature's way, the better one understands why the elimination of the unessential is the basic rule of artistic expression. In my opinion, even the owner of a small plot would have a better looking garden if he confined himself to growing many of a few flowers rather than few of many.



Anemone coronaria



Cyclamen persicum

Other flowers that bloom as if dotted through the hills are *Cyclamen persicum* in goodly sized clumps. The blossoms are white with red lines, appear roseate, and measure about one inch across; their stems are over twelve inches high.

On the way to Beersheba there is a planting of trees along the roadside. These had been watered and certain wildings had appeared adventitiously. In a garden at Beersheba I saw *Convolvulus altheoides*, spreading on the ground, and *Malva sylvestris* with round heart-shaped, dentate leaves and pink flowers.

At Haifa, a city that climbs the Mt. Carmel hills similarly to an amphitheatre, I saw *Cercis Siliquastrum* growing wild on the steep slopes, and pink and white-flowered rose bushes. I think the rose was either *R. dumetorum* or *arabica*. It was very bushy. While looking at the rose bushes, I met a grandmother taking care of her little granddaughter and heard she had come from Hungary where she had owned a beloved garden.



Arum palaestinum



Ranunculus millefolius var.
hierosolymitanus

The Mt. Carmel range is one of two places where *Lilium candidum* is native, the other is Upper Galilee. Here too, rosemary ramps. In the gardens there was a good deal of *Rosmarinus officinalis* var. *prostratus* with deep blue flowers. In gardens, too, I saw *Lavandula dentata* which was clipped to make a low hedge. It had become a thick shrub with deep purple flowers and was deliciously fragrant, which it is not in my garden. I was told *Lavandula officinalis* blooms all summer, and roses bloom from October to June and seem to thrive. Orange trees were in flower in March. In some places the usual annuals, calendulas, petunias *et al*, were being grown. I have sent seeds of California annuals in the hope they will become established and increase the palette.

When I came to Ilanoth situated not far from Haifa, Dr. Amihud Goor had me driven out to the sand dunes along the coast and there I had a great treat. For the first time in my long life I saw tulips growing wild. It is thrilling to see a plant known only under cultivation in its natural environment. They were

Tulipa Oculus-solis. Among them were large and frequent clumps of *Iris atropurpurea*. The beautifully formed flowers are of varying shades of dusty purple and exactly the right size for the height of the stems which were about fifteen inches tall. In these sand dunes there was a light blue *Lupinus angustifolius*.

In Upper Galilee, in the shade of the famous oak grove of Bash-on, I found a calla lily, probably *Arum palaestinum*. The spathe was green outside and marked with dark purple. It was about twelve inches high. Here too, where the land is moist, I found a tall member of the parsley family, with pleasant tasting leaves. I think it is *Angelica sylvestris*, which is reported to grow beside mountain streams. In the fields seen from the road were large clumps of *Euphorbia* which might have been *polychroma*. In these fields, too, were pinkish red patches of *Silene*, either *coniflora* or *conoidea*, which are annuals and grow twelve to fifteen inches high. And there were plants of *Erodium gruinum*, purple stork's bill, with conspicuous violet-blue flowers, leaves sharply and irregularly toothed, and the typical needle-like capsules of the family. There was a plant whose stems, leaves and buds looked like those of calendula but the flowers were tiny. This is either *Taraxacum cyprium* or might be a crepis.

Coming down from the highland towards Tiberias, which is six hundred eighty-two feet below sea level, the hills in places were carpeted with *Ornithogalum nanum*. Right in the valley growing on shaded cliffs was *Ornithogalum brachystachys*. This last looks something like a camassia, having green stripes on the back of the sepals, and the flowers grow in a spike, whereas in nanum they grow singly. There were brilliant purple patches which proved to be *Salvia Horminum*, an annual I grow in my garden where it self-sows. The flowers are bicolor and inconspicuous, while the terminal bracts are vibrant deep blue-purple. Here too was *Reseda odorata*, rather weedy looking but smelling as it should. There was also *Salvia pomifera* and *S. triloba*, the last with tall white spires of flowers and humpy, strongly smelling leaves.

