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G. G. Nearing, Editor

VOL. 11 APRIL 1953 NO. 2

THE PEAT GARDEN

PART I

WILL INGWERSEN, EAST GRINSTEAD, SUSSEX

ALTHOUGH MANY LIME-HATING, peat-loving plants are attractive and decorative, and very beautiful when in flower, they have no monopoly of loveliness over more tolerant plants with which we do not have to fuss to nearly the same extent if we are to grow them well. This being so it is not altogether easy to discover wherein lies their undeniable fascination. It is not altogether the fact that they are, generally speaking, more difficult to grow in the average garden—although this is a feature which undoubtedly endears them to many gardeners who find pleasure in contending with refractory plants. No, there is a quite unexplainable "something" about "peat plants", as they are often collectively termed, which makes them unusually precious, and induces us, even after repeated failures, to attempt their successful cultivation.

They are plants which are, on the whole, extremely sensitive to climatic conditions, quite apart from their intolerance of lime, and possess only a narrow range of tolerance. Other plants will endure with some measure of contentment, conditions of soil, aspect and climate which are far from comparable to those which they might be expected to appreciate, but these calcifugous plants defy all attempts to persuade them to grow under circumstances which do not provide essential humidity, coolness of soil, or freedom from the detested lime.

In Britain there are certain areas in which the natural soil is ideal, and where, even if other circumstances are not perfect, they are at least nearly enough so to enable a great many peat plants to be grown successfully. In others, and notably in Scotland and the more northern counties, conditions exist which are ideally suited to this type of plant. It is curious that it was in Scotland, in the Edinburgh Botanical Gardens, that the first serious attempt was made to create a special type of garden in which such plants as the rarest Asiatic Primulas, members of the Ericaceae, and many other choice plants and dwarf shrubs could be accommodated. One would have expected such an experiment to have originated in the southern counties, where gardeners had almost despaired of success under ordinary methods. However, once the Edinburgh Peat Garden was well

under way, others were not slow to follow on, and now Peat Gardens are being made in many parts of the country, and are proving singularly successful.

The first notable Peat Garden was a rather unsightly attempt to disguise a great mound of excavated tree roots by covering them with quantities of peat and leafmold. So many previously intractable plants flourished amongst the gnarled roots that other, and more decorative means of attaining the same end were essayed, the final result being the Peat Garden as it is known today. Even in districts which are ravished by spells of drought and bitter winds in the spring —conditions which are detested by most peat plants, success has been attained and offers indisputable evidence that we are fairly on the way towards the solution of a problem which has for so long aggravated us. It was my pleasant privilege, during one of his several visits to England, to show Mr. Harold Epstein one of the first Peat Gardens made in the south of England. The evident happiness of the many rare species it contained was a revelation to him, and this description of a recent trend in British horticulture is due to his solicitations.

Before coming to the practical question of methods and materials to be employed in making a Peat Garden, I must enter a plea, as I have repeatedly done in this country, that the hateful term "peatery" should be avoided like the plague. I have writhed too long at the horror of "rockery" to contemplate with any peace of mind the coining of a new and equally revolting—and inaccurate—phrase. A few, fortunately rather faint-hearted attempts have already been made to add the detestable term to the gardener's vocabulary; efforts upon which I have jumped hard, and sometimes, I fear, rather rudely. I do not care overmuch for either Rock Garden or Peat Garden, but a label there must be, and as I cannot compose any other that is not cumbersome, I must endure these understandable, and not ill-sounding phrases.

If you are so fortunate as to possess a peaty, lime-free soil, and to dwell where the climate never runs to extremes, where the air is humid and the temperature equitable, then read no more, for you have no need of a Peat Garden. If, on the other hand, you are not amongst the privileged few, and long to grow Cassiopes, dwarf Gaultherias and Vacciniums, Shortias and Schizocodons, Epigaeas and creeping Cornus, rare Asiatic Primulas, and other delights, then a properly constructed Peat Garden may enable you to succeed where previously you have been left to mourn, or to expensively replace your perished plants, or to weep above half-dead specimens.

I was in some doubt whether proper materials were readily available in America, as it is essential that the peat used in the construction should be in block form. A letter recently received from Mr. Nearing, however, has reassured me on this point and I learn that it is possible to obtain suitable peat blocks in the U.S.A. I believe that peat is used for burning in parts of North America, as it is in this country, but this peat, although I have known it to be used with a measure of success, is not as good as the less solid horticultural peat.

The site for the Peat Garden should be chosen to provide the coolest possible conditions without being in dense shade. If a north aspect is available it is ideal, but other aspects can be used, although a southern one should be avoided if at all possible. It is easier to build against a sloping bank or against a depression than on level ground, but if a depression is utilised, it is essential to provide for the outflow of cold air at the lowest point, otherwise a frost pocket will result (I was once caught in this way, and found my Peat Garden, in wintry weather, with a foot of icy air at the bottom, several degrees lower than the surrounding air temperatures. The cure was simple, and consisted of making an opening through which the cold air could flow to a lower level.

The technique of building is easily acquired with a little practise, and consists of making retaining walls of peat blocks in a series of undulating lines and promontories and on different levels; the object being to construct a rock garden in which peat bluffs and walls have taken the place of rocks. The walls should incline slightly inwards, and the blocks of which they are made should be solidly packed and the joints between the blocks in one layer covered by the blocks in the next layer above. The space behind the walls is filled with either granulated peat, or a mixture of this material and leafmould. It is most important that the beds and pockets should be very firmly trodden as they are filled to ensure absolute consolidation.

As in a rock garden, a choice of aspects is desirable, for there are some peat plants which prefer a sunny position, and others which must have shade, and these varying aspects may be contrived quite easily by throwing out a few spurs or headlands, the deep bays between them providing sheltered positions for choice species needing the extra protection, whilst the two sides of the jutting promontories offer aspects to suit all tastes. One of the most successful Peat Gardens I know is in Sussex, and is constructed in a shallow depression at the foot of a gentle slope and is roughly circular in shape. This permits of an infinite variety of aspects, from complete shade to full sun. It is not generally realised that many peat plants prefer to have their heads in the sun, as long as their roots have depths of cool, moist soil in which to spread.

It is not at all necessary that the peat walls should be high. The actual height to which they are built depends to some extent upon the site and upon personal taste and convenience—older gardeners will prefer slightly higher walls which will raise the beds to a convenient height over which they need not stoop—but peat plants are, generally speaking, shallow rather than deep rooting, and need no more than nine to twelve inches of soil. Walls of from twelve to fifteen inches are less likely to sag and collapse than higher ones, and require less peat blocks to make, and less material for filling behind them, a consideration where economy is necessary.

I stressed the importance of thorough consolidation when filling the peat beds, and I make no bones about reiterating the urgency of this, for I learned by early mistakes that it must be done. The first Peat Garden with which I had anything to do was planted immediately it was completed, and, although the beds had been made, as I thought, very firm, they were still rather "spongy". A hot and dry summer followed the planting, and a great number of plants died. It was found almost impossible to retain moisture in the peat which had not settled into a dense mass. Planting should be postponed until, after repeated thorough soakings, the beds show no signs of further settlement, and after additional material has been added to compensate for settlement, which is often as much as several inches. Once really firm and compact very little artificial watering is required and I have known a Peat Garden to pass through a long hot summer without a single application of water other than the rare storms of rain which fell upon it and no plant displayed any sign of suffering from drought. If at any time it is absolutely necessary to apply water to a Peat Garden, it is useless to apply water forcibly or in small quantities. It must receive a slow, complete soaking which can be allowed to penetrate gradually. A sprinkler giving a fine mist spray and left operating for several hours is an excellent method, or, if this is not available, a hose pipe left trickling very slowly, and occasionally moved from place to place will do it very well.

One great advantage which the Peat Garden possesses over a rock garden is that every inch of space is available for planting. Many species may be accom-

modated actually in the peat walls, and, not only do they relish such a position, and look attractive when so planted, but they help to bind the whole construction together and lessen the risk of erosion, which is a danger to be guarded against, especially in dry weather when the edges of the walls become powdery and may flake away unless welded together with a firm network of live plant roots. There are innumerable creeping plants which lend themselves to such positions, and, in time, many of the inhabitants of the pockets and beds, will drop their seeds onto the walls, where they will germinate and assist in the clothing which is such an enjoyable feature of this type of garden.

I have occupied so much space in these preliminary observations, and there is still so much to be said, that I think it would be wise to confine this first article to the actual construction of the Peat Garden. In the next issue I will describe a number of the plants which can be used. There are a great many of them, and I hope to be able to include a number of photographs of some of the most attractive species. I have tried to photograph a newly constructed Peat Garden, in the hope that it might be helpful to those wishing to make one, but the pictures conveyed very little of the detail I wished to emphasize, largely owing to the lack of contrast in the materials used. In a rock garden there is more light and shade, and depth and height is accentuated. It is difficult to describe any gardening operation clearly by the written word but I hope that the poor description I have made may tempt American gardeners into this new and fascinating field.

The securing of peat in block form is a matter of transportation, for just such blocks are cut out and dried before being ground into the commercial peat moss. One of our leading producers of peat has offered to accept orders tentatively and experimentally, so members who would like to try peat gardening should communicate with the editor, who will give their names to the peat producer in the hope that some means of successful transportation can be worked out.

WALTER DABNEY BLAIR 1877 - 1953

Walter Dabney Blair, beloved by many members of the American Rock Garden Society, passed away at the age of seventy-five on January 11, 1953. Mr. Blair was president of the Society from 1940 to 1944, and for many years a member of the Board of Directors. Although ill health in recent years prevented him from actively participating in the affairs of the Society, he maintained his deep interest in it. His wise counsel and congenial presence will be sorely missed by his many friends.

Mr. Blair was born in Amelia County, Virginia, the son of Lewis Harvie Blair and Alice Wayles Harrison. He began his architectural studies at Richmond College in 1891, and two years later entered the University of Virginia where he received his B. A. and M. A. Mr. Blair studied in Paris for three years, receiving his diploma in architecture and the Miller Prize, as well as many awards from Ecole des Beaux Arts. Among the many buildings he designed were the Public Library at Charlottesville, Va., the Warner Library at Tarrytown, N. Y., the Edwin Gould Foundation in New York City, and several buildings at the University of Virginia.