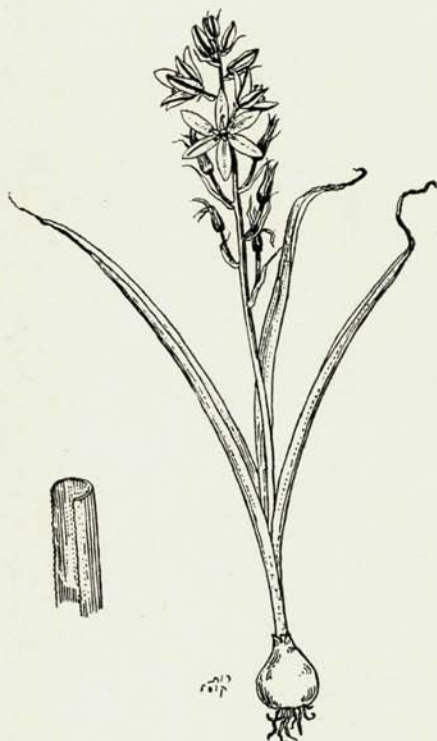
On the slope going down were *Anchusa paniculata* or *angustifolia* and *Echium polychroma*, the last with masses of yellow-red flowers which later turn deep blue. They were both tall, bushy and striking. All through these hills and north to the border, *Coriandrum sativum* is found, among grasses. It is bushy and pleasantly fragrant, much pleasanter than it is in captivity, anyway in my garden. I was told origanum and thyme grow wild but did not find any.

From the hotel where I stayed, which is right on the shores of Kinnereth, a walk leads through a highly fragrant weedy meadow to the ruins of old Tiberias. Here grows a matricaria with large yellow flowers borne singly on stems eighteen inches high. There is also a member of the daisy family, probably *Chrysanthemum coronarium*, which is low and has white flowers. Nettle is so lush it looks like mint from a distance. There is also a weed with delightfully fragrant flowers, which I think is *Chenopodium murale*. The leaves were large and toothed. Mustards, *Brassica nigra*, grow two feet high and the panicles of flowers are so huge they are stunning. Always there are clumps of *Asphodelus fistulosa*, a tall plant with white flowers tinted pale salmon. It is handsome, but by the time one comes to Greece has become an undesirable weed covering waste places in huge drifts.

From the meadow the walk leads into the ancient walled town built by Herod and later occupied by the Arabs. In the distance I could see the minaret of a mosque and went towards it through narrow twisting old streets until I came to the arched entrance. There to my surprise, instead of devout moslems about to enter their holy mosque, I saw a big sign "Refrigerators repaired."

My companions at Tiberias were a German refugee doctor and his wife, who were both keen about flowers. They drove me to a nearby old Arab town now called Migdal, once the home of Mary of Magdalen, and a little farther on

to a valley called Vadi Natufah. A stream runs through it and it is contained by odd-looking stone cliffs. One particularly stands out like a rough column, or gigantic human figure. I thought it might be the Pillar of Salt but was told it was not and that no one really knows where Sodom and Gomorrah were. This valley is so filled with flowers it looks like a gigantic rock garden. There were far too many flowers for me to identify. For botanics I had two volumes of *FLORA OF THE LAND OF ISRAEL*, by Dr. Michael Zohary, and a charming little book he gave me called *FROM CEDAR TO HYSSOP* by Crowfoot and Baldensperger. I should have had Post: *FLORA OF SYRIA, PALESTINE AND SINAI*. And I should have stayed there for at least a month.



Ornithogalum brachystachys



Althaea acaulis

In the valley I saw many kinds of vicias and a plant which is probably *Tetranolobus* with broadly pinnate leaves, the terminal ones tinted ruby-red and the whole flat on the ground. There was *Hyoscyamus aureus*, golden henbane, with bright yellow flowers, and an enchanting light pink cress with deeply cleft petals called *Malcomia*, makholmia by the natives. I cannot tell which species it is, now. There was *Adonis microcarpa* with dark red poppy-like flowers and ferny leaves. Carob trees are here, psoraleas and many kinds of clover and brooms.

I drove to Nazareth, past beautifully neat fields cultivated and owned by Arabian Israelis, in a car with an English-speaking driver whom I told before I started that I wanted to stop now and then to look at the flowers. He told me his wife loved them, too. When I saw a flower new to me he would get out of the car, plunge into the mud, and bring back a large bunch of it. Once it was

Iris palaestina. Each stalk is eighteen inches high and bears several flowers, all blue except for a white patch on the falls. He also brought me *Lupinus pilosus* which grows bushy, about eighteen inches high, and has dark blue flowers with a white spot. This I was told later is the only place where it is found. We found *Phlomis viscosa*, a lovely plant with fairly large yellow sage-like flowers, and *Scabiosa prolifera* with cream-colored flowers tinted with pale green. It too is bushy, softly hairy, and has longish leaves with wavy margins. This is a plant I highly recommend for the border.

Ruta chalapensis looked so different from *R. graveolens* which grows in my garden, I had to taste the leaves to make certain it was a rue. This near eastern rue has finely divided leaves and large clusters of yellow open flowers with fringed petals. I saw this plant on the way to Mt. Tabor from Tiberias.