Mr. Blair married Miss Ethel Gould in 1907, and a son, Harrison Westbrook Blair, was born of the marriage. After the death of his first wife, he married in 1932 the novelist, Miss Elizabeth Hollister Frost, who survives.

A NEW ALBINO PENSTEMON

MARY G. HENRY, GLADWYNE, PENNSYLVANIA

WE IN THE EAST like to grow Penstemons. We find it difficult, however, to make the beautiful and highly colorful Western species happy and permanent inhabitants of our gardens.

Most of the Eastern species carry flowers that are rather quiet and sedate in color. There are a few exceptions however and among them is *Penstemon dissectus,* whose well shaped flowers are fairly large and colored rather a vivid purple with a white lip. Unfortunately this one is rare and fairly difficult to obtain, and not too easy to grow.

Perhaps *Penstemon hirsutus* is one of the most valuable members of this family as it is hardy and long lived, even in heavy eastern clay. It is very free flowering but the flowers are a pale lavender or lavender-white, often of a very dingy tint. Its foliage makes fine deep green winter rosettes. After ten years of selecting color forms, there are now clear rose pinks, in pale and deep shades and also wonderful deep rich purples and plums, all with white or paler "lips". I sent these out as *"Penstemon hirsutus* Gladwyne Varieties" some years ago. Feeling that a white flowered *Penstemon hirsutus* would be a very desirable plant to use as an accent or contrast to the highly colored Gladwyne Varieties. I searched for years for an albino or pure white variety. I must have hunted through thousands of specimens with no luck at all. Several botanists who travel extensively were on the lookout too.

White flowers have always been great favorites of mine. There is invariably a certain grace and ethereal quality they possess, something that is often quite fairylike and hard to describe.

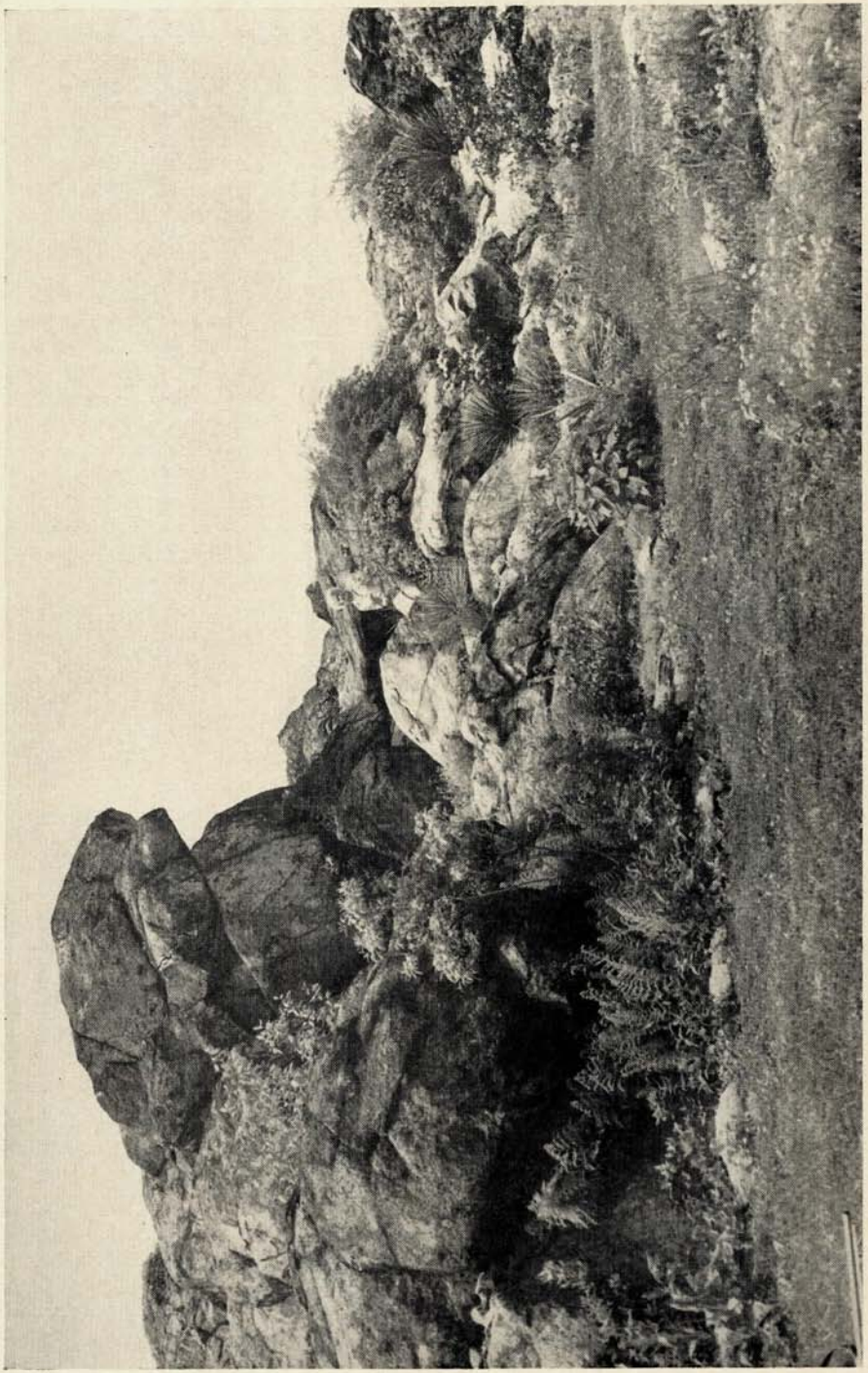
Three years ago, when and where I least expected it, I found a great prize in my Trial Garden, where hundreds of *Penstemon hirsutus,* color forms, have for years grown from selected plants, from self-sown seeds. Three years ago among many gaily colored ones, there appeared a pure unalloyed snow-white *Penstemon hirsutus.* It seemed, almost, as though a star had fallen!

A year later there were seven albinos. It was easy to see and segregate them for the leaves are a very distinctive pale lettuce green, so different that they are easy to select in the young seedling stage. I moved these white flowered Penstemons to a corner in the Rock Garden in an effort to separate them from their brightly colored sisters and so to help fix this lovely strain of the useful *Penstemon hirsutus.* I suppose we can call it *Penstemon hirsutus albus.* I hope that soon other easterners can enjoy this Penstemon as much as I do.

ANNUAL MEETING, GLADWYNE, PA., SATURDAY, MAY 9TH

Pursuing the policy of combining the Annual Meeting with a chance to view the outstanding gardens of its members, the Society will make a pilgrimage this year to the rock garden of Mrs. J. Norman Henry, now the Henry Foundation, not far from Philadelphia. Gladwyne, to be exact, is about a mile southwest of the Schuylkill River and about three miles southeast of Conshohocken. Explicit directions for reaching the spot will be included in the mailed announcement, to go out in the near future.

The accompanying photograph, not a recent one, will give some idea of one part of the garden and its maker. We have read about Mrs. Henry's selections of color forms among our native wildflowers. These are to be seen growing where she has planted them.



The rock garden at Gladwyne, where the Annual Meeting will be held
(Photo courtesy of The Philadelphia Evening Bulletin)

BROOMS SWEEP MY GARDEN

CARL STARKER, JENNINGS LODGE, OREGON

BROOMS ARE IN MANY WAYS the answer to the gardener's prayer. They are not fussy as to soil; they like a hot, dry place better than any other; and they have no desire or need for fertilizer. There are many kinds too large for rock garden use, but the smaller, slow growing varieties will stay put for many years, and every season they will cover themselves with bright bloom. Afterward they retire into the background, making a fine foil for later-blooming plants. While some of them are not hardy in the far north, most of the varieties will grow at the Arnold Arboretum, so should be suitable for many gardens.

Botanists have divided brooms into two classes: Cytisus and Genista. After a good deal of searching through botanies and horticultural encyclopedias, we find that the difference between them consists in the fact that the Genistas have no callose appendage at the bottoms of their seeds. We haven't yet discovered what callose appendages are, but we are glad to know wherein the difference lies. To gardeners they are all brooms.

Cytisus Ardoinii is a small, very slow growing plant which in five years grows to about five inches high by 10 inches across. It is more or less decumbent, and makes a rather open plant, with thin smooth stems slightly grooved on the upper surface. These creep along the ground and turn up more or less at the tips, breaking into many small upturning twigs. The leaves appear quite early in spring, and are shed again in midsummer. They are small trefoils, narrow and pointed and quite fuzzy. The flowers which appear in May are bright golden yellow and are borne singly or two or three together at the tips of the stems. It comes from the south of France, and so may be somewhat tender, but it is most interesting and choice. It comes rather slowly from summer cuttings, and after a good many years it may root as it goes, and natural layers be started in this way.

Cytisus Beanii makes an upright little bush of nearly naked dark green stems. The lower branches start off in an almost horizontal direction from the main stem, but almost immediately turn upward in a graceful curve, so the outline of the plant is roughly spherical. It is a clean, sharply defined plant, with no fuzziness in its makeup. The stems are very thin, so that the bush is quite open and graceful. The bright yellow flowers are borne at the tips of the stems in June. It makes a rather open bush which will never grow more than a foot high, and always remains upright.

Cytisus hirsutus decumbens is a grand plant for the side of the pool or any place where it can be allowed to droop softly over rocks. It will never grow over six inches high, and the plants have to be very old to do that. For their first three or four years they are practically tight to the ground, with no measure of height at all. The slender green stems with their closely set little bluish green leaves, creep gracefully along the ground and curve upward just a trifle at their tips. It makes a close tight mat, the rather leafy stems completely covering the ground. It is a neat, attractive plant at all times, but when the flowers appear in May it is truly a mass of gold. There can be no plant which more fully covers itself with flowers than this broom.

Cytisus hirsutus decumbens will cover quite a space in time, but it can be easily controlled by mild pruning, which doesn't spoil its shape or interfere with its natural beauty. It is perfectly happy in full sun, but will grow well and bloom

with its usual profusion when planted in part shade. It can be propagated from cuttings taken in late summer, but they come on rather slowly.

Cytisus kewensis was our first love among the brooms, and it still continues to hold a high place in our affections after 30 years of experiment with various and sundry sorts. From the very first it has occupied a place of honor at the top of our rockery, where it can show off the glory of its creamy blooms to best advantage. After all these years, it is a green-stemmed, rather decumbent plant about five feet across, which descends gracefully over the rocks below it. It has a very few, small leaves, which fall rather early in the season, and the whole dull green plant is quite inconspicuous except when in flower. But then it completely covers itself with its large creamy white flowers. Every tiniest twig is a-bloom, and it is the show spot of the rockery for the two or three weeks that it flowers in early May. After that it retires modestly into the background again.

It should always be planted rather high up, so that the full glory of its flowers may be appreciated. *Cytisus kewensis* grows rather slowly, and tends rather to thicken up than to cover much space. It can be pruned somewhat severely if necessary, without spoiling its beauty. It is a wonderfully fine wall plant. It strikes readily from cuttings in midsummer, but they root slowly. Being a hybrid, it does not set seed.

Cytisus purpureus is much leafier than most of the brooms. Its deep green leaves which are produced in threes look very much like clover, but are a trifle smaller. It forms a rather loose open plant with long, unbranched arching sprays which make graceful curves and are set all along with rather large orchid flowers in May. It is a beautiful and interesting plant on account of its form and the unusual color of its bloom. Its leaves fall quite late in autumn and leave bare twigs that turn purplish as winter advances. There is a *rosea* form of paler colored flowers.

If this broom is put in fairly poor soil, it will grow quite slowly. A ten-year-old plant will not exceed a foot in height and two feet in width. It increases naturally by suckers and can be raised by seeds or cuttings.

Cytisus versicolor is quite a good deal like purpureus in general habit, but grows somewhat taller and more vigorous. In time it will grow to two and one-half feet with a spread of four feet. It has long, unbranched stems which are overlaid with a slight grayish bloom. The good-sized leaves, which are in threes, are a pleasing shade of blue-green, and turn reddish in the fall. The slender stems spray out in every direction from the crown, but most of them in time bend downward at the tips, giving the plant a weeping effect.

The flowers are quite large and graceful in shape. They are of several colors on the same stem; some are creamy, some pinkish, and some decidedly lavender. This is a plant which people are always admiring and wanting. But it does not propagate with ease. It sets no seeds, makes no suckers, and is not easy to root from cuttings. Must the moon be right?

Erinacea pungens is sometimes known as the blue broom. It is a curious plant composed of a compact mass of smooth short stems sticking out in all directions, like some small gray hedgehog, for each stem ends in a sharp spine. The leaves are almost non-existent, and the plant seems to be nothing but a group of short thorny stems, but in spring it puts out clusters of large lovely pea-shaped flowers of soft pale blue. Young plants have only a few flowers, but with age they bloom more fully. They grow with extreme slowness, hardly seeming to increase in size from year to year. Plants of seven to eight years are only about three inches across by two and one-half inches high.

It needs a hot dry situation, in a soil which is furnished with some lime, and should be put in a permanent place so that it can make itself comfortably at home. Native to the south of Spain and Corsica, it may not be too hardy in the north, but does beautifully here. It can be propagated by seeds, but my plant has never set any.

Genista dalmatica is a deceptive creature, for it sits low and cushiony and soft-looking in some sunny spot of the rock garden, waiting for someone to pat it. We have often been amused by the expressions on the faces of visitors who have stooped to caress it. There are many prickly thorns. It makes a low rounded cushion of a great many slender, upturning, slightly hairy stems, unbranching and set at intervals with small thorns, so that it is well armored indeed. However they are thin and lax, and not too painful when contacted. The very showy flowers of a bright golden yellow are produced in short racemes atop the branches, blooming very freely over a long period. It can be increased by late summer cuttings.

Genista hispanica is a prickly one suited only for the larger rockery. It makes a rounded upright bush which will go to two feet, a fairly rapid grower. Every twig is capped with a long slender thorn. The leaves are small and gray-green, the abundant flowers bright yellow. As it has a taproot, it should be moved only when young.

Genista horrida gets its name from the fact that it is prickly, but this seems a rank discrimination, for it is no more so than many of the other brooms, and belies its name by being a most interesting and lovely plant. It is always very slow growing, our oldest plant of some 25 years being a solid, flat-topped bush about 18 inches high and some three feet across. It makes a dense mass of stiff short radiating shoots so closely packed together as to be quite firm and solid. They are silvery gray-green, rigid and unyielding, and each one ends in a sturdy sharp thorn, but for all that, it is a well mannered bush, and will stick you only if you squeeze it. It won't reach out and grasp you as germanica will.

It has only a few gray-green leaves that drop quite early in the season. The bright yellow flowers do not appear in such numbers as do those of some of the other brooms, but they come in late June and July and keep blooming for a long time. Growing very slowly, *Genista horrida* will "stay put" for a good many years. It can safely be planted near choice little plants, for it will not gobble up their space and take their place in the sun. It is one of the choicest bushy types, both for its neat habit and for its slow rate of growth. It can be propagated by cuttings, which come on rather slowly. Or sometimes rooted pieces can be pulled off the parent plant.

Genista humifusa is one of the very smallest and choicest of brooms. The old mother plant from which our cuttings come has finally reached a height of about three inches, and is over a foot across, in something over ten years' time. After four years, the cuttings are only four inches across. It is a prostrate plant with a thick central stem which almost immediately breaks up into a great number of slender radiating green branches fanning out in every direction, keeping close to the ground and following its contour. They are set with many dark shiny little leaves, quite large for the size of the plant, oval and smooth. Each pair turns back flatly against the stem like the ears of an angry kitten. They are so close set that they overlap slightly.

The deep yellow blossoms appear at the ends of the spraying stems very late in the season. This is a very precious plant, deserving a most special place. It is perfectly easy, and will succeed under the same general conditions as do the other brooms, but it roots slowly from cuttings.

Genista pilosa has been a favorite for many years. It is almost prostrate, and loves to creep over rocks. It divides into many rather short leafy stems, the leaves, small, pointed, dull green, folded down the center and turned forward, almost clasping the stem. This is the most nearly evergreen of all brooms, the leaves remaining on the plant for a good part of the winter.

It does not bloom as freely as many of the other brooms especially when young, but so effective is the foliage that it wouldn't matter if pilosa never bloomed at all. The plant grows slowly. We have a group of them along a rock-bordered path where they have been growing for at least ten years. They do not spread so as to cover a great surface, but each year the mat of stems grows thicker, so that few weeds except the indestructible joint grass can come through it. This species is quite rugged-looking in a small way, like a storm-bent tree. The bright yellow flowers appear in clusters in late June and July.

Genista sagittalis makes a very odd-looking plant. It has long, trailing, dark green stems, but they are flattened in a curious way and occasionally constricted after the manner of a cactus plant. Without exactly creeping, the strange flat stems lie along the ground. There are very few leaves.

The chief glory of this plant is the flowers, which break out in long racemes from each of those wide, ascending stems, deep butter yellow—a brave splash of bright color in May. There is a vivid yellow which is harsh, but the yellow of *G. sagittalis* is simply bright and glowing. I once had a whole row of these plants on a rock wall, an unforgettable sight. Growing more rapidly than many brooms, it is perhaps too large for the smaller rockery, and should by no means be placed near your choicest treasures, but is a fine and showy plant for the right place. It comes readily from seed, and will often self sow.

Genista sagittalis, a hardy broom from central Europe

Genista delphiniensis is a much smaller version of sagittalis and more worthy of a choice spot. It will not prove invasive in the least.

Genista tinctoria flore plena, the double flowered broom, makes a lush and leafy mat of green stems plentifully set with grayish green leaves of thick, leathery texture. From the close mat of dull green, somewhat rounded in the

center, the branches spray out in a circle. Though never growing more than eight inches high, it will in time cover quite an area. The double flowers of clear deep yellow come in short racemes at the ends of the branches. The blooming period is late and the flower remains fresh and showy for a long time.

This is a very attractive broom, but it does have one serious fault. It is quite susceptible to the attacks of aphids. None of the other brooms seem troubled in this way.

Genista prostrata is a wide spreading broom of the creeping type, and is perhaps too big for any but the larger rock garden. It can however be easily cut back and controlled. We have had one on a rock bank by some stone steps for many years. It is about four feet long and follows the contours of the rocks in a most interesting way.

The species makes a thick twiggy plant with many slender creeping stems that clamber over the rocks. The branches are thickly set with little oval leaves about three-eighths inch long, quite evergreen. The deep yellow flowers appear a few at a time over a long period. It roots readily from summer cuttings.

Genista radiata is a rather deceiving plant, for it looks as if it should be prickly, but isn't. A stiff, upright plant, its long, bare, olive-green stems are grooved and at the end blunt. The few small gray-edged leaves appear only in the axils of the branches. From the stiff, vertical main stem, pairs of branches extend at an angle of 60 degrees, each pair of branches and branchlets set on the opposite side of the stem from the pair below it, so that the whole appearance is of a twiggy bush with branches sticking out every which way. It is quite unique among brooms. The yellow flowers come in bunches at the tips of the branches, fairly large, but not so freely produced as in some of the other types. It will grow to perhaps two feet high and as much across.

Genista Villarsii is very slow growing and a poor increaser. One of the smallest brooms we have grown, it is creeping, and sends out in a sprawling loose habit of growth its thin, thread-like gray stems, all bumpy with tiny nodes, and set at very wide intervals with the tiniest of gray-green leaves. Where the flopping little stems turn up at the end, the bright yellow flowers open in May. It is a proper plant for a choice spot.

VIOLET CONFUSION

HELEN C. SCORGIE, HARVARD, MASSACHUSETTS

IN THE JANUARY ISSUE OF THE BULLETIN, the question is raised as to the scientific affiliation of the violet "Freckles" and a suggestion that it might be a hybrid of *Viola cucullata.* This garden violet is not a hybrid, and bears no relationship to the lovely marsh violet. It is one of the many variants of the common yard violet, *V papilionacea.*

Many color forms are found in *Viola papilionacea,* one of which is the white—forma *albiflora.* This is common in gardens (where it is usually misnamed *"Viola cucullata alba"*) and crosses freely with the type plant, producing innumerable combinations of the white and lavender colors. Many of these offspring have been named as "Freckles" and the "Confederate violet". A diversity of other forms, differing in size and color, have also been named and propagated by gardeners as "Helen Dennis", "rubra" and "rosea", all with the botanical name *"Viola cucullata"* wrongly attached. Unfortunately, except for those dealers here in the East who have a knowledge of botany, the error persists among both professional and amateur gardeners.