Chenopodium murale

Tulipa Oculus-solis

GREECE

I left the airport at Tel Aviv at 10:30 in the morning, in the rain. Soon the clouds parted, and I could see the Aegean below and thought of Icarus, as I looked down on Rhodes and the Cyclades Islands set in the sea which did appear "wine red," in places as Homer had described it. Upon landing in Athens at half past two in the afternoon, it was surprising to see how dry and dusty everything was.

Two days later I drove to Delphi to spend the night and saw wonderful flowers on the way. However, I was in a bus on that trip and could not stop to

get out and look closely. Another time on the way to Corinth, down to Mycenae and on to Epidaurus, I had my own car and could do this. In the fields on the way to Delphi here and there were patches of sky-blue. When I picked the flowers I saw they were a kind of clover which I cannot identify. There were also clumps of deep purple iris. The flowers of these were quite large and superficially looked like one of the Germanicas. Everywhere was the little white daisy I saw in Israel. At Delphi *Euphorbia polychroma* was four feet or so high, much branched, and tipped with mustard-yellow. It grows thickly in the lower ruins. Here too was *Anemone coronaria* in all colors of its tribe and in drifts. The dryness of the climate caused the anemone, as it does most flowers here, to be dainty and low, and it looked entirely charming among the orange pink stones of the ruins. *Ornithogalum* was as frequent as grass; it was probably *nanum*.

On the way to Corinth, close to the Bay of Salamis, the hills are covered with thyme, *Thymus capitatus*, the thyme of Hymettus. It was twelve inches high and quite a wide little bush, and is said to have purple flowers. Here and there among the thymes were clusters of beehives painted light blue, a favorite color of bees. The honey is delicious and has a tang of thyme, not as strong as in some other thyme-flavored honeys. There were many brooms with yellow flowers. At the ruins of the famous sanitarium of Aesculapius at Epidaurus grapehyacinths and ornithogalums as also anemones grew in great swathes. The grapehyacinths were not over four inches high and made deep blue patches. Along the roads wild white and pink prunus were in bloom, either a peach or an almond. They were fluffy and roseate against the gray-green of olive trees or the deep green of oranges. The scene was punctuated by the black clothes of the peasant women, each with a snow-white kerchief on her head, still tied to hide the lower portion of her face as the Turks must have taught her.

The flowers in Attica on the way to Sunium, where the temple to Poseidon is situated on an arm projecting into the sea, are deservedly famous. Here were huge bushes of rosemary with deep blue flowers, but what gave me the biggest thrill were carpets composed of pale yellow *Alyssum saxatile citrinum*, and purple *Aubrieta deltoidea*, probably var. *graeca*. At the steps of the temple were lovely pink vetches two inches high, and everywhere the most beautiful and decorative clovers. There is something about the atmosphere in Greece which makes all objects stand out in all their outlines and seem to explain the clarity of thought and sense of balance, that characterizes the art and literature.

THE SMELL OF A DONKEY

STEPHEN F. HAMBLIN, LEXINGTON, MASS.

WE DO NOT WISH a donkey in our rock garden, but the *smell* of the donkey—*Onosma*—is very desirable. This curious name was given because donkeys are supposed to like the smell of the plant. No special odor is noticeable to me; but the foliage is softly bristly hairy and perhaps edible to a jackass. There are some 70 species known, native to southern Europe, Asia Minor and the Himalayas, but only a few are in gardens as yet. They are of the Forgetmenot Family, little like *Myosotis* yet very like to *Lithospermum*. The flowers are usually yellow, in curved nodding racemes in May, while the woody *Lithospermums* of Europe are blue-flowered and not as hardy. As with all these plants of the Borage Family the roots are violet-blue in color.

The most common species is *O. stellulatum* of the hills of southern Europe, Golddrop *Onosma*, a definite small shrub to one foot or more, branched from a basal rosette, the leaves long oblong, mostly evergreen, very hairy-bristly. In May there are drooping curved racemes of tubular yellow flowers, an inch long, quite unlike Forgetmenot, but more like our native *Mertensia* in form. It seems to be

wholly hardy to zero cold but should have fullest sun and good drainage. Though large plants should not be disturbed, seedlings transplant readily.

The plant is variable and seed can be had under such names as *O. tauricum*, *O. helveticum*, *O. angustifolium*, etc. This is probably the most useful of the woody plants of the Borage Family for New England, wholly hardy and long lived.

Several other species have yellow flowers, while *O. cassium* is purple. *O. albo-roseum* has drooping tubes of pure white, in age turning pinkish or violet. These three are obtainable from foreign seed and plants should preferably be sold from pots, as the deep purple roots do not transplant well when beyond a first season growth. Once established, you may save your own seed, and germination is easy.



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