The botanist will have no difficulty in keying out these two violets in the eighth edition of Gray's Manual. The gardener without this knowledge cannot fail to distinguish them by the characteristics given by Mrs. Baird in "Wild Violets of North America" for the three divisions of stemless blue violets. She is, however, in error in stating that the peduncles of *V. cucullata* "little exceed the leaves", for it is characteristic of this species that the petaliferous flowers often much overtop the leaves. This gives a further distinctive difference between the two species easily discernible to the careful observer.

Viola cucullata is not an easy plant to grow. It is a plant for the connoisseur, demanding a wet moraine for its survival. An unequivocal empirical method of identification in the garden is that it cannot be grown under ordinary garden conditions. Such dryness would spell prompt death for it. No violet so growing can possibly be *V. cucullata.*

For the lover of violets, its difficulty of culture is a challenge, because it is one of the most beautiful of our eastern violets. It has the essence of wildflower charm. Above the long, slim stems swing the clear lavender flowers with their contrasting splash of rich violet at the center. In distinction from the masquerader under its name, there is never a mass of flowers, but each stem curves gracefully to display to the full each separate bloom. The narrowness of the petals also adds to the wildflower air.

It is most nearly related to the blue bog violet common in the midwest, but its flowers are a clear violet instead of the near-blue of *V. nephrophylla.* A white form has been found in the wild, but it is most uncommon, and has never, as far as I know, been offered in commerce. Neither have I ever known of a gardener who grew it.

There is no disagreement, to the best of my knowledge, among scientists as to the names appropriate to these two violets. Botanists are in perfect accord that the yard violet should be called *V. papilionacea,* and the name *V. cucullata* belongs to the marsh blue violet. The misuse of the latter name by gardeners is inexcusable. *V. papilionacea* will not seed in any the less for a wrongful change of its name. If gardeners are unwilling to call a plant by its correct name, they should at least refrain from appropriating for it that of another species. Scientific names lose all value to the lay gardener when such unethical practices are followed. It leads to confusion among gardeners and is quite unnecessary. The gardener may legitimately let his imagination range wide in giving to garden plants fanciful non-botanical names.

The Bulletin is best fulfilling its purpose when those who have studied a particular plant tell us in detail what we ought to know about it. Anyone else who knows of a misunderstood garden plant should do as Dr. Scorgie has done, explain it so thoroughly that we will remember it.—Editor.

SOME LESSER KNOWN ROCK GARDEN PLANTS

W. SCHACHT, BOTANIC GARDEN, MUENCHEN, GERMANY
(Translated by E. H. Krause)

WE MIGHT SUPPOSE THAT all the flowering plants of the European mountain ranges are thoroughly known, and that new discoveries could hardly be expected. This assumption is correct as far as it concerns the Alps, the botanically most explored and frequented mountain range.

However, in more isolated uplands, as for instance in the Balkans, discoveries are still being made. The plants which eluded the eyes of botanists all this time were by no means inconspicuous little species, but often fairly large ones, and some even so beautiful that they merit acceptance as garden subjects.

One of these introductions, although it was found over twenty years ago, is *Anthemis Sancti-Johannis*. The Bulgarian botanist Steujanoff found this composite in the Rila Mountains. There it grows on a sunny, grass-covered slope at an altitude of about 4500 feet, somewhat above a lonely chapel dedicated to St. Johannis (St. John) by the monks of the Rila Monastery. *Anthemis Sancti-Johannis* is conspicuous on account of the orange flowers on 12 to 16-inch stems. It is equally suited for the herbaceous border, for use as a cut flower, and for foreground planting in a rock garden. Propagation is by seeds. However, it is important that there be no *Anthemis tinctoria* in the vicinity, as the two species hybridize readily, and the resulting hybrids do not retain the beautiful orange color.

Hypericum tomentosum, one of several European species suited to the rock garden

A desirable companion for this summer flowering plant is *Catananche caerulea* from the southern Alps. This composite has lilac-blue flowers carried on long stems above its narrow-leaved rosettes. For larger rock gardens *Campanula thyrsoides* var. *carniolica* is very effective. This is a species which during the first year develops a rosette of lanceolate leaves, out of which the following year rises a two-foot tall, narrow spike of pale yellow flowers. The plant dies after flowering, but in sunny dry locations, numerous seedlings will continue the species.

Of similar habit here in the garden is *Silene compacta (S. orientalis)*. This alpine from the Balkans bears spherical rose-pink flower heads on stiff stalks 15 to 20 inches high. In contrast *Silene maritima* is a charming beach plant from the western shores of the Mediterranean. It forms flat mats of gray-green leaves, and bears, practically through the entire summer, white flowers with

inflated, reticulated calyces. It grows best in sandy soil, and is even satisfied with pure sand. Another Silene, *S. Saxifraga,* is a typical rock plant, its small-leaved globular cushions graced with numerous white blossoms. These, however, open in the evening and offer their nectar to the night-flying moths until morning.

A little known but attractive plant for a sunny rock garden is *Scabiosa graminifolia.* The somewhat woody, gray-green, narrow-leaved shrublets display throughout the summer lavender-blue flowers, reminiscent of, but smaller than those of *Scabiosa caucasica.* Another species from Bulgaria, *S. rhodopensis,* has yellowish white flowers.

On the sunny lime rocks of the southern Alps thrives *Buphthalmum speciosissimum,* a very handsome plant about one foot high, with coarse oval leaves and golden yellow inflorescence. This alpine should not be confused with the large-leaved, man-high herb of the Balkan woods, *B. speciosum.*

Very pretty and satisfactory yellow flowers for summer are contributed by several Hypericum species, two of which stand out especially, *H. Coris* with needle-shaped leaves and tiny flowers, and *H. polyphyllum* with large flowers on decumbent stems.

Another gleaming golden yellow flower is that of *Ranunculus gramineus.* The lanceolate leaves of this buttercup from the southern Alps die soon after the flowers in early summer, and begin new growth in the autumn. To the many species of Dianthus now cultivated in gardens may be added another. *D. campester* from the Caucasus. The delicate but compact little plants, about eight inches high, are decorated during the entire summer with many small lilac-pink flowers.

Before closing, two dwarf plants should be noted, *Androsace carnea* var. *brigantiaca,* which forms rosettes of needle-shaped leaves from which arise the whitish flowers on stems but two inches long. A still smaller species, *A. Mathildae,* from the Abruzzias, is a charming treasure with shiny green rosettes and pearl-white flowers over which every alpine grower will be most enthusiastic.

SOME ALPINE PLANTS OF SWITZERLAND

EDITH C. LAWTON, PLAINFIELD, NEW JERSEY

ABOVE INTERLAKEN, at the Schynige Platte, 6,463 feet high, is a little depression, partially surrounded by sharp rocky ridges, but open on one side to the magnificent panorma of the Bernese Oberland from the Wetterhorn and Schreckhorn, past the Jungfrau to the Breithorn. It all looks so near that one can almost see the avalanches that every sunny afternoon streams down their snowy sides to the many glaciers below.

In the bottom of this hollow, snow still remains in early July. As the snow recedes, leaving a soggy brownish soil, *Soldanella alpina* springs up, almost over night. It has lilac blue bells with fringe on their edges, a low mat of tiny nearly round leaves, and is a typical example of the high alpine flora, covered deep with snow some eight or nine months of the year, thus leaving only a short interval to burst into flower and mature its seeds. It is not at all uncommon, being found frequently in similar damp and high locations. Usually its color does not vary but on the Susten Pass, near the Stein Glacier, I found many of a definitely deep pink hue.

Above the Soldanellas, in ground a little dried out from the melting snow comes the full mass of alpine flowers. One of the most striking is *Anemone vernalis.* Close to the ground, on their mats of sparsely divided leaves sit the

two to three-inch wide cups, pearl white within around a golden tuft of stamens, the outside of the petals faintly tinted violet, the calyx and short stem covered with a dense coat of soft protective hairs. It is one of the most beautiful of all the high flora. This does not seem to be a common plant for the only other place I found it was above St. Luc, in the canton of Valais, where it had already gone to seed.

Anemone vernalis is not the only Anemone occurring in this hollow, for up the slopes *A. narcissiflora* grows in quantity, with its foot-high stalks, topped with a cluster of white flowers, tinted pink. Still more breath-taking are the great white stars of *A. alpina,* two inches or more across.

Everywhere are the gentians, *G. acaulis Clusii* and *G. verna,* smaller but of an even more intensely vivid blue, are all set off with the whites of *Ranunculus alpestris, Androsace Chamaejasme, Pinguicula alpina* and great mats of *Dryas octopetala.*

In addition to the gentians, blue is well represented by the delicate pale bells of *Campanula pusilla* (now crushed under the weightier name of *C. cochlearifolia*) and *Viola calcarata,* whose great pansy-like flowers, each with its very long spur, are met with so frequently. The Viola comes also in yellow, but as far as I know, the two colors are not found together in the same locality.

Among the small shrubs are mats of *Salix reticulata* and *S. herbacea, Daphne Mezereum* and the two glowing Rhododendrons, *R. ferrugineum* and *R. hirsutum* ("Alpine Rose"). These two are said to favor quite different soil conditions, *R. ferrugineum* demanding a humus-rich soil and usually occurring on the primary formations, while *R. hirsutum* affects the limestone areas, with very little humus, which conditions it gets here in the Bernese Oberland. However, in this locality the two are growing side by side and doubtless hybrids occur between them.

The primroses I found were *Primula elatior,* quantities of *P. farinosa,* and one single lovely *P. Auricula.*

Near the railroad station of the cog-wheel road that brings masses of people daily to enjoy the wonderful view, is an Alpine Botanical Garden, one of the most complete and well arranged that could be imagined. Laid out up the slopes and over the crest of an irregular hill, it provides locations and exposures for an enormous variety of alpine plants in their natural associations. There are "slopes of debris", "snow-valleys", "alpine pastures", "dwarf shrub heath", "blue-grass slopes", etc. A section is adapted to species found on the primary formations. A network of little paths leads one to all the specimens which are placed, not for display (though they are indeed spectacular), but as examples of plant association and environment.

A New Jersey friend and I had an absorbing time in this Alpine Garden. Then we wished to get out into the surrounding pastures to see what we could find. Not wanting to make the longish trip back to the regular exits, we managed to get under the barbed wire fence enclosing the garden by lying flat in the mud and wriggling through. Not for long could we botanize that day, however, for fog descended, followed by a violent hail-storm and we struggled back to the railroad station, soaked and chilled to the bone.

Perhaps at this point a few statistics would be of interest, taken from the booklet about the Alpine Garden.

The number of vascular plants in the Schynige Platte district, growing wild above the tree-limit is about 460 species, which is a large proportion of the total of 620 species in the Swiss Alps, occurring above tree-line.

The mean annual temperature there is about 33.8° Fahrenheit. The mean temperature during vegetation (about four months), is 48.2° Fahrenheit.

The sub-soil is a sandy limestone, somewhat dry on the whole. Snow lies long in the hollows.

Enough now about the Schynige Platte for it is but one of innumerable outstanding localities. One of these is the Brienzer Rothorn ridge, along one side of the Lake of Brienz, which has near its 7,700 foot summit a fine array. On its "blue-grass" slopes there are no less than 49 species to the square foot.

The Stein Glacier, near the summit of the Susten Pass (6,122 feet high) showed a different flora. There, in the great glacial moraine I found my first *Ranunculus glacialis,* with its sometimes white, sometimes claret pink cups close to the ground, on their typical crow-foot leaves. This Ranunculus ascends higher than any other flowering plant of Switzerland, having been found just below the summit of the Feinsteraarhorn, at 14,022 feet elevation.

With it, in the grey debris were *Gentiana acaulis Kochiana (excisa), G. brachyphylla* (the high alpine form of *G. verna)* and the somewhat similar and equally beautiful *G. bavarica. Cerastium uniflorum,* non-spready with a single large white flower on its inch-long stem, *Saxifraga oppositifolia* (a wonderful rich color), golden *Sieversia montana,* Loiseleuria, *Pinguicula alpina, Salix serpyllifolia* and *Hutchinsia alpina* were among the many other species, while whole stretches of the moraine were blue with forget-me-nots, very dwarf and compact.

Another outstanding find in that region was *Primula minima.* In the crevices of a dripping cliff and at its damp base the carmine pink flowers, often an inch across, sat close on their tufts of curious stubby leaves with their sharply toothed ends. With them was the claret-pink form of Soldanella that I mentioned above

On leaving the Bernese Oberland for the canton of Valais we spent twenty-four hours at the Rhone Glacier, on the Furka Pass. It was the Fourth of July, but at 7,218 feet elevation we were glad of the brilliant sunshine. A little below the tremendous ice wall of the glacier's end was a steep slope covered with the deep pink recurved bells of *Lilium Martagon,* mixed with the snowy stalks of *Paradisea Liliastrum.* This was indeed a surprise for I had before seen the Martagon lily only in open woods at a much lower elevation, but here it was in quantity, in full sun and no tree in sight.

From the Rhone Glacier to the top of the pass at 7,990 feet the crisp alpine turf was dense with bloom. *Anemone alpina sulfurea* with its two-inch stars of delicate yellow combined beautifully with the pale blue fringed bells of *Campanula barbata.* Another Campanula was *C. thyrsoides,* the only yellow Campanula. It does not resemble a bell-flower at all. A thick club of a stalk, some eight inches tall, is packed so tightly with sixty or more sizable individual flowers that their "bell" form is completely disguised and the general effect is not beautiful but merely curious.

There was much *Viola calcarata* but it differed so markedly in appearance from the usual "Pansy-violet" of the deep blue color that I thought at first it must be some other Viola. Its extremely long spur gave it away, however. All hues from nearly white through various tints of pale and dark violet were there. Also it grew in wide mats unlike the many others I had so frequently seen.

The gold of *Sieversia montana* was already passing, but its seeds form a feathery "goat's beard", not unlike that of the alpine Anemones and is distinctly decorative.

Our final stop was high above the village of Zermatt, at the Hotel Rifflealp, 7,307 feet on the way up the Gornergrat, a rocky ridge of 10,290 feet. Daily the cog-wheel railroad (highest in Europe out in the open) brings throngs of tourists to look at its stupendous view. A river of ice sweeps past its feet, fed by the six glaciers descending from the snows of Monte Rosa, highest of the Swiss Alps, and the many other white peaks until the Matterhorn is reached. How many of those eager tourists have eyes for the floral treasures that are literally beneath their feet! In the rough grey gravel between the rocky outcrops, even up to the railroad tracks and the station itself are mats of bloom, never more than an inch in height at that 10,000 foot elevation, but with flowers of intense brilliancy. Among the many species were *Gentiana bavarica,* var. *subacaulis, G. brachphylla, Linaria alpina,* three different Drabas, the daisy-like bloom of *Chrysanthemum alpinum,* var. *minimum, Cerastium uniflorum* and the white stars of *Lloydia serotina* growing from a little bulb.

A few feet further away, with *Ranunculus glacialis* was my first sight of the very high alpine, *Androsace glacialis (alpina).* An endemic of the Swiss Alps, on the highest ridges of the primary formations, its brilliant clear pink flowers sit tightly on its moss-like cushions. It is said to be impossible in cultivation, being, as Farrer puts it, of an "incalculable crossness" and "soon sulks itself into a better world". But it is indeed a heavenly beauty.

Last of my special finds on the Gornergrat was one little tuft of *Eritrichium nanum,* wedged into a crevice close to the path. The pure blue of its wee flower was all that descriptions had painted it. Never had I found it before. Two years previously my husband and I searched in vain. Following Farrer's account of a locality for it in his early book "My Rock Garden" we wearily made the four-hour trip to the top of the Meiden Pass, 9,000 feet up, on a pair of hard-bitted mules, our bridles consisting of a rope on one side and a dog-chain on the other. Many beautiful alpines were there, but no Eritrichium. A pouring rain finally drove us down, after eating our sodden lunch on a soaking stone.

I have since come to the conclusion that Farrer mistook his pass, which should have been the Augstbord Pass, on the opposite side of the valley, where, as he says in "The English Rock Garden" Eritrichium does grow. Sometime perhaps, I can get there if old age does not get me first.

Even if Farrer did send us up the wrong pass, nothing can equal the beauty of his description of Eritrichium, given in his book "My Rock Garden". "The first sight of it catches one by the throat. So exquisite, so tiny, this indomitable small soul sits up here on the barren slopes, from age to age, working out its own destiny without regard for any worldly cataclysm. Even the loveliness of it seems almost a heavenly selfishness. Little indeed does Eritrichium care whether anyone worships it or not. Alone, unfriended, it braves all the everlasting fury of the hills; sits quiet through the long Alpine winters; then, through the short, gorgeous Alpine summer, makes haste to smile at the sun before the dark days return."

So far I have made no reference to the orchids. Nowhere have I seen them in such profusion as on the upper levels in Switzerland. In places one can hardly walk without stepping on them. Many of the species occur in open woods, high up and not a few stray out into the sun of the meadows above the tree-line. Some are intensely fragrant. Especially so are *Gymnadenia odoratissima, Epipactis atropurpureus* with its tall mahogany-colored spikes, and above all *Nigritella nigra,* so dark in color as to be nearly black. Nigritella with its wonderful vanilla fragrance grows only a few inches high in the sunny turf of the upper Alps and is much loved by the Swiss. By the way, the word "alp" means a high mountain pasture.

Perhaps it may seem surprising that I have said so little about the saxifrages. I found a number of them, nearly all being rather inconspicuous and of botanical interest rather than providing rock garden material. *Saxifraga aizoon* (very variable) was plentiful. It occurred both in the open in full sun and also on mossy rocks under high trees where it was particularly lovely with the green spleenwort, the maidenhair spleenwort and the wall-rue.

Now for the ferns—As most of our time was spent at the high elevations above the tree limit I did not make the acquaintance of many of the woodland species. Those that I did find in shade were wall-rue, green spleenwort (sometimes on the same outcrop with maidenhair spleenwort as well as elsewhere). *Dryopteris austriaca,* a delicate lacy fern that might be *Asplenium obovatum,* another tiny one that I tentatively identified as mountain spleenwort, *Blechnum spicant* and the Oak-fern. Some of these occurred at the higher levels in full sun. Such were the wall-rue, mountain spleenwort, green spleenwort, *Woodsia glabella, Cystopteris fragilis* (at 10,000 feet on the Gornergrat) and *Cryptogramma crispa* near the Stein Glacier. *Polystichum lonchitis* was frequent near limestone outcrops.

The gentians are, of course, about the most glorious of Swiss alpines. The two forms of *G. acaulis* that I found were *G. acaulis Clusii* and *G. acaulis Kochiana (excisa).* On a slope high above Grindelwald, at 7,220 feet among literally hundreds of the blue, I found a single white specimen. In fact I nearly stepped on it. It was pure white without, with gentian blue markings in the throat.

G. acaulis in the wild is showy indeed but lacks the rather coarse overfed look it has in cultivation (when it will bloom at all). However, to my mind, it does not compare in beauty with *G. verna,* a smaller flower but more refined, and of an even more brilliant hue. *G. verna* is found from very low levels up to 9,000 feet or more, its stem becoming shorter and shorter, but its flower just as large. *G. brachyphylla* and *G. bavarica* are very similar, with slight botanical differences. These last two keep themselves to the high levels.

I found two of the annual gentians above the Hotel Riffleralp at Zermatt, *G. ciliaris* with a fringe of hairs within its corolla, and *G. nivalis,* very very tiny but of the same intensity of blue. With them was *Ranunculus pyrenaeus,* two inches tall and pure white. Its leaves are most un-ranunculus looking, being narrow, grass-like and completely undivided.

One flower that I did *not* find this trip was the far famed Edelweiss, although I came across it years ago. The Swiss are inordinately fond of it and have built up a mass of traditions about its inaccessibility and the many deaths resulting from efforts to obtain it. The fact is that it has been picked so ruthlessly through the years that it has disappeared from the easy locations. Anyway, it is not particularly beautiful, merely curious. To quote Farrer again ("My Rock Garden") "And now we come to the arch-impostor of the garden—the Flannel-flower of the Alps, so ridiculously sought after and marvelled at. The man who first called it 'Edelweiss' was a master of humour; the plant is neither noble nor white . . . Maybe people regard it as a typical alpine plant—as *the* typical plant of high, perilous peaks; many people yearly topple off precipices in their attempt to find it, and the first question that all strangers put on entering a rock garden is the reverend whisper, 'Do you grow the Edelweiss?' Now, so far from being *the* typical alpine plant, the Edelweiss is not even an alpine plant at all. It is a desert plant (from the great Siberian wastes), whose fluffy seeds allow it to be spread far and wide. In the second place, far from being a peak-plant, what Edelweiss really enjoys is a scrubby, stony, flat lawn, where it grows like any daisy among chips and spare herbage—Only by an accident does

the Leontopodium ever appear on cliffs and pinnacles—A more robust weed doesn't exist."

Now, to close this account of a few of my experiences in the world of the Swiss alpine flora, let me confess that I have little enough of botanical knowledge to help me identify the various species. I got it all from two invaluable books, both published in Switzerland. One, "Alpine Flora" by Schroeter, has 207 colored pictures of alpine flowers, with descriptive text in English, French, and German, together with the Latin names of all. It is now in its 27th edition.

The other book, "Taschenatlas der Schweizer Flora" (Pocket Atlas of the Swiss Flora) by Edward Thommen, is literally a pocket hand-book in spite of the enormous amount of its subject matter. There are no descriptions except for color, but it has over 3,000 black and white line drawings, very small but showing very clearly the individual characteristics of each plant. I can heartily recommend both of these books to the prospective traveler.

THREE ACRES AND A MILL

Some years ago a friend told me of a book by the above title which had been published in England in 1941, suggesting that I might find it interesting. Being engaged neither in the real estate business nor in flour-making, this did not seem likely, so nothing was done about it. Then one day a list of publishers' surplus books, offered for sale for small sums by the Dover firm came to hand, and in it the title in question appeared, so I ventured to obtain a copy. It proved to be one of those works which, once started upon, can not be put down until it is finished; and then can be profitably browsed through again and again. It ought to be in the library of every rock gardener; but I wonder how many of our members know about it?

The author, Robert Gathorne-Hardy, earns his living as a novelist and poet, but makes it evident that he is at the same time an enthusiastic amateur botanist and horticulturist, with special interest in the tiny treasures which appeal to the rock gardener. The account of himself given in the book is to say the least, intimate; and if he did not write in such a fascinating style about such thrilling trips and events, would not interest average American readers. Anyway, he is modest enough not to put in his portrait as a frontispiece, but only after 12 pages of reading matter have aroused suitable anticipation. His views as to the merits of individual plants differ considerably from those of Farrer; and; unlike the latter, he has gone to much pains to have his plants correctly identified at Edinburgh and elsewhere.

His interest in rock plants was aroused, we learn, by "A Saxifrage in Spanish Navarre." He was motoring with friends, enjoying views of the countryside and the wild flowers, and by chance came upon a Silver Saxifrage,—*Saxifraga aizoon,* not an especial rarity, but for him an introduction to a new world. Then he recalls how his parents had been amateur botanists, and his mother had once found an exceedingly rare orchid, *Ophrys speculum,* in France,—his account of what followed is indeed choice. Now, many years after, the author has gone in for collecting and growing rock plants on a considerable scale. At least, he has tried to compress half the Pyrenees and all the Cantabrian mountains into a few little heaps on a 25 by 50 foot plot.

In building the rock garden he followed the advice of the experts, with some deviation. For example, to keep soil from falling out of crevices in miniature artificial cliffs, some rosettes of Sempervivum were planted, and soon spread and held the soil in. He warns, too, that there are plants which may prove to

be weeds, the three in his garden meriting the most violent adjectives being Meadow Saxifrage, Mountain Pansy, and Harebell (the last a problem in this country too).

There are accounts of many collecting trips, which led into regions where beautiful rock plants seem to have been extraordinarily abundant. Once on the way to Savoy children offered for sale to passing motorists great bunches of fragrant wild cyclamens. But he is not unfamiliar with American plants as well. He mentions *Iris lacustris,* the smallest of the group; he is successful in growing *Phlox adsurgens,* and considers it the loveliest of all. He buys a tiny plant of *Phlox subulata* for three pence at Woolworths (!) and in three years it spreads over four square feet.

There are also extended accounts of visits to the Canary Islands and to Iceland. On the latter, the author was searching especially for *Epilobium latifolium,* the "Shingle Rose" or in local usage eyraros, and *Saxifraga cotyledon,* or Klettafru. He imparts to the reader his pleasure in searching for and finding them, although his airing of his acquaintance with the Icelandic language and his accounts of overuse of alcoholic beverages are not as appealing to the rock gardener as other portions of the book. But then one can always turn back to earlier pages and revel in his apt characterizations of numerous little gems of the saxicolous realm.—E. T. W.

NOTES ON PLANTING SEEDS

ALICE HILLS BAYLOR, JOHNSON, VERMONT

DURING THE NEXT TWO MONTHS many seeds will be planted with high hopes of a rich reward in seedlings. I have just finished planting the first seeds of this, the 1953 season, and have had the yearly experience of hopes for many tiny green sprouts.

In the past three years I have had phenomenal success, especially with Primula, Campanula and Dianthus seeds producing in great abundance. In as much as I have transgressed the usual procedure it occurred to me that perhaps others might like to know the method I have used.

The seeds are frozen in a refrigerator tray and allowed to remain for about a week. I do not believe the time limit is important.

The flats are prepared by putting a layer of moss in the bottom and then placing collar cups on top of the moss. The cups are filled about half way with a mixture of sifted soil and mica, about half and half. Over this mixture I pour boiling water to kill any bacteria or weed seeds. The cup is then filled to within about an inch of the top with pure mica.

After the flat has stood for about a day the top mica has absorbed any excess moisture, at least it usually is only slightly moist. The tray containing the seeds to be planted is removed from the refrigerator and allowed to stand only until the quarter-inch layer of ice has melted from the bottom and sides of the tray. Then the ice is broken in large pieces with the seeds frozen upon its surface and placed seed-side down upon the mica. A thin layer of dry mica is sprinkled over the ice and the planting is finished.

I do not press the seeds into the mica nor do I place glass over the flat. I have found there is no need to water the flat for at least a week, at room temperature, as the mica holds the moisture.

There is no way of knowing just what portion of the above procedure spells the success story. In from four to five weeks the cups are filled with tiny seedlings which are transplanted in first leaf to a flat prepared with fine garden soil with about a third mica mixed in to retain moisture.

I have discovered that the seedlings seem to endure the shock of transplanting when in first leaf far better than waiting until second leaf as "the book tells us." Of course it is a bit hard on the eyes and takes much patience but the reward in sturdy seedlings is certainly worth the extra effort. I use a silver pickle fork (that was a wedding present) as my tool!

On March 23, 1952, I planted the majority of my seeds. My notes tell me that on April 10th I started transplanting. On that day *Dianthus Knappi* was transplanted to a flat and on July 15th into their home in the rock garden 100 per cent strong, that is, every seedling grew.

On April 29th *Primula Florindae* was transplanted, and on May 5th I transplanted 108 *Primula cachemiriana,* RUBY. During the month of May I spent at least two hours the first thing in the morning transplanting seedlings. As soon as the weather was warm I placed the flats containing the seed cups out of doors. Much to my surprise I had another crop of seedlings in July, following two heavy rain storms. At that time I again transplanted 64 seedlings of *Primula cachemiriana,* RUBY, making 174 seedlings from one packet of seed.

With many of us eagerly awaiting seeds from the Seed Exchange and also the orders we have placed to come, I well know that our dreams are for many seedlings to produce the mental picture each one of us dreams one day will grace our gardens in reality. Of course seeds are the answer to our dreams and it is my sincere hope that these notes may make some dreams come true.

THE BELATED INDEX

The ten-year index, which is to take the place of the usual two-year index following Volume 10, and which should have been printed for inclusion with the January issue of this year, is still incomplete, but should be ready in time for the July issue. Compiling it is a long, tedious job.

SEED EXCHANGE NOTES

To those members who received seed of *Paradisea Liliastrum,* a description may be of interest. The paradise lily is a special favorite of mine, and it must have been growing on the bank of our rock garden for almost ten years. It reaches a height of 18 inches, and the many sprays of miniature white lilies are beautiful. Blooming in early June, it is lovely for arrangements with white Iris. It likes a hot dry place and is very attractive swaying over large rocks.

Since sending my contribution of seed, I have found the name of the Scilla species—*S. Tubergiana,* very rare. It also blooms in early June. The flowers are blue instead of rose as mentioned in the list. The flowers are cone-shaped, about one and one-half inches across at the base and composed of lovely blue stars. About six inches high. Here it has increased nicely.

LOUISE A. JAEGER, MILWAUKEE, WISCONSIN

WISH LIST FOR THE SEED EXCHANGE 1954

The general feeling about our seed exchange is well expressed in a letter from James E. Mitchell of Barre, Vermont: "What a wonderful Seed Exchange we have this year! And 'Nothing succeeds like success,' so we may expect an even larger list this coming year."

The list which follows is compiled from letters which members have sent in, telling us what seeds they would like to see included in the Exchange for 1954. If you should be in a position to collect any of them, make a note to do so, knowing that your contribution will surely be welcomed.

If you have a wish for any seeds not on this list, no matter how improbable it may sound, send it in, and we will publish it in the July issue. Perhaps it will be easy for some distant member to supply.

Alyssum idaeum
Anemone Hepatica
Anemone patens
Aquilegia discolor
Aquilegia flavescens (alpine form)
Aquilegia formosa
Aquilegia Jonesii
Aquilegia perplexans
Aquilegia saximontana
Aquilegia Tracyi
Aquilegia truncata
Aquilegia "other dwarfs"
Aquilegia "western natives"
Arabis blepharophylla
Arenaria purpurascens
Aristolochia macrophylla
Asclepias lanceolata
Asclepias rubra
Aster foliaceus
Aster oblongifolius
Astragalus coccineus
Atamasco Atamasco
Calceolaria Darwinii
Campanula cenisia
Campanula rotundifolia alba
Chamaelirium luteum
Cirsium horridulum
Collinsia verna
Coreopsis rosea
Corydalis bulbosa alba
Corydalis cheilanthifolia
Crassina grandiflora
Cuthbertia graminea
Cynthia virginica
Dalibarda repens
Delphinium columbianum
Delphinium depauperatum
Delphinium Menziesii
Delphinium tricorne
Delphinium "other dwarf species"
Dicentra uniflora
Dionaea muscipula
Disporum Smithii
Douglasia nivalis
Douglasia Vitaliana
Epilobium Fleischeri
Erigeron salsuginosus glacialis
Eritrichium nanum
Erodium Guicciardi
Filipendula rubra
Fritillaria atropurpurea
Gaillardia aristata
Gaillardia pulchella
Genista hispanica
Gilia dianthoides
Hemieva ranunculifolia
Hesperochiron (Capnorea) pumilus
Hottonia palustris
Houstonia longifolia
Hydrophyllum appendiculatum
Hymenocallis occidentalis
Hypericum empetrifolium
Hypoxis hirsuta
Hyssopus alba
Hyssopus rubra
Impatiens pallida
Iris ensata
Iris fulva
Iris lacustris
Iris mellita
Iris verna
Kalmiella hirsuta
Ledum groenlandicum
Leucocrinum montanum
Lithospermum canescens
Lobelia cardinalis (pink)
Lupinus alopecuroides
Lupinus Breweri
Lupinus "other dwarf species"
Mertensia echioides
Mertensia elongata
Mertensia lanceolata (alpina)
Mimulus Langsdorfii
Mitella diphylla
Monardella macrantha
Nemastylis acuta
Ostrowskia magnifica
Oxalis oregana
Pachistima Canbyi
Phacelia bipinnatifida
Phacelia Purshii
Phacelia sericea
Phlox caespitosa
Phlox condensata
Phlox diapensioides
Phlox mesaleuca
Phlox muscoides
Phlox Stansburyi
Phlox "other dwarf species"
Phoradendron flavescens
Phymosia remota
Polemonium eximium
Polemonium Haydenii
Polemonium humile
Polemonium Van-Bruntiae
Polemonium white
Polemonium white, blue eye
Polemonium "western species"
Polygala paucifolia
Potentilla Clusiana
Potentilla "dwarf natives"
Primula mistassinica
Primula suffrutescens
Ranunculus montanus
Rhododendron aperantum
Rhododendron charitopes
Rhododendron chrysodoron
Rhododendron imperator
Rhododendron ledoides
Rhododendron Ludlowi
Rhododendron megeratum
Rhododendron pemakoense
Rhododendron pronum
Rhododendron proteoides
Rhododendron pumilum
Rhododendron radicans

Rhododendron repens
Rhododendron Valentinianum
Rubus odoratus
Sabatia angularis
Sanguisorba canadensis
Saxifraga baldensis
Saxifraga caesia
Saxifraga Grisebachii
Saxifraga lilacina
Saxifraga marginata
Sedum bupleuroides
Sedum monregalense
Sedum pulchellum
Sedum sempervivoides
Sieversia (Geum) ciliata
Sieversia (Geum) Peckii
Silene Hookeri
Silene laciniata
Silene Wherryi
Sisyrinchium californicum
Sisyrinchium Douglasii
Sisyrinchium flaviflorum
Smilax herbacea
Spraguea multiceps
Thalictrum kiusianum
Thermopsis montana
Tiarella cordifolia
Trillium Catesbaei
Trillium Vaseyi
Trollius albiflorus
Veratrum Woodii
Veronica apennina
Viola alpina
Viola cenisia
Viola cornuta minor
Viola eizanensis
Viola eizanensis nana
Viola eizanensis forma rosea
Viola gracilis
Viola japonica
Viola Jooi
Viola rostrata
Viola "native species"
Wahlenbergia (Edraianthus) serpyllifolia major

NATIVE PLANTS FOR SUN AND DRYNESS

ROBERT S. LEMMON, WILTON, CONNECTICUT

(Reprinted by permission from Real Gardening magazine)

OF ALL THE BASIC PLANTING PROBLEMS which a gardener may be called upon to meet face to face, one of the most puzzling is the selection of plants for a situation that is hot, completely sunny, windy and bone-dry in Summer. As if these adverse conditions were not enough, they are often complicated by soil of such lean, inhospitable character that nothing short of heroic methods can improve it to any worthwhile degree.

Not such a cheerful outlook, this, but it really isn't as discouraging as it seems. Believe it or not, there are certain plants which actually enjoy such conditions, and if you choose them wisely, they will provide a surprising and entirely agreeable variety of effects. It won't even be necessary to make your choices from the flora of other lands, for this country has plenty to offer; as a matter of fact, within a few miles of your own home, you may find enough kinds growing wild to meet all your requirements.

These native plants have so many good qualities that the present article will deal entirely with them. Those which are specifically discussed do not begin to represent all the desirable sorts that are available; actually, they constitute but a small percentage of the possibilities. But they are of ironclad hardiness, long lived under the conditions laid down, varied in character, and in all respects worthwhile.

In the very front rank, if you are looking for a compact, fairly low plant, I would certainly place the Bristled Aster *(Aster linariifolius)*. As you find it growing wild in the dry hill pastures and sun-drenched waste fields of New England it is far from impressive—a straggly little plant showing a few lavender, gold-centered flowers around the middle of September. But give it freedom from grazing cattle and the competition of stronger plants, and it improves amazingly; many times it will form a mass a foot or so high and a little more in width, often quite rounded, bearing as many as fifteen hundred blossoms as large as a silver quarter. Its one drawback is that its truly spectacular display lasts for only about a week.

Strongly acid, gritty and moderately nourishing soil will suit this sturdy perennial very well indeed. Propagation by seed is often uncertain, but divisions are easily made, and, of course, young plants can easily be brought in from the wild at practically any season.

Another lover of sunlight and dry places, where the soil is somewhat acid, is the brilliant Orange Milkweed or Butterfly-weed *(Asclepias tuberosa)*. Rather a solitary plant, in the wild, it nevertheless attracts instant attention when its orange-yellow to almost blood-red panicles of blossoms open under the hot July sun. Like the Bristled Aster, it improves greatly under cultivation, making a broad, vase-shaped clump three to four feet high, composed of twenty or thirty main stalks with their terminal flower heads. A splendid cut flower, too, if you want to use it that way.

Butterfly-weed is very difficult to transplant if of any size, for its roots apparently go right down to China. But small nursery-grown plants are easy enough, or you can raise your own from Spring or Fall-sown seed. In this latter case, set out the little plants in their permanent places when they are no more than six inches or so tall, and when lifting them be careful not to break the long taproot.

For a Spring effect, you might try the Crested Iris *(Iris cristata)*, a dense mat-former that can and will withstand just about anything in the way of exposure and drought. There appear to be various geographical forms of this little native, but as a rule the light blues of its blossoms will not be displayed more than four or five inches above ground, with the rather narrow, graceful leaves a bit taller.

Mildly acid soil, sharp drainage and division of its countless, surface-creeping rootstocks every two or three years are guideposts to full success with this cheerful Southerner. You need never coddle it; in fact, it will be all the more compact for being exposed to whatever weather comes along. What the limits of its hardiness may be I have no idea, but I do know that in my New England garden several plantings of Crested Iris have taken a Winter temperature of twenty below zero and liked it. So it isn't exactly a tender sissy!

For a blue-flowered plant of very different character the Birdsfoot Violet *(Viola pedata)* takes high rank. I can hear the snorts of indignation from numerous quarters over the mere thought of including this "extremely difficult" wilding in an article of this nature. But if all Doubting Thomases and Thomasinas will merely take a couple of hints from Nature they will discover that the Birdsfoot is very tractable indeed.

Dry, sandy, highly acid soil, perfect drainage and complete exposure to the sun—these are its requirements. Provide these, and there is very little chance of failure; disregard one or more of them, and you'll deserve just what you'll get!

Incidentally, this long-lived Violet has many lovely forms, varying widely in the color and shape of the blossoms and in the appearance of the foliage. One of the showiest is a common type in Alabama and other parts of the South; it has deep violet-blue flowers a full inch and a half across and deeply divided leaves. Tests extending over a priod of six years have shown this variety to be perfectly hardy in New England. One of these days some smart nurseryman will propagate it in quantity and make at least a modest killing with it, for it is strikingly beautiful and blooms in Autumn almost as freely as in Spring. In Connecticut I have had it in flower, in the open rock garden, as late as the first week in December.

Under similar soil and exposure conditions you can expect good results from the downy, grayish-leaved Golden Aster *(Chrysopsis falcata)* and its larger cousin *Chrysopsis mariana*. The former makes a frequently compact, almost bushy plant a foot high, and the latter reaches double this size. Both bear

numerous golden-yellow rayed blossoms in late Summer and, even admitting the untidy appearance of their passé flowers, are good to look upon.

Turning now to a few plants of woody character, let me speak loud words of praise for the Bearberry, Kinnikinick, or whatever may be the particular local alias of that unmatched trailer with the terrible name *Arctostaphylos Uva-ursi*. Here, beyond question, is the great American ground cover for barren, sunny places.

Bearberry, as those of you know who are familiar with the broad sheets of it which blanket the lean, sandy dune-land of Long Island and northward along the Atlantic Coast, is a small-leaved evergreen whose dense carpets, but a few inches thick and spreading far, are decked for a short time in September with scattered scarlet berries. With the first frosts its foliage takes on a bronzy red cast which persists through the Winter and regains its normal olive green when Spring returns.

Perhaps it would be too much to ask that so neat and splendidly hardy a plant should be entirely free of drawbacks—after all, the Millenium hasn't yet put in an appearance, regardless of certain individuals' promises to produce it. So let's be perfectly fair and learn the facts of Bearberry life, as it were.

In the first place, never coddle it with even halfway decent soil; if you do, the chances are it won't flower or fruit. A *very* sandy mixture, perfectly and deeply drained and a little on the acid side, is its real choice.

Secondly, don't expect it to do its best except in the fullest of full sunlight; even a moderate amount of shade seems to discourage it and lead to straggly growth and sparse foliage. A free sweep of wind and light is one of the basic tenets of its creed.

And in the third place, use nothing but pot-grown plants from some nursery where all the quirks of the species are understood. Not once in a hundred times will a plant collected from the wild ever amount to anything; usually it dies completely in a few weeks or months. Pot-grown specimens, though, are usually produced from stem cuttings and, because their roots and top growth are properly balanced, can be set out successfully in the right sort of conditions. Best of all are pot-grown seedlings, but germination of the odd, nutlet-like seeds is so extremely slow and uncertain that I doubt if any nursery offers this type of plant at the present time.

Another very low evergreen is the Wine-leaf Cinquefoil *(Potentilla tridentata)*, so called because its dainty, three-parted leaves turn to a rich wine red in early Autumn and do not regain their greenness until Spring. As with the Bearberry, this slowly spreading shrublet is at its best in dry, lean, fully exposed situations, for good living leads to gawkiness and loss of that tight, three-inch-high compactness which is one of its greatest charms. Acidity in the soil is one of its needs, and perfect drainage is another.

An unostentatious little plant, this, but another one possessed of true and absolutely distinctive personality. In June little white star flowers rise a couple of inches above its leaf mat, twinkle briefly and are gone. But there is no month in the year when the foliage and the short, half-woody stems are unattractive, cheerfully defiant of the worst hardships that Nature can marshal against them.

Several of the moderate-height Blueberries, notably *Vaccinium pennsylvanicum* and *V. canadense,* are well worth while when the area to be planted can be treated in a decidedly naturalistic, informal manner. You can hardly expect them to make handsome specimen plants, but in masses they can be really pleasing and worthwhile. Better be sure that they have an acid, peaty soil of sandy rather than clay consistency.

Among the somewhat taller deciduous shrubs two stand out as especially desirable—Beach Plum *(Prunus maritima)* and Bayberry *(Myrica carolinensis)*.

A study in conifer background in the ...den of E. L. Totten, Ho-Ho-Kus, N. J.

The former delights in a very sandy soil, while the latter is not so particular as to this. Both, of course, are extremely hardy and found over a wide natural range.

Of the two, the Beach Plum has always been the more appealing to me, as much for its red to purplish fruit in early Autumn as for the numerous dainty white flowers which precede them in Spring. But there is no denying the beauty of the Bayberry's thickly clustered little gray berries which persist so far into the Winter unless the birds should happen to feast too greedily upon them. It is these waxy little fruits, of course, which provided those famous Bayberry candles of New England's brave old days.

Neither of these shrubs is very tall—perhaps three to four or five feet on the average—but they lend themselves to a wide varity of effects, either by themselves or in combination with each other.

And finally, the lower growing types of Juniper—*Juniperus communis* and *J. horizontalis*, and most of their numerous varieties. Here indeed are ornamental evergreens of widely recognized merit, perfectly adapted to permanent planting in dry, exposed situations. That they are not more often thought of as solutions for the sort of problem we are considering is hard to understand.

As has been said, the foregoing ten or a dozen plants do not begin to represent the quota of native American species which stand ready to take the sun-parched site in their stride. But with these as a starter, you may be moved to look further and, perhaps, change what was a problem in the beginning into a pleasure and an out-and-out garden asset.

A ROCK GARDEN IS A PICTURE

G. G. NEARING, RAMSEY, NEW JERSEY

CONTRASTING LIGHTS AND SHADOWS can weave a magic spell in the rock garden as they can in any pictorial art. Where all is light, and there is no darkness anywhere to throw it into relief, we have but a poor picture, a jumble of like things unattractive to the eye. Similarly where shade prevails over the whole, nothing stands out, and dullness pervades. What creates true beauty is light standing out against shadow.

Of course mere lights and shadows, assembled meaninglessly do not make a picture unless there is some plan behind it all. The master of design, dealing as he does with forms and colors as well as with lights and shadows, learns to give each unit the right size, shape and position. The beginner simply does not know how to create his effects, and in consequence most rock gardens do not live up to the hopes of their makers.

The introduction of shadows in a sunny rock garden, lights in a shady one, will do more than any other one thing to lift mediocrity up to the level of fine art. How can shadows be created? Primarily by the rocks themselves, and here the original construction dictates the final effect. We have often been told to avoid a uniform slope strewn with stones all of a size, and to build ledges, jutting headlands, winding ravines. For these structures will throw shadows, will dramatize what is lighted by placing it in front of a dark area, while that which is in shade is dramatized too by its contrast with the light.

But if the rock garden is already built, and knowledge of the values of light and shadow comes too late, there is still a way. Conifers are like rocks. Their density defies the sun, and they stand solidly, not only displaying their own beauty, but casting a shadow against which the beauty of other plants can stand in bold relief. Yews and pines are even in themselves a sort of shadow by virtue of the deep green of their needles, against which flowers of delicate pale shades double their effectiveness.

Above all, conifers can frame pictures, create vistas. If you look past one and your eye meets another, that in itself sets up a sensation of pleasure. If the whole rock garden stands against a varied background of solid evergreens, the appearance of everything in it is enhanced many fold. And here perhaps is the greatest usefulness of conifer planting. It can cut off the whole surrounding world, all the irrelevant distractions of highways with moving cars, neighboring houses with their lawns and appurtenances, and your own necessary but sometimes unornamental structures. When hemmed in by evergreen plantings, you see only what is spread immediately before you, framed and dignified.

Since conifers of forest-tree dimensions soon outgrow their function, shading the plants around them or opening up to let in the sun, only those of established dwarfness and density of slow growth are appropriate to the rock garden. Such are most of the dwarf yews and spruces. The Retinosporas *(Chamaecyparis)* are useful only while young, and grow much too fast, but here too there are now dwarf forms eminently satisfactory. But few of the pines remain small. Even Swiss stone pine *(Pinus Cembra)*, though slow of growth, reaches such eventual dimensions that it should be considered only for the background plantings, and the little Mughos vary so that one never knows whether they will fill out into immense and ponderous masses. Like the junipers, pines must have full sun to maintain health and density. For positions even slightly shaded, play safe with the yews and hemlocks, of which there are now many good pigmy sorts.

A NEW CHAIRMAN IN CHARGE OF SLIDES

Mrs. Warder I. Higgins has resigned from her post as caretaker of the Society's collection of slides. Inquiries regarding them should now be directed to the new chairman, E. L. Totten, 238 Sheridan Avenue, Ho-Ho-Kus, New Jersey, who intends to build up an entirely new set of 35 mm. Kodachrome transparencies. This important activity of the Society will be brought up to date with new gardens, new plants and new improvements in photography.

A PAST PRESIDENT HONORED

Ira N. Gabrielson, who headed our Society from 1946 to 1948, was presented by the American Wild Life Conference with the Leopold Medal. This award was established as a tribute to Alan Leopold, one of the greatest scientists in the field of conservation, and is given for outstanding contributions to a better management of the nation's natural resources.

NEW OFFICERS OF THE NEW ENGLAND REGION

Chairman: Dr. Helen C. Scorgie, Harvard, Massachusetts.

Vice-Chairman: Stephen F. Hamblin, Lexington, Massachusetts.

Secretary-Treasurer: Madeleine Harding, Cambridge, Massachusetts.

Executive Committee: Stephen F. Hamblin, John Thibodeau, Mrs. Harry Hayward, Mrs. Lucien B. Taylor.

NORTHWEST UNIT REPORT

The January meeting of the Northwest Unit was held at the club room of the University of Washington Arboretum. Mr. L. Semlar of the State Horticultural office showed us delightful slides of Northwest native plants.

The February meeting was a round table discussion of the propagation and culture of different rock plants. Mrs. Conner Gray, our Program chairman, presided and we spent the evening delving into the secrets of one another's plant successes. Some of the advice was drastic. It will take a stout hearted gardener to trample his *Gentiana acaulis,* and it is difficult to starve a plant as lovely as *Penstemon rupicola.*

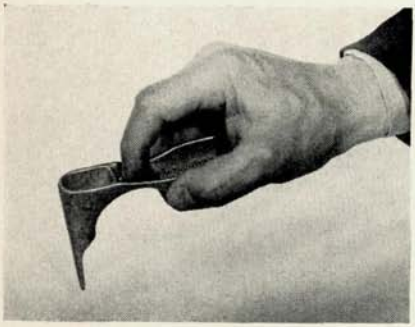
Our annual plant sale took the place of the March meeting. As usual the members donated a treasury of rare alpines and a choice selection of Rhododendrons and other shrubs. Mr. James Fletcher conducted a lively auction, and after refreshments, we all bundled off home, happy with our new acquisitions.

An interesting plant, which was new to most of us, made its appearance at both the February and March meetings. *Scoliopus Bigelovii* was brought from Oregon by Dr. Hitchcock. It is a diminutive member of the lily family, with green and purplish flowers; an inconspicuous plant, but delightful to Northwesterners, with their damp woodland gardens.

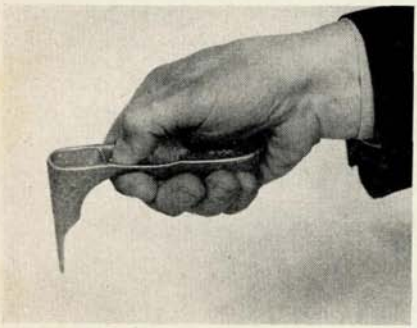
HELEN MORRISS
Corresponding Secretary

A NEW SOWING DEVICE

One of our advertisers has perfected a gadget called the Puttor by which small seeds can be hand-sown with astonishing accuracy, spacing them one by one, yet with a minimum of effort. Every gardener knows the vexation of rare



Either thumb or finger can send seed unerringly to an exact destination



seeds wasted by accidental scattering when the thumb and fingers blunder. Here is an ingenious means of avoiding such disaster and putting every seed where it belongs.

The photographs explain themselves. A few seeds are pushed into a little vestibule with the finger or thumbnail, then one at a time eased into a chute which throws them just behind a dibble claw. Small quantities of fertilizer can be placed in the same way if desired. The claw will inevitably be used also as an emergency garden tool to line small rows, hook out stubborn weeds and otherwise substitute for one's own fingernail.

BACK VOLUMES OF THE BULLETIN

The following complete volumes of the Bulletin are available at $2.50 per volume:

18 Volume 2 (1944) 15 Volume 3 (1945)
9 Volume 4 (1946)

These volumes are a gold mine of information. Many single copies from incomplete volumes are on hand also. If you wish to complete your file, *write to . . .*

AMERICAN ROCK GARDEN SOCIETY

BOX 151 POMPTON LAKES, N. J